

HP Business Service Management

for the Windows operating system

Software Version: 9.01

Using End User Management

Document Release Date: September 2010

Software Release Date: September 2010



Legal Notices

Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Copyright Notices

© Copyright 2005 - 2010 Hewlett-Packard Development Company, L.P.

Trademark Notices

Adobe® and Acrobat® are trademarks of Adobe Systems Incorporated.

AMD and the AMD Arrow symbol are trademarks of Advanced Micro Devices, Inc.

Google™ and Google Maps™ are trademarks of Google Inc.

Intel®, Itanium®, Pentium®, and Intel® Xeon® are trademarks of Intel Corporation in the U.S. and other countries.

Java™ is a US trademark of Sun Microsystems, Inc.

Microsoft®, Windows®, Windows NT®, Windows® XP, and Windows Vista® are U.S. registered trademarks of Microsoft Corporation.

Oracle is a registered trademark of Oracle Corporation and/or its affiliates.

UNIX® is a registered trademark of The Open Group.

Acknowledgements

This product includes software developed by the Apache Software Foundation (**<http://www.apache.org>**).

This product includes software developed by the JDOM Project (**<http://www.jdom.org>**).

This product includes software developed by the MX4J project (**<http://mx4j.sourceforge.net>**).

Documentation Updates

The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software.

To check for recent updates, or to verify that you are using the most recent edition of a document, go to:

<http://h20230.www2.hp.com/selfsolve/manuals>

This site requires that you register for an HP Passport and sign-in. To register for an HP Passport ID, go to:

<http://h20229.www2.hp.com/passport-registration.html>

Or click the **New users - please register** link on the HP Passport login page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

Support

Visit the HP Software Support web site at:

<http://www.hp.com/go/hpsoftwaresupport>

This web site provides contact information and details about the products, services, and support that HP Software offers.

HP Software online support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued support customer, you can benefit by using the support web site to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract. To register for an HP Passport ID, go to:

<http://h20229.www2.hp.com/passport-registration.html>

To find more information about access levels, go to:

http://h20230.www2.hp.com/new_access_levels.jsp

Table of Contents

Welcome to This Guide	13
How This Guide Is Organized	13
Who Should Read This Guide	14
How Do I Find the Information That I Need?	14
Additional Online Resources.....	17
Documentation Updates	18

PART I: ADMINISTRATION

Chapter 1: End User Management Administration	21
End User Management Administration Overview	22
Monitoring Applications Overview.....	23
Global Search and Replace Overview.....	28
Bulk Operations Overview	29
Location Threshold Offsets Overview	29
Managing CI Collections in End User Management Administration	31
EUM Admin Open API Reference.....	32
How to Search and Manage End User Management Configurations	33
How to Perform an Advanced Search	35
Predefined Views for End User Management.....	36
End User Management Administration User Interface.....	46
Troubleshooting and Limitations	87

Chapter 2: Business Process Monitor Administration	89
Monitoring Essential Transactions.....	90
Editing the Schedule for Business Process Monitor	
Applications/Business Transaction Flows.....	91
Enabling Component Breakdown.....	92
Enabling SOA Transaction Breakdown	94
Script Parameter Management Overview.....	96
How to Set up Business Process Monitors	98
How to Plan Business Process Monitor Applications.....	102
How to Zip Scripts	104
Guidelines for Working with QuickTest Professional.....	105
VuGen Recording Tips	109
Business Process Monitor Administration User Interface.....	119
Troubleshooting and Limitations	243
Chapter 3: Real User Monitor Administration.....	245
Real User Monitor Overview	246
Frame Unification	247
Using the URL Builder.....	249
URL Wildcards.....	250
Correlating Collected Data with Configured Pages	251
Correlation Algorithm for Multiple URL Matches of Business	
Critical Pages.....	256
User Name Translation.....	257
Host Aliases Overview	258
End-User Groups Overview	258
How to Set up Real User Monitors	260
How to Export and Import Real User Monitor Configurations.....	263
Transaction Matching	270
Real User Monitor Administration User Interface	276
Chapter 4: Script Repository.....	409
Script Repository Overview	410
Uploading Scripts to the Script Repository	411
Script Verification for HP Software-as-a-Service Customers	412
How to Upload Scripts	413
How to Work with Scripts.....	414
Script Verification Checks.....	417
Script Repository User Interface	419

Chapter 5: Settings	441
Settings Overview	442
Removing a Data Collector	443
End User Management Licenses Overview	444
HP BAC Anywhere Overview	448
How to Install and Assign Business Process Monitor Licenses	449
How to Install and Assign Real User Monitor Licenses	450
Settings User Interface.....	451
Chapter 6: Administer EUM Alerts	475
EUM Alerts Administration Overview.....	476
Alerts Dependency	477
Downtime	481
How to Create EUM Alert Schemes.....	482
How to Create EUM Alert Schemes – Use-Case Scenario.....	484
How to Configure the Alert MIBs.....	486
How to Configure SMTP Mails.....	487
How to Define Alerts Dependency.....	488
SNMP-Specific Codes.....	491
Alerts MIB Varbinds.....	491
EUM Alerts Administration User Interface	499
Troubleshooting and Limitations	591
Chapter 7: Use the Event Template for EUM Alerts	593
Event Template for EUM Alerts Overview	594
How to Configure the Event Template	595
EUM Alert Attributes	597
Event Template for EUM Alerts User Interface	601

PART II: APPLICATION

Chapter 8: End User Management Reports..... 621
End User Management Reports Overview 623
Status Aggregation Rules Overview 625
Aggregating Real User Monitor Data..... 631
Report Settings Overview 633
Displaying End-User Names in Reports 635
Understanding Transaction Breakdown in Reports 635
Drilling Down Within Reports..... 651
Viewing Page Component Breakdown Data in other Contexts 652
Correlating Transaction Breakdown Summary Data with Other
 HP Business Service Management Reports 653
Viewing Data for Different Application Tier Types in Real
 User Monitor Reports.....
 654
Viewing HP Diagnostics Data From End User Management
 Reports 661
Viewing TransactionVision Data From End User Management
 Reports 665
Viewing HP Network Node Manager Data From Real User
 Monitor Reports 668
How to Customize End User Management Reports 671
How to Enable Snapshot on Error When Recording Scripts..... 673
End User Management Reports User Interface 674
Troubleshooting and Limitations 692
Chapter 9: Status Reports 695
Status Reports Overview 696
Status Reports User Interface..... 697
Chapter 10: Analysis Reports 757
Analysis Reports Overview 758
Snapshot on Error..... 758
Analyzing the Breakdown Over Time Component 760
Viewing Session Details in the RUM Session Analyzer Report 763
Determining How the Real User Monitor Snapshot Applet
Retrieves Snapshots 764
Action Classifications in Action Reports..... 765
Parsing Supported Protocols..... 766
Analysis Reports User Interface 767

Chapter 11: End User Management Utilities	981
End User Management Utilities Overview	982
Analyzing the BPM WebTrace Report	982
Analyzing the Page Component Breakdown Report	983
How to Configure Settings for the BPM Transaction Invocation Report	985
End User Management Utilities User Interface	987
Chapter 12: EUM Alert Reports.....	1011
EUM Alert Reports Overview.....	1012
How to View and Understand EUM Alert Reports.....	1013
EUM Alert Reports User Interface.....	1014
Chapter 13: Production Analysis Reports	1027
Production Analysis Reports Overview	1028
Analyzing Production Analysis Reports	1028
How to Work with Production Analysis Reports	1031
Production Analysis Reports User Interface	1033
Index.....	1041

Table of Contents

Welcome to This Guide

This guide describes how to configure and use HP End User Management to monitor your applications in real time from the end-user perspective, and how to produce reports that display the performance and availability of your applications from different angles.

This chapter includes:

- ▶ How This Guide Is Organized on page 13
- ▶ Who Should Read This Guide on page 14
- ▶ How Do I Find the Information That I Need? on page 14
- ▶ Additional Online Resources on page 17
- ▶ Documentation Updates on page 18

How This Guide Is Organized

The guide contains the following parts:

Part I Administration

Describes how to work with End User Management Administration including understanding and working with the CI selector, the Script Repository, and working with Global Replace. Also describes how to configure Business Process Monitor and Real User Monitor applications, business transaction flows, and transactions for monitoring, as well as how to configure alerts in End User Management.

Part II Application

Describes how to work with End User Management reports and utilities, as well as reports that provide information about the triggered EUM alerts.

Who Should Read This Guide

This guide is intended for the following users of HP Business Service Management:

- ▶ HP Business Service Management administrators
- ▶ HP Business Service Management application administrators
- ▶ HP Business Service Management end users

Readers of this guide should be knowledgeable about navigating and using enterprise applications, and be familiar with HP Business Service Management and enterprise monitoring and management concepts.

How Do I Find the Information That I Need?

This guide is part of the HP Business Service Management Documentation Library. This Documentation Library provides a single-point of access for all Business Service Management documentation.

You can access the Documentation Library by doing the following:


- ▶ In Business Service Management, select **Help > Documentation Library**.
- ▶ From a Business Service Management Gateway Server machine, select **Start > Programs > HP Business Service Management > Documentation**.


Topic Types



Within this guide, each subject area is organized into topics. A topic contains a distinct module of information for a subject. The topics are generally classified according to the type of information they contain.

This structure is designed to create easier access to specific information by dividing the documentation into the different types of information you may need at different times.

Three main topic types are in use: **Concepts**, **Tasks**, and **Reference**. The topic types are differentiated visually using icons.

Topic Type	Description	Usage
Concepts 	Background, descriptive, or conceptual information.	Learn general information about what a feature does.

Topic Type	Description	Usage
<p>Tasks</p> 	<p>Instructional Tasks. Step-by-step guidance to help you work with the application and accomplish your goals. Some task steps include examples, using sample data.</p> <p>Task steps can be with or without numbering:</p> <ul style="list-style-type: none"> ▶ Numbered steps. Tasks that are performed by following each step in consecutive order. ▶ Non-numbered steps. A list of self-contained operations that you can perform in any order. 	<ul style="list-style-type: none"> ▶ Learn about the overall workflow of a task. ▶ Follow the steps listed in a numbered task to complete a task. ▶ Perform independent operations by completing steps in a non-numbered task.
	<p>Use-case Scenario Tasks. Examples of how to perform a task for a specific situation.</p>	<p>Learn how a task could be performed in a realistic scenario.</p>

Topic Type	Description	Usage
 Reference	General Reference. Detailed lists and explanations of reference-oriented material.	Look up a specific piece of reference information relevant to a particular context.
	User Interface Reference. Specialized reference topics that describe a particular user interface in detail. Selecting Help on this page from the Help menu in the product generally open the user interface topics.	Look up specific information about what to enter or how to use one or more specific user interface elements, such as a window, dialog box, or wizard.
 Troubleshooting and Limitations	Troubleshooting and Limitations. Specialized reference topics that describe commonly encountered problems and their solutions, and list limitations of a feature or product area.	Increase your awareness of important issues before working with a feature, or if you encounter usability problems in the software.

Additional Online Resources

Troubleshooting & Knowledge Base accesses the Troubleshooting page on the HP Software Support Web site where you can search the Self-solve knowledge base. Choose **Help > Troubleshooting & Knowledge Base**. The URL for this Web site is <http://h20230.www2.hp.com/troubleshooting.jsp>.

HP Software Support accesses the HP Software Support Web site. This site enables you to browse the Self-solve knowledge base. You can also post to and search user discussion forums, submit support requests, download patches and updated documentation, and more. Choose **Help > HP Software Support**. The URL for this Web site is www.hp.com/go/hpssoftwaresupport.

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract.

To find more information about access levels, go to:

http://h20230.www2.hp.com/new_access_levels.jsp

To register for an HP Passport user ID, go to:

<http://h20229.www2.hp.com/passport-registration.html>

HP Software Web site accesses the HP Software Web site. This site provides you with the most up-to-date information on HP Software products. This includes new software releases, seminars and trade shows, customer support, and more. Choose **Help > HP Software Web site**. The URL for this Web site is www.hp.com/go/software.

Documentation Updates

HP Software is continually updating its product documentation with new information.

To check for recent updates, or to verify that you are using the most recent edition of a document, go to the HP Software Product Manuals Web site (<http://h20230.www2.hp.com/selfsolve/manuals>).

Part I

Administration

1

End User Management Administration

This chapter includes:

Concepts

- ▶ End User Management Administration Overview on page 22
- ▶ Monitoring Applications Overview on page 23
- ▶ Global Search and Replace Overview on page 28
- ▶ Bulk Operations Overview on page 29
- ▶ Location Threshold Offsets Overview on page 29
- ▶ Managing CI Collections in End User Management Administration on page 31
- ▶ EUM Admin Open API Reference on page 32

Tasks

- ▶ How to Search and Manage End User Management Configurations on page 33
- ▶ How to Perform an Advanced Search on page 35

Reference

- ▶ Predefined Views for End User Management on page 36
- ▶ End User Management Administration User Interface on page 46

Troubleshooting and Limitations on page 87

Concepts

End User Management Administration Overview

End User Management Administration is a Web-based, centralized solution for configuring and managing the applications and associated entities you want monitored by the end-user data collectors-Business Process Monitor and Real User Monitor.

The Business Process Monitor data collector emulates end users by running the transactions included in a business transaction flow or application from various locations. By collecting performance and availability data from various points throughout your infrastructure, as well as from external locations, it enables you identify performance problems in real time.

The Real User Monitor data collector monitors both user and system initiated network traffic between client machines and servers and between servers, collecting network and server performance and availability data in real time. This enables you to pinpoint the cause of delays and quantify the business impact of detected performance issues related to end users.

You use End User Management Administration to configure the applications, business transaction flows, and transactions for monitoring by Business Process Monitor, Real User Monitor, or both. By monitoring the same applications, business transaction flows, and transactions with both Business Process Monitor and Real User Monitor, you can obtain an overall picture about your applications from both a real user and synthetic user (Business Process Monitor) perspective.

Once data on the configured applications, business transaction flows, and transactions has been collected, you can view the data in End User Management reports and in Service Health. For details on End User Management reports, see "End User Management Reports Overview" on page 623. For details on viewing data in Service Health, see "View Topology" in *Using Service Health*.

The End User Management Administration user interface includes the following tabs:

- ▶ **Monitoring.** Enables you to manage the CIs included in a selected Runtime Service Model (RTSM) view and configure them for monitoring. This is the default tab when you access End User Management Administration. For concept details, see "Monitoring Applications Overview" on page 23.
- ▶ **Script Repository.** Enables you to manage your organization's Business Process Monitor scripts. For concept details, see "Script Repository Overview" on page 410.
- ▶ **Alerts.** Enables you to create and manage End User Management alerts. For details, see "Administer EUM Alerts" on page 475.
- ▶ **Settings.** Enables you to view the Business Process Monitors and Real User Monitors registered in Business Service Management. Also enables you to view Business Process Monitor and Real User Monitor licenses and configure default settings to be used when you configure applications for Business Process Monitor and Real User Monitor. For concept details, see "Settings Overview" on page 442.

Monitoring Applications Overview

You use the **Monitoring** tab in End User Management Administration to view, configure, and manage the applications you want monitored by the end-user data collectors—Business Process Monitor and Real User Monitor. To access the Monitoring tab, select **Admin > End User Management > Monitoring**. The Monitoring page comprises two main display areas. The left pane includes the **Browse** tab and the **Search and Replace** tab. The right pane displays the configuration and settings of a CI selected in the Browse tab, or the results of a search made in the Search and Replace tab. For user interface details, see "Monitoring Tab" on page 76.

This section includes the following topics:

- ▶ "Browse Tab" on page 24
- ▶ "Search and Replace Tab" on page 24
- ▶ "Right (Display) Pane" on page 25

- ▶ "Predefined Views for End User Management" on page 25
- ▶ "End User Management Monitoring Model" on page 26
- ▶ "End User Management CI Types" on page 27

Browse Tab

The **Browse** tab is one of two tabs available in the left pane of the Monitoring tab. In the Browse tab, you can select any view in the Run-time Service Model (RTSM) and manage the End User Management related CIs. When you select a view, its CIs are displayed as a hierarchical tree, with only the CIs that are relevant for End User Management enabled.

There are a number of predefined views for End User Management, and the default view in the Browse tab is the **Application Management** view. For details of the Application Management and other predefined views, see "Predefined Views for End User Management" on page 25.

Note: Changing the view in the Browse tab can take some time, depending on the number of CIs in the view. It is a good practice to distribute your applications among a number of small views.

You select a CI by clicking it in the hierarchical tree. You can perform various actions on a selected CI by using the buttons at the top of the Browse tab, or by right-clicking the CI to display a Shortcut menu and clicking the required menu option.

For user interface details, see "Monitoring Page Browse Tab" on page 60.

Search and Replace Tab

In the **Search and Replace** tab you can search for CIs and related entities of a selected type, or that match specific criteria. You can use predefined search queries, or create your own queries. Search results are displayed in the right pane of the Monitoring page.

From the search results, you can select multiple CIs or entities and perform a global replace and other bulk operations on them. Global replace enables you to change property values for all the selected CIs or entities. Bulk operations enable you to add and remove data collectors for the selected CIs or entities. You can also remove the Business Process Monitor or Real User Monitor configuration for the selected CIs or entities. Only the applicable actions for the selected CIs or entities are displayed.

For user interface details, see "Monitoring Page Search and Replace Tab" on page 67.

Right (Display) Pane

When you select a CI in the **Browse** tab (by clicking the CI in the hierarchical tree), its configuration settings and properties are displayed in various tabs (CI Properties, Business Process Monitor, Real User Monitor, Alerts, and Location Offsets) in the main display area in the right pane of the Monitoring page. Only the tabs that are relevant for the selected CIs are displayed. You can update the displayed configuration settings and properties directly in the tabs.

Predefined Views for End User Management

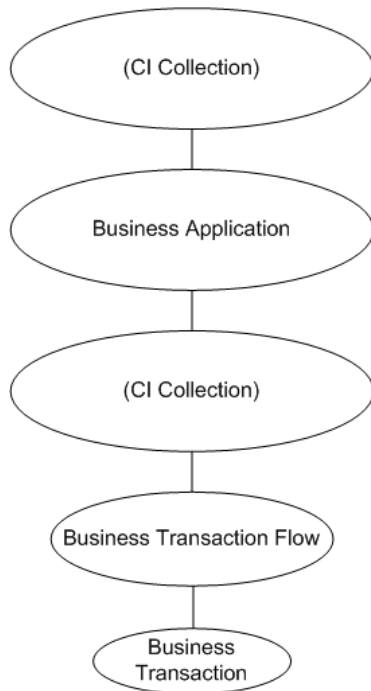
The following are the predefined views for End User Management:

- ▶ **Application Management.** The default view in End User Management Administration. The view includes the entire application hierarchy (applications, business transaction flows, CI collections, business transactions, and end-user groups). For an example of this view, and its TQL, see "Application Management View" on page 37.
- ▶ **End User Locations.** The view includes the locations that are monitored by Business Process Monitor or Real User Monitor. For an example of this view, and its TQL, see "End User Locations View" on page 42.
- ▶ **RUM End Users.** The view includes the end-user groups and subgroups, as well as any CI collections in which they are included. For an example of this view, and its TQL, see "RUM End Users View" on page 43.

- ▶ **End User Monitors.** The view is similar to the Application Management view, but displays only the applications (and their related CIs) that are actually configured for Business Process Monitor or Real User Monitor. For an example of this view, and its TQL, see "End User Monitors View" on page 39.
- ▶ **End User Applications.** The view displays the applications that are configured for Business Process Monitor or Real User Monitor, as well as any CI collections in which they are included. For an example of this view, and its TQL, see "End User Applications View" on page 40.
- ▶ **RUM Servers.** The view displays the servers and running software elements monitored by Real User Monitor. For an example of this view, and its TQL, see "RUM Servers View" on page 44.

End User Management Monitoring Model

The following graphic shows a typical model for monitoring your applications:



For details on the CI types, see "End User Management CI Types" on page 27.

You can configure applications, business transaction flows, and transactions for monitoring by Business Process Monitor, Real User Monitor, or both. It is recommended to use both Business Process Monitor and Real User Monitor to monitor the same applications, business transaction flows, and transactions to obtain an overall picture about your applications.

End User Management CI Types

You use the following CI types to create the End User Management model for monitoring applications:

- ▶ **BusinessApplication.** An actual application to be monitored.
- ▶ **BusinessTransactionFlow.** A logical user flow in an application. For example, in a human resources application you may have a business transaction flow for registering a new employee.
- ▶ **BusinessTransaction.** An individual transaction in a business transaction flow. For example, the business transaction flow for registering a new employee may include transactions for logging in to the application, entering the new employee's personal details, marking a check list to ensure that all necessary documents have been received from the new employee, and logging out of the system. For Business Process Monitor, transactions are created automatically from the transactions included in the scripts assigned to a business transaction flow. For Real User Monitor, you manually create transactions.
- ▶ **End User Group.** An end-user group or subgroup that accesses the applications monitored by Real User Monitor.
- ▶ **CiCollection.** A logical group that contains a collection of CIs (BusinessApplication, End User Group, and CiCollection). A BusinessApplication CI can be included in a CiCollection and can also include a CiCollection.

Note: If you create a CI type that inherits the properties of one of the End User Management CI types, you can edit and configure CIs of the created CI type using the same wizards and configuration pages valid for CIs of the original End User Management CI type. For example, if you create a CI type called `myBusinessApps` that inherits its properties from the **BusinessApplication** CI type, you can use the **Business Process Monitor Application Configuration** wizard to configure a CI of the `myBusinessApps` type for monitoring by Business Process Monitor.

Global Search and Replace Overview

Global search and replace is a feature that enables you to make changes to application, business transaction flow, transaction, script, event, end-user group, and other configuration settings and properties in End User Management. Global search and replace enables you to change and update configurations across the entire monitoring infrastructure. In one action, you can update any combination of settings and properties in the view tree in End User Management.

For example, you can update the default threshold settings for all Real User Monitor applications, or change the destination port number for all WebTraces.

For user interface details, see "Global Replace Wizard" on page 51.

Bulk Operations Overview

You use the bulk operations feature to carry out various administrative actions on multiple entities in End User Management Administration. This enables you to update various configuration settings on a large number of entities at the same time, without having to edit each entity separately. Using the bulk operation feature, you can add or remove data collectors from applications, business transaction flows, and transaction monitor scripts, as well as update versions of scripts in the Script Repository.

You search for the applications, business transaction flows, and transaction monitor scripts you want to update in the Search tab of the Monitoring page in End User Management Administration. For task details on performing a search and using bulk operations on the entities found, see "How to Search and Manage End User Management Configurations" on page 33.

In the Script Repository, you search for script assignments and carry out bulk operations on the business transaction flows in which the selected scripts are included. For user interface details, see "Search Results Dialog Box" on page 435.

Location Threshold Offsets Overview

You configure thresholds for Business Process Monitor and Real User Monitor transactions, as well as Real User Monitor pages and actions, which are used for comparing actual performance and determining the performance status displayed in End User Management reports.

You can configure threshold offsets for specific locations for an application. A threshold offset is a percentage value that is added to, or subtracted from, the configured thresholds of the Business Process Monitor and Real User Monitor transactions, and the Real User Monitor pages and actions, that are included in the selected application and that are accessed by users from a selected location. This enables you to adjust the thresholds for a selected location to meet specific needs (for example, you may want to increase the thresholds for a location from which communication times are consistently slower than other locations due to infrastructure issues). For user interface details on configuring location threshold offsets, see "Location Offset Page" on page 57.

You can configure thresholds for specific transactions for selected locations that override any location threshold offset configured for that location in the transaction's parent application. For user interface details for Business Process Monitor transactions, see "Transaction Performance Thresholds Pane" on page 196. For user interface details for Real User Monitor transactions, see "Location Aware Thresholds Dialog Box" on page 318.

In end-user management reports, availability and performance status is calculated by comparing actual results with thresholds configured in End User Management Administration. By default, the rule used to calculate the status differs for previous installations of HP Business Service Management that are upgraded to version 9.00 and new installations of HP Business Service Management version 9.00. The rule used for previous installations of HP Business Service Management that are upgraded to version 9.00 does not include location threshold offsets, whereas the rule used for new installations of HP Business Service Management 9.00 does. You can change the default rule used. For concept details, see "Changing the Default Performance Status Rule" on page 630.

Managing CI Collections in End User Management Administration

You can organize monitoring information in terms of physical location, operational purpose, line-of-business, organizational unit, or any other classification that is applicable to your enterprise.

For example, you could add three CI collections named Europe, America, and Asia representing different locations. Within the America CI collection, you could create four further CI collections named North, East, South, and West. Within each of these CI collections, you can add multiple CI collections, representing different departments in your organization. These CI collections can then be used to organize your organization's applications.

You can add a CI collection directly under the root level of a view, under an application, or into another CI collection.

A CI collection can contain other CI collections, applications, and end-user groups. A CI collection configured under an application can also include business transaction flows. When a CI collection is displayed in a view in the Browse tab, icons indicate the relevant End User Management configurations according to the CIs contained in the collection. For example, if a CI collection contains an application that is configured for Real User Monitor, an icon indicates that the CI collection has a Real User Monitor configuration.

When you create a CI collection, a CI of the CiCollection type is created in the RTSM.

When you delete a CI collection, you also delete all the contents of that collection. For example, if you have a CI collection into which business transaction flows have been added, deleting the CI collection also deletes the business transaction flows from the RTSM.

To help manage the CIs within a CI collection hierarchy, you can cut and paste the following CIs into a CI collection:

- ▶ **BusinessApplication.** You can paste an application to a CI collection that is not included under an application.
- ▶ **CICollection.** You can paste a CI collection into another CI collection, but cannot paste a CI collection that is directly under the root entry of the view to a CI collection that is included under an application.
- ▶ **End User Group.** You can paste an end-user group to a CI collection that is not included under an application.
- ▶ **BusinessTransactionFlow.** You can paste a business transaction flow to a CI collection that is configured under the same application as the business transaction flow.
- ▶ **BusinessTransaction.** You can paste a Real User Monitor transaction to a CI collection that is configured under the same application as the transaction. You cannot cut and paste a Business Process Monitor transaction.

For details on adding or editing CI collection in End User Management Administration, see "CI Collection Page" on page 47.

EUM Admin Open API Reference

The EUM Admin Open API enables you to perform basic operations on the main Business Process Monitor entities (applications, business transaction flows, and transactions), without using the End User Management Administration user interface in Business Service Management. For example, you can select all the Business Process Monitor applications and disable them. The API was developed as a RESTful Web service and contains an integrated server side module which is compliant to JAX-RS v1.0 standard. In addition, a java client based on the Apache Wink framework is provided, although using it is not mandatory and you can write your own client.

For details on working with the API, refer to the BSM EUM Administration API documentation. These files are located in the following folder:

<Business Service Management root directory>\tools\EumOpenApiClient\

Tasks

How to Search and Manage End User Management Configurations

The following steps describe how you can search for different entities configured in End User Management and manage them by performing various actions. After carrying out a simple or advanced search, all the steps in this task are optional. For user interface details for all the steps in this task, see "Monitoring Page Search and Replace Tab" on page 67.

- "Perform a simple search" on page 33
- "Perform an advanced search" on page 33
- "Perform a global search and replace - optional" on page 33
- "Perform bulk operations - optional" on page 34
- "Export entity property data - optional" on page 34
- "Delete configurations - optional" on page 34

Perform a simple search

Search for entities in End User Management by selecting an entity type from a predefined list and/or entering a string to be matched to entity names.

Perform an advanced search

Search for entities in End User Management using a query to search for specific entity types and property values. You can select predefined queries, create new queries, or edit values in existing queries. For task details, see "How to Perform an Advanced Search" on page 35.

Perform a global search and replace - optional

Select multiple entities from the search results and use the Global Replace wizard to change settings and property values in the selected entities. For user interface details, see "Global Replace Wizard" on page 51.

Perform bulk operations - optional

Select multiple entities from the search results and perform the following bulk operations on them:

- ▶ Add and remove data collectors for applications, business transaction flows, and transaction monitor scripts.
 - ▶ For user interface details on adding Business Process Monitors, see "Add Data Collectors Wizard" on page 124.
 - ▶ For user interface details on removing Business Process Monitors, see "Remove Data Collectors Wizard" on page 220.
 - ▶ For user interface details on adding and removing Real User Monitor engines, see "Select Engines Dialog Box" on page 387.
- ▶ Update versions of scripts in the Script Repository. For user interface details, see "Update Version Wizard" on page 437.

Export entity property data - optional

Select multiple entities from the search results and export their property data to an Excel file. You can use this data for your needs, such as creating your own configuration reports.

Delete configurations - optional

Select multiple entities from the search results and delete their Business Process Monitor or Real User Monitor configurations.

How to Perform an Advanced Search

The following steps describe how to search for different entities configured in End User Management using advanced queries. To perform an advanced search, you must either select an existing query, or create a new one. For user interface details for all the steps in this task, see "End User Management Administration User Interface" on page 46.

- "Select an existing query - optional" on page 35
- "Create a new query - optional" on page 35
- "Modify the query parameter values - optional" on page 35
- "Perform the search" on page 35

Select an existing query - optional

Select a predefined query from the Query Repository.

Create a new query - optional

Create a new query using the Search Query Wizard.

Modify the query parameter values - optional

Modify the values of the parameters used by the query to change the query's search criteria.

Perform the search

Run the search to locate the matching entities and display them in the Search Results pane.

Reference

Predefined Views for End User Management

There are a number of predefined views in End User Management, which enable you to configure and manage the applications and related entities that you want to monitor with Business Process Monitor and Real User Monitor. The default view is the **Application Management** view.

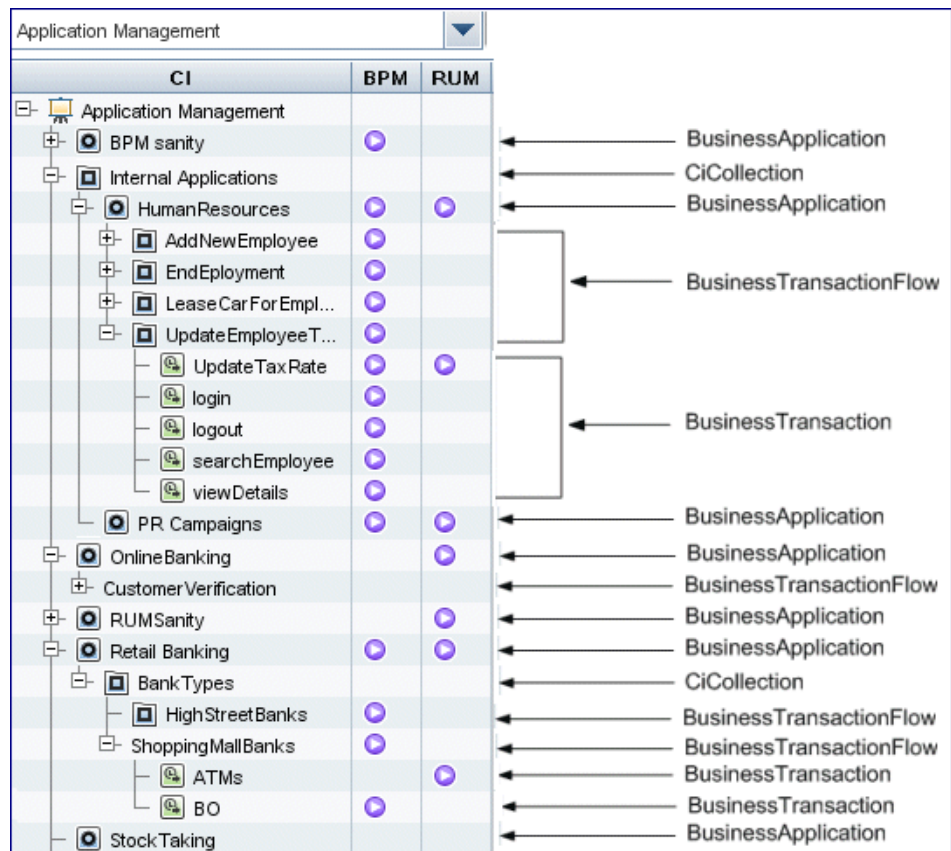
This section also includes:

- "Application Management View" on page 37
- "End User Monitors View" on page 39
- "End User Applications View" on page 40
- "End User Locations View" on page 42
- "RUM End Users View" on page 43
- "RUM Servers View" on page 44

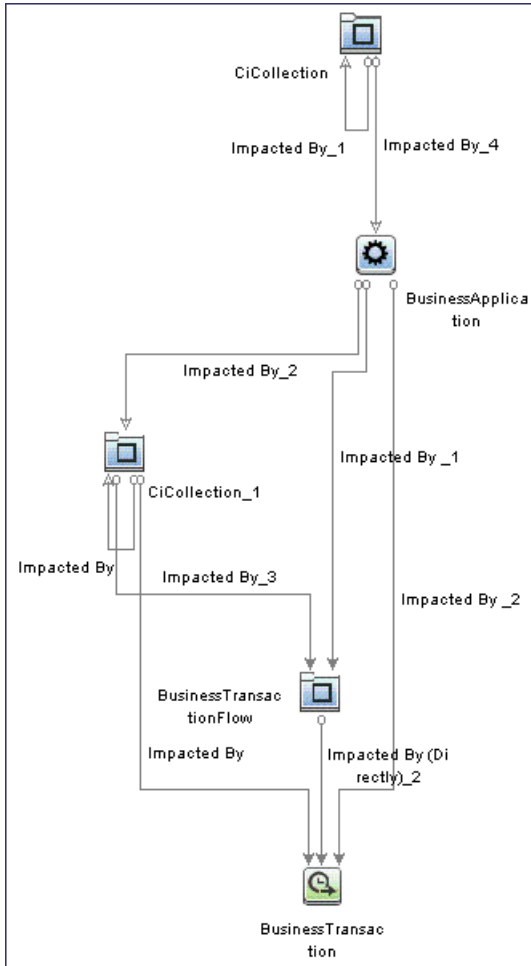
Application Management View

The Application Management view is the default view in End User Management Administration. The view displays the entire application hierarchy (applications, business transaction flows, CI collections, and business transactions).

The Application Management view generally contains the following hierarchical structure:



The TQL for the view is built as follows:

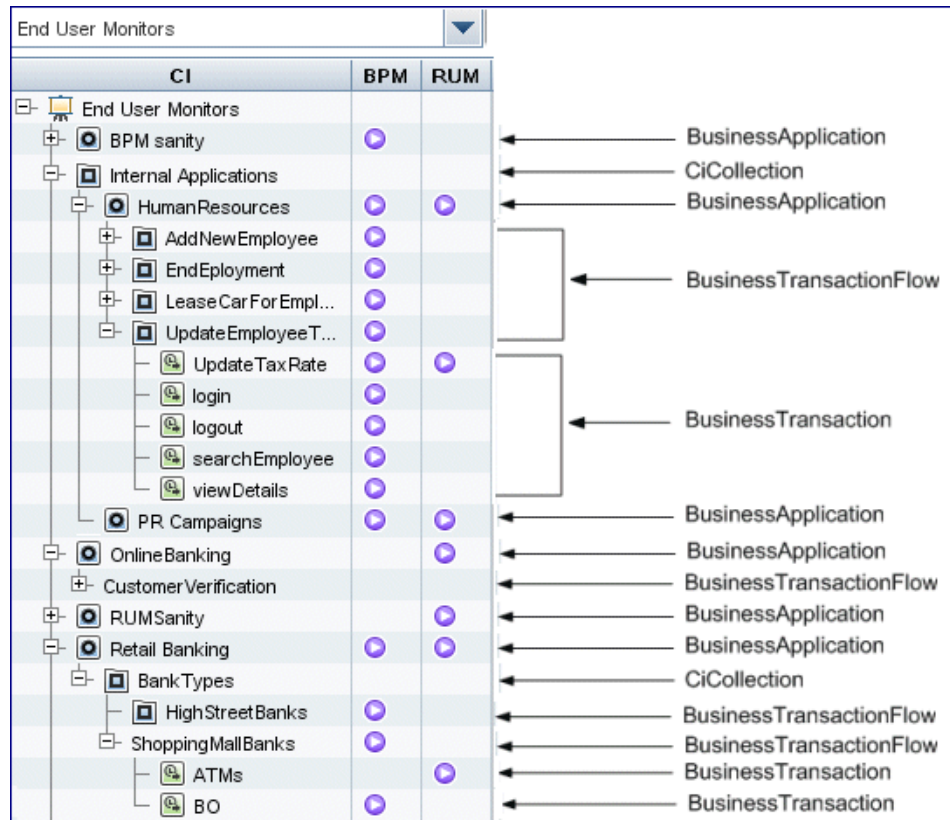


Note: The TQL nodes use the internal names for the CITs.

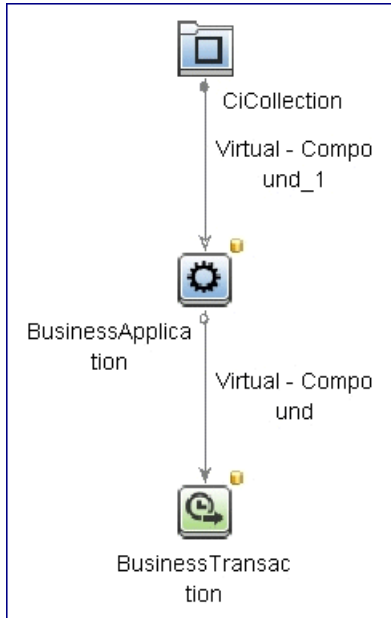
End User Monitors View

The End User Monitors view is similar to the Application Management view, but displays only the applications (and their related CIs) that are actually configured for Business Process Monitor or Real User Monitor. That is, an application that has been created, but not configured for either Business Process Monitor or Real User Monitor is included in the Application Management view, but is not included in the End User Monitors view.

The End User Monitors view generally contains the following hierarchical structure:



The TQL for the view is built as follows:



Note: The TQL nodes use the internal names for the CITs.

End User Applications View

The End User Applications view displays the applications that are configured for Business Process Monitor or Real User Monitor, as well as any CI collections in which they are included.

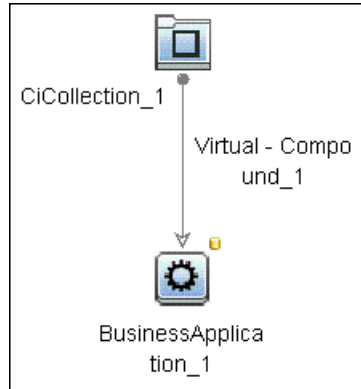
For information on configuring applications to be monitored, see "Business Process Monitor Application Configuration Wizard" on page 146 and "Real User Monitor Application Configuration Wizard" on page 327.

The End User Applications view generally contains the following hierarchical structure:

CI	BPM	RUM
End User Applications		
Internal Applications		
HumanResources	●	●
PR Campaigns	●	●
Online Banking		●
RUMSanity		●
Retail Banking	●	●

Annotations: An arrow labeled "CiCollection" points to the "End User Applications" row. A bracket labeled "BusinessApplication" spans the rows from "Internal Applications" down to "Retail Banking".

The TQL for the view is built as follows:



Note: The TQL nodes use the internal names for the CITs.








End User Locations View

The End User Locations view displays the locations that are monitored by Business Process Monitor or Real User Monitor.

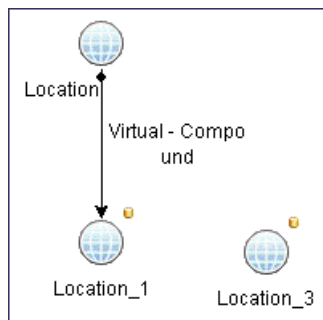
The locations monitored by Business Process Monitor are those locations that are configured in the Business Process Monitor instances registered in Business Service Management. The locations monitored by Real User Monitor are those locations to which an end-user group has been assigned, or a location for which Real User Monitor has collected data.

Locations are configured and managed in the Location Manager. For details on the Location Manager, see "Location Manager" in *Platform Administration*.

The End User Locations view generally contains the following hierarchical structure:

End User Locations		BPM	RUM
CI			
	End User Locations		
	UNKNOWN		
	USA		
	California		
	Palo Alto		
	United Kingdom		
	Japan		

The TQL for the view is built as follows:



Note: The TQL nodes use the internal names for the CITs.

RUM End Users View

The RUM End Users view displays end-user groups and subgroups, as well as any collections (CiCollections) in which they are included.

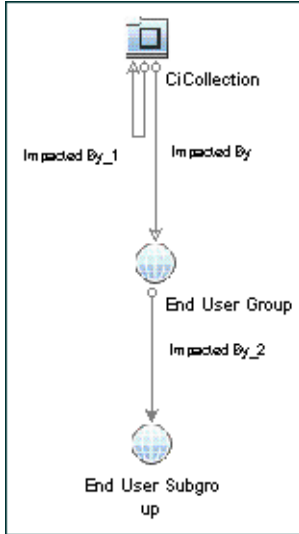
End-users who do not belong to a configured end-user group are included in a default end-user group called **Others**. Real User Monitor automatically creates end-user subgroups, which are displayed in End User Management reports, according to the IP resolution configured for the end-user group.

For information on configuring end-user groups to be monitored, see "Add End User Group with Real User Monitor Configuration Dialog Box" on page 283.

The RUM End Users view contains the following hierarchical structure:

RUM End Users		
CI	BPM	RUM
[-] RUM End Users		
[-] BankTypes		
[-] Bank Managers		●
[-] Bank Clerks		●
[-] Internal Applications		
[-] HR Users		●
[-] Auditors		●
[-] Others		●
[-] USA		

The TQL for the view is built as follows:



Note: The TQL nodes use the internal names for the CITs.

RUM Servers View

The RUM Servers view displays the servers and running software elements monitored by Real User Monitor.

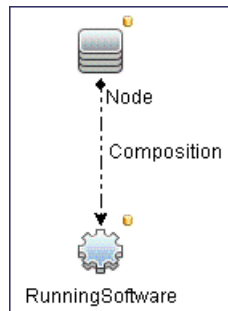
For information on configuring servers to be monitored, see "Real User Monitor Application Configuration Wizard" on page 327.

The Real User Servers view contains the following hierarchical structure:

RUM Servers			CI	BPM	RUM
[-]	📁	RUM Servers			
	📄	16.55.245.42			← Node
	📄	└─ apache_web_server (16....			← RunningSoftware
	📄	16.55.246.165			← Node
	📄	└─ apache_web_server			← RunningSoftware
	📄	└─ mysql_database			← RunningSoftware
	📄	16.55.248.210			← Node
	📄	└─ apache_web_server			← RunningSoftware

Note: In End User Management Administration you are unable to configure Node and RunningSoftware CITs, so they are disabled in the RUM Servers tree.

The TQL for the view is built as follows:



Note: The TQL nodes use the internal names for the CITs.


End User Management Administration User Interface

This section includes (in alphabetical order):

- ▶ Add CI Collection Dialog Box on page 47
- ▶ CI Collection Page on page 47
- ▶ CI Properties Page on page 48
- ▶ Edit Location Offset Dialog Box on page 49
- ▶ Global Replace Wizard on page 51
- ▶ Location Offset Page on page 57
- ▶ Monitoring Page Browse Tab on page 60
- ▶ Monitoring Page Search and Replace Tab on page 67
- ▶ Monitoring Tab on page 76
- ▶ Query Repository Page on page 78
- ▶ Search Query Wizard on page 80
- ▶ Set New Value Dialog Box on page 85
- ▶ Set Query Criteria Dialog Box on page 86

Add CI Collection Dialog Box

This dialog box enables you to create user-defined collections of CIs to organize the display of monitoring configuration information according to various relationships (for example, organizational relationships, locations, servers, and so forth). You can create a CI collection under the root node of a view, an application, or another CI collection.

To access	Select Admin > End User Management > Monitoring tab. In the view tree select the root node, an application, or a CI collection, click the Add  button and select CI Collection from the Shortcut menu.
See also	"Managing CI Collections in End User Management Administration" on page 31

User interface elements are described below:

UI Elements (A-Z)	Description
Description	Enter a description for the CI collection. The description is visible only when editing or viewing the CI collection's properties. Syntax exceptions: The maximum length is 300 characters.
Name	Enter a name for the CI collection. Syntax exceptions: The maximum length is 250 characters.

CI Collection Page

This page enables you to view and edit a CI collection's properties.

To access	Select Admin > End User Management > Monitoring tab. In the view tree select a CI collection.
------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
Description	A description for the CI collection. The description is visible only when editing or viewing the CI collection's properties. Syntax exceptions: The maximum length is 300 characters.
Name	The CI collection's name. Syntax exceptions: The maximum length is 250 characters.

CI Properties Page

This page enables you to view and change the name and description of a CI used in End User Management Administration.


To access	Select Admin > End User Management > Monitoring tab. In the CI selector, select a CI and in the Content pane, select the CI Properties tab.
Important information	The CI name and description are configured initially when the CI is created.

User interface elements are described below:

UI Elements (A-Z)	Description
Description	A free text description for the CI.
Name	<p>The CI name.</p> <p>Caution:</p> <ul style="list-style-type: none"> ▶ Changing the CI name changes it in the RTSM, which means that the CI name is changed wherever it is used (for example, in other applications, in views, and so forth). ▶ Changing a CI name to the same name of an existing CI of the same CI type and in the same level of the model (for example, two applications in the root, or two business transaction flows in an application), can cause an undesired reconciliation of the two CIs with adverse results.

Edit Location Offset Dialog Box

This dialog box enables you to set threshold offsets for multiple locations. A threshold offset is a percentage value that is added to, or subtracted from, the configured thresholds of Business Process Monitor and Real User Monitor transactions, and the Real User Monitor pages and <actions>, that are included in the selected application and that are accessed by users from a selected location.




To access	Select Admin > End User Management > Monitoring tab. In the view tree select an application and in the Content pane, select the Location Offset tab. Select multiple locations and click the Edit offsets for multiple locations  button.
See also	"Location Threshold Offsets Overview" on page 29

User interface elements are described below:

UI Elements (A-Z)	Description
Propagate	<p>Select this check box to propagate the configured value to the selected locations' children (that is, all the child locations of the selected locations have the same threshold offset value as their parent).</p> <p>Default value: Selected</p> <p>Example: A location called USA has two children—New York and California. A threshold offset of 10% is set for the location USA. The Propagate check box is selected (by default) and the locations New York and California are automatically configured with a threshold offset of 10%.</p>
Threshold offset (%)	<p>The threshold offset, as a percentage, to add to, or subtract from, the configured thresholds of Business Process Monitor and Real User Monitor transactions and Real User Monitor pages and <actions> that are accessed by users from the selected locations.</p> <p>Note: Use a negative value to reduce configured thresholds.</p> <p>Syntax exceptions: The valid range is -99 to 999.</p>

Global Replace Wizard

This wizard enables you to change and update End User Management configurations across the entire monitoring infrastructure. In one action, you can update any combination of settings and properties in the view tree.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring > Search tab. Perform a search and in the Search Results pane, select the entities you want to include in the global replace and click the Global Replace  button. ▶ Select Admin > End User Management > Script Repository and in the Folder Content pane, click the Search Script Assignment button  for selected scripts. In the Search Results dialog box, select the scripts you want to include in the global replace and click the Global Replace  button.
Wizard map	<p>This wizard contains:</p> <p>Select Context Page > Select and Update Properties Page > Preview Page > Summary Page</p>
See also	<ul style="list-style-type: none"> ▶ "Global Search and Replace Overview" on page 28 ▶ "Script Repository" on page 409

 **Select Context Page**

This wizard page enables you to select whether to perform the global replace on Business Process Monitor properties or Real User Monitor properties, if the entities you selected for the global replace include both Business Process Monitor and Real User Monitor configurations.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ General information about this wizard is available here: "Global Replace Wizard" on page 51. ▶ This page is displayed only when the entities you selected for the global replace include both Business Process Monitor and Real User Monitor configurations. ▶ You cannot perform a global replace on Business Process Monitor and Real User Monitor properties at the same time.
<p>Wizard map</p>	<p>The Global Replace Wizard contains:</p> <p>Select Context Page > Select and Update Properties Page > Preview Page > Summary Page</p>

User interface elements are described below:

UI Elements	Description
<p>Context</p>	<p>CI Properties. Select this radio button to perform the global replace on the selected entities' CI properties (name and description).</p> <p>Default value: Selected</p>
	<p>Real User Monitor. Select this radio button to perform the global replace on the selected entities' Real User Monitor properties.</p>
	<p>Business Process Monitor. Select this radio button to perform the global replace on the selected entities' Business Process Monitor properties.</p>

Select and Update Properties Page

This wizard page enables you to select the properties to update and the new values with which to update them.

Important information	General information about this wizard is available here: "Global Replace Wizard" on page 51.
Wizard map	The Global Replace Wizard contains: Select Context Page > Select and Update Properties Page > Preview Page > Summary Page

Properties Pane

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<Properties tree>	A hierarchical tree of the properties available for updating, according to the context selected in the previous wizard page. Select the check boxes for the properties you want to update. The selected properties are displayed in the Values pane.

Values Pane

User interface elements are described below (unlabeled elements are shown in angle brackets):






UI Elements	Description
<Selected properties>	<p>Each property selected in the Properties pane is displayed, together with details of its configured change. Click the change link to open the Set New Value dialog box, where you configure the new value for updating the property. For user interface details, see "Set New Value Dialog Box" on page 85.</p> <p>Default value: Before you configure a new value for a property, the change is displayed as unspecified.</p> <p>Note: If you configure an empty new value for a property, the change is displayed as ignored.</p>

Preview Page

This wizard page enables you to preview the objects on which the replacement operation is performed.

Important information	<ul style="list-style-type: none"> ➤ General information about this wizard is available here: "Global Replace Wizard" on page 51. ➤ The number of objects that are affected by the global replacement is displayed above the table. ➤ Changed values are shown in bold text. ➤ Entities/properties are displayed in the table as a hierarchical tree. ➤ Each table column can be sorted in ascending or descending order by right-clicking the column title. An up or down arrow indicates the sort order. ➤ Once you click Finish in this page, you cannot undo the replacement operation.
Wizard map	<p>The Global Replace Wizard contains:</p> <p>Select Context Page > Select and Update Properties Page > Preview Page > Summary Page</p>

User interface elements are described below:




UI Elements (A-Z)	Description
	Expand all rows in table. Click to expand the affected entities/properties and display all the rows in the table.
	Collapse all rows in table. Click to collapse all the rows in the table and display parent entities/properties only.
	Export to Excel. Click to export the table to an Excel file. Note: The default name of the Excel file is results.xls .
Entity/Property Name	The name of the entity/property included in the global replace.
Excluded entities	Click the Excluded entities link to display a list of those entities that are excluded and will not be updated. An entity is excluded if its context differs from the selected context of the wizard. For example, if the selected entities are applications and the selected context is Business Process Monitor, then applications configured only for Real User Monitor are excluded. Note: This element is visible only if there are excluded entities.
New Value	The new value with which the entity/property will be updated.
Old Value	The current value of the entity/property
Status	The update status of the entity/property. The following are the valid statuses: <ul style="list-style-type: none"> ➤  The entity/property will be updated. ➤  A validation error has occurred and the entity/property will not be updated. Note: The status of a parent entity/property is the worst status of its children.

 **Summary Page**

This wizard page enables you to view the update results.


<p>Important information</p>	<ul style="list-style-type: none"> ▶ General information about this wizard is available here: "Global Replace Wizard" on page 51. ▶ The number of objects for which the update was successful and the number of objects for which the update failed are displayed above the table. ▶ Each table column can be sorted in ascending or descending order by right-clicking the column title. An up or down arrow indicates the sort order.
<p>Wizard map</p>	<p>The Global Replace Wizard contains: Select Context Page > Select and Update Properties Page > Preview Page > Summary Page</p>

User interface elements are described below:



UI Elements (A-Z)	Description
	<p>Export to Excel. Click to export the table to an Excel file. Note: The default name of the Excel file is result.xls.</p>
<p>Entity Name</p>	<p>The name of the updated entity/property included in the global replace.</p>
<p>Error</p>	<p>Error details for those entities that were not successfully updated.</p>
<p>Status</p>	<p>The update status of the entity. The following are the valid statuses:</p> <ul style="list-style-type: none"> ▶  The entity was successfully updated. ▶  The entity was not updated. <p>Note: The status of a parent entity/property is the worst status of its children.</p>

Location Offset Page

This page enables you to set threshold offsets for specific locations for a selected application. A threshold offset is a percentage value that is added to, or subtracted from, the configured thresholds of the Business Process Monitor and Real User Monitor transactions, and the Real User Monitor pages and <actions>, that are included in the selected application and that are accessed by users from a selected location.

To access	Select Admin > End User Management > Monitoring tab. In the view tree select an application and in the Content pane, select the Location Offset tab.
Important information	Select a single location by clicking a row in the location list and enter the threshold offset directly in the row. Use the Shift or CTRL key to select several locations and click the Edit offsets for multiple locations  button to open the Edit Location Offset dialog box, where you configure a threshold offset for all the selected locations.
See also	"Location Threshold Offsets Overview" on page 29

User interface elements are described below:

UI Elements (A-Z)	Description
	Edit offsets for multiple locations. Click this button to open the Edit Location Offset dialog box, where you configure a threshold offset for multiple, selected locations. For user interface details, see "Edit Location Offset Dialog Box" on page 49.
	Reset the offset configuration for a location. Click this button to reset configured threshold offsets for the selected locations. The value is reset either to the value of a parent location that is configured for propagation, or to zero.
Location	A hierarchical tree of configured locations and their sub locations.

UI Elements (A-Z)	Description
Monitored by BPM	A check mark denotes that the location is monitored by Business Process Monitor (that is, the application has an assigned Business Process Monitor that is configured for the location).
Monitored by RUM	<p>A check mark denotes that the location is monitored by Real User Monitor. A location is considered to be monitored by Real User Monitor if an IP range has been configured for the location (or one of its child locations), or if the location (or one of its child locations) has been configured for an end-user group.</p> <p>For user interface details on configuring locations, see "Location Manager" in <i>Platform Administration</i>.</p> <p>For user interface details on configuring end-user groups, see "Add End User Group with Real User Monitor Configuration Dialog Box" on page 283.</p>
Override	<p>A check mark denotes that the configured threshold offset value for the location overrides any threshold offset value propagated by a parent location.</p> <p>Default value: Override is automatically enabled when you select the Propagate check box.</p> <p>Note: You can only clear the override by clicking the Reset the offset configuration for a location button.</p> <p>Example: A location called USA has a configured offset of 5% with Propagate enabled. The 5% offset is propagated to its two children—New York and California. You change the offset for New York to 10% with Override enabled (default). You change the threshold offset of USA to 15%. New York keeps its 10% offset, but California's offset is changed to 15%.</p>






UI Elements (A-Z)	Description
Propagate	<p>A check mark denotes that the configured value is propagated to the location's children. If propagation is enabled, all the child locations of the selected location have the same threshold offset value as the parent, unless a specific threshold has been configured for a child or intermediate parent location.</p> <p>Default value: The check box is automatically enabled when you configure a threshold offset value for a location.</p> <p>Example: A location called USA has two children—New York and California. A threshold offset of 10% is set for the location USA. The Propagate check box is selected (by default) and the locations New York and California are automatically configured with a threshold offset of 10%.</p>
Threshold Offset (%)	<p>The threshold offset, as a percentage, to add to, or subtract from, the configured thresholds of Business Process Monitor and Real User Monitor transactions and Real User Monitor pages and <actions> that are accessed by users from the selected location.</p> <p>Note: Use a negative value to reduce configured thresholds.</p> <p>Syntax exceptions: The valid range is -99 to 999.</p>




Monitoring Page Browse Tab







The Browse tab in the Monitoring page enables you to select and display a view, and browse through the view to locate and manage the included CIs that are used in End User Management Administration.





To access	Select Admin > End User Management > Monitoring tab > Browse tab
Important information	<ul style="list-style-type: none"> ➤ The default view for End User Management Administration is Application Management. ➤ When you display a view other than the End User Management Administration default view (Application Management), only the CIs used by End User Management Administration are enabled. ➤ Configuration details of a selected CI are displayed in the right pane of the Monitoring page. For details about each configuration, refer to the relevant user interface page. ➤ You can select actions by: <ul style="list-style-type: none"> ➤ Selecting a CI in the tree and clicking the action button. ➤ Right-clicking a CI in the tree to open a Shortcut menu and then clicking the required action in the menu. <p>Note: Only the actions that are valid for the selected CI are enabled.</p>
See also	<ul style="list-style-type: none"> ➤ "Working with Views in IT Universe Manager" in the <i>Modeling Guide</i> ➤ "Monitoring Page Search and Replace Tab" on page 67

User interface elements are described below (unlabeled elements are shown in angle brackets>):



UI Elements (A-Z)	Description
	Refresh. Click to refresh the CI tree of the view.
	Add EUM Configuration. Click to open a menu with the add actions that are applicable for the selected CI. For details on the add actions and their availability, see "Add Actions" on page 64.
	Properties. Click to display the names and values of the selected CI's properties, in a new window.
	Cut. Click to cut a selected CI.
	<p>Paste. Click to paste a selected CI that you have previously cut. You can cut and paste the following CIs:</p> <ul style="list-style-type: none"> ▶ Applications. You can paste an application to the root entry of the view, or to a CI collection that is not included under an application. ▶ CI collections. You can paste a CI collection into another CI collection, but cannot paste a CI collection that is directly under the root entry of the view to a CI collection that is included under an application. ▶ End-user groups. You can paste an end-user group to a CI collection that is not included under an application. ▶ Business transaction flows. You can paste a business transaction flow only in the application in which it is configured (either to a CI collection under the application, or directly to the application). ▶ Real User Monitor transactions. You can paste a Real User Monitor transaction only in the application in which it is configured (either to a CI collection under the application, or directly to the application). <p>Note: You cannot cut and paste Business Process Monitor transactions.</p>

UI Elements (A-Z)	Description
	<p>Delete EUM Configuration. Click to open a menu with the delete actions that are applicable for the selected CI. The following are the possible delete options:</p> <ul style="list-style-type: none"> ▶  BPM Configuration. Click to delete the Business Process Monitor configuration for the selected CI. ▶  RUM Configuration. Click to delete the Real User Monitor configuration for the selected CI. ▶ Delete CI. Click to delete the CI from the RTSM. You can delete the following CIs: <ul style="list-style-type: none"> ▶ Applications (CI type: BusinessApplication) ▶ Business transaction flows (CI type: BusinessTransactionFlow) ▶ Transactions (CI type: BusinessTransaction) <p>Note: You cannot delete a transaction that is configured for Business Process Monitor.</p> <ul style="list-style-type: none"> ▶ Collections (CI type: CiCollection) <p>Note: When you delete a collection, all the CIs included in the collection are also deleted.</p> <ul style="list-style-type: none"> ▶ End-user groups (CI type: End User Group) <p>Note:</p> <ul style="list-style-type: none"> ▶ When you delete BPM and RUM configurations from a CI, the CI itself is not deleted. ▶ When you delete a CI, it is deleted from the RTSM and is no longer available in other applications in which it may have been configured.






UI Elements (A-Z)	Description
	<p>Set EUM Configuration Status. Click to open a menu with the configuration status actions that are applicable for the selected CI. The following are the possible options:</p> <ul style="list-style-type: none"> ➤  Deactivate BPM. Click to set the status of the selected CI's Business Process Monitor configuration to inactive. ➤  Deactivate RUM. Click to set the status of the selected CI's Real User Monitor configuration to inactive. ➤  Activate BPM. Click to set the status of the selected CI's Business Process Monitor configuration to active. ➤  Activate RUM. Click to set the status of the selected CI's Real User Monitor configuration to active. <p>You can change the configuration status for the following CIs:</p> <ul style="list-style-type: none"> ➤ Applications ➤ Business transaction flows ➤ Real User Monitor transactions ➤ End-user groups
	<p>Global Replace Wizard. Click to open the Global Replace wizard to change and update End User Management configurations for the selected CIs.</p> <p>For user interface details, see "Global Replace Wizard" on page 51.</p> <p>Note: This action is enabled only when the selected CIs are of the same CI type.</p>
<p><Selected view></p>	<p>Click the arrow to open a list of the available views from which you can select the view with which you want to work.</p> <p>Default value: Application Management view</p>





UI Elements (A-Z)	Description
BPM	<p>Denotes that the CI is configured for Business Process Monitor and if the configuration is active or inactive. The following icons are used:</p> <ul style="list-style-type: none"> ▶  Configured for Business Process Monitor and the configuration is active. ▶  Configured for Business Process Monitor and the configuration is inactive.
CI	The CI name.
RUM	<p>Denotes that the CI is configured for Real User Monitor and if the configuration is active or inactive. The following icons are used:</p> <ul style="list-style-type: none"> ▶  Configured for Real User Monitor and the configuration is active. ▶  Configured for Real User Monitor and the configuration is inactive.

Add Actions

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select a CI in the tree in the Monitoring Page Browse tab and click the Add  button to display the applicable add actions. Click the required action. ▶ Right-click a CI in the tree in the Monitoring Page Browse tab to display a Shortcut menu. Click the Add  button to display the applicable add actions and click the required action.
Important information	The applicable add actions for a selected CI depend on the CI type.

User interface elements are described below:

Add Action	Description	Applicable for
 CI Collection	Add a CI collection. For user interface details, see "Add CI Collection Dialog Box" on page 47.	<ul style="list-style-type: none"> ▶ View root node ▶ Business application ▶ CI collection
 End User Group with RUM Configuration	Add a new end-user group configured for monitoring by Real User Monitor. For user interface details, see "Add End User Group with Real User Monitor Configuration Dialog Box" on page 283.	<ul style="list-style-type: none"> ▶ View root node ▶ Group
 Application and its BPM Configuration	Add a new application configured for monitoring by Business Process Monitor. For user interface details, see "Business Process Monitor Application Configuration Wizard" on page 146.	<ul style="list-style-type: none"> ▶ View root node ▶ Group
 Application and its RUM Configuration	Add a new application configured for monitoring by Real User Monitor. For user interface details, see "Real User Monitor Application Configuration Wizard" on page 327.	<ul style="list-style-type: none"> ▶ View root node ▶ Group
 BPM Configuration	Configure an existing application for monitoring by Business Process Monitor. For user interface details, see "Business Process Monitor Application Configuration Wizard" on page 146.	Business application (without Business Process Monitor configuration)

Add Action	Description	Applicable for
 RUM Configuration	Configure an existing application for monitoring by Real User Monitor. For user interface details, see "Real User Monitor Application Configuration Wizard" on page 327.	<ul style="list-style-type: none"> ▶ Business application (without Real User Monitor configuration) ▶ Business transaction (without Real User Monitor configuration)
 Business Transaction Flow	Add a new business transaction flow. For user interface details, see "Add Business Transaction Flow Dialog Box" on page 120.	<ul style="list-style-type: none"> ▶ Business application ▶ Group (configured for a business application)
 Business Transaction Flow with BPM Configuration	Add a new business transaction flow configured for monitoring by Business Process Monitor. For user interface details, see "Business Transaction Flow Configuration Wizard" on page 190.	<ul style="list-style-type: none"> ▶ Business application (with Business Process Monitor configuration) ▶ Group (configured for a business application with Business Process Monitor configuration)
 Business Transaction with RUM Configuration	Add a new business transaction configured for monitoring by Real User Monitor. For user interface details, see "Business Transaction Real User Monitor Configuration Dialog Box" on page 289	<ul style="list-style-type: none"> ▶ Business application (with Real User Monitor configuration) ▶ Business Transaction Flow (for an application configured for Real User Monitor)

Monitoring Page Search and Replace Tab

The Search and Replace tab in the Monitoring page enables you to search for End User Management Administration entities that match specific criteria and to select multiple entities from the search results on which to perform various operations, including global replace and bulk operations.

To access	Select Admin > End User Management > Monitoring tab > Search tab
Important information	You configure the search definition in the left pane of the Monitoring page. The search results are displayed in the right pane of the Monitoring page.
Relevant tasks	"How to Search and Manage End User Management Configurations" on page 33
See also	"Monitoring Page Browse Tab" on page 60

Search Definition Area

The search definition area is located in the left pane of the Monitoring page.

User interface elements are described below:

UI Elements (A-Z)	Description
Advanced search	Select this radio button to perform an advanced search based on a search query. Select one of the following options: <ul style="list-style-type: none"> ▶ Query. Select an existing query from the drop-down list, or select New search query to open the Search Query wizard where you can create a new query. For user interface details, see "Search Query Wizard" on page 80. ▶ Open Query Repository. Click the link to open the Query Repository in a new window, where you manage your search queries. For user interface details, see "Query Repository Page" on page 78.
Clear	Click to clear the data in the Search Details area.




UI Elements (A-Z)	Description
Search	Click to run the search. Results are displayed in the Search Results area. For user interface details, see "Search Results Area" on page 69.
Search Details	<p>For advanced searches, displays the query and enables you to set condition criteria for the run, by clicking existing property values, to open the Set Query Criteria dialog box.</p> <p>The type of value you set will vary according to the specific criteria for which you are setting the value. For example, it can be a free text field, a check box, a radio button selection, and so forth. For details about each setting, refer to the relevant user interface page for the specific property.</p>
Simple search	<p>Select this radio button to perform a simple search based on entity names and/or types. Enter the following details:</p> <ul style="list-style-type: none"> ▶ Entity name. Enter a string to be matched with entity names. Any entity whose name contains the string is located and included in the search results. ▶ Entity type. Select an entity type from the drop-down menu.





Search Results Area



The search results area is located in the right pane of the Monitoring page.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ The availability of the action buttons depends on the type of entities selected and whether they are configured for Business Process Monitor, Real User Monitor, or both. ▶ You can filter the search results by setting a filter option for any of the displayed columns. The filter is displayed at the top of each column. According to the type of data displayed in the column, either select a filter option from the drop-down menu or enter a string to which the column entries are matched (column entries that begin with the filter string are displayed).
-------------------------------------	---


User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements(A-Z)	Description
	<p>Edit Properties. Click to open the selected entity's configuration pages in a new window, where you can edit the selected entity's properties. For user interface details, refer to the relevant user interface pages for the specific entity type.</p> <p>Note: You can only edit a single entity at a time.</p>
	<p>Delete BPM Configuration. Click to delete the Business Process Monitor configuration for the selected entities.</p>
	<p>Delete RUM Configuration. Click to delete the Real User Monitor configuration for the selected entities.</p> <p>Note: This button is disabled if the selected entities are Real User Monitor end-user groups and include the Others end-user group.</p>





UI Elements(A-Z)	Description
	<p>Open Global Replace Wizard. Click to open the Global Replace wizard where you can search and replace configuration settings and properties for the selected entities. For user interface details, see "Global Replace Wizard" on page 51.</p>
	<p>Bulk Operations. Click to open a menu with bulk operations that are applicable for the selected entities. For details on the bulk operations and their availability, see "Bulk Operations" on page 71.</p> <p>Note: The applicable bulk operations available for selected entities depend on the entity type and whether they are configured for Business Process Monitor, Real User Monitor, or both. Only bulk operations that are applicable for all the selected entities are available.</p>
	<p>Export to Excel. Click to export the displayed table to an Excel file.</p> <p>Note: The default Excel file names is result.xls.</p>
	<p>Locate in View. Click to locate a selected entity in the current view, and display it in the Browse tab. If the entity is not located in the current view, the default view (Application Management for all End User Management CIs except end-user groups, for which RUM End Users is the default view) is searched.</p> <p>If the selected entity is a CI, the CI is selected in the view and displayed. If the selected entity is not a CI, but an End User Management related entity (for example, an action, event, script, and so forth), its parent CI is selected in the view and displayed.</p> <p>Note: This button is enabled only when a single entity is selected.</p>




UI Elements(A-Z)	Description
	Select Columns. Click to open a list of available columns that you can display for the located entities. Select the check boxes for the columns you want to display and click OK .
<Columns>	Different columns of information are displayed for different entity types. For each entity type, a set of default columns are displayed, but you can select additional columns to display by clicking the Select Columns  button and selecting the columns you want to display. For details of the default columns displayed for each entity type, see "Default Columns" on page 74.

Bulk Operations

To access	Select one or more entities in the Search Results area, click the Bulk Operations  button to display the applicable bulk operations for the selected entities and then click the required operation.
Important information	The applicable bulk operations available for selected entities depend on the entity type and whether they are configured for Business Process Monitor, Real User Monitor, or both.

User interface elements are described below:

Add Action	Description	Valid Entity Types
 Add an Engine or Probe	Select this option to open the Add and Engine or Probe dialog box, where you add engines and probes to monitor the selected entities. For user interface details, see "Select Engines Dialog Box" on page 387.	Applications (with Real User Monitor configuration)
 Remove an Engine or Probe	Select this option to open the Remove and Engine or Probe dialog box, where you remove engines and probes from monitoring the selected entities. For user interface details, see "Select Engines Dialog Box" on page 387.	Applications (with Real User Monitor configuration)
 Add BPM Data Collectors	Select this option to open the Add Data Collectors wizard, where you add and configure data collectors to run the selected entities. For user interface details, see "Add Data Collectors Wizard" on page 124.	<ul style="list-style-type: none"> ▶ Applications (with Business Process Monitor configuration) ▶ Business Transaction Flows (with Business Process Monitor configuration) ▶ Script monitors
 Remove BPM Data Collectors	Select this option to open the Remove Data Collectors wizard, where you remove data collectors from the selected entities. For user interface details, see "Remove Data Collectors Wizard" on page 220.	<ul style="list-style-type: none"> ▶ Applications (with Business Process Monitor configuration) ▶ Business Transaction Flows (with Business Process Monitor configuration) ▶ Script monitors

Add Action	Description	Valid Entity Types
 Add a Parameter to a Description/URL	Select this option to open the Add Parameter to Description/URL dialog box, where you can add a parameter to selected action descriptions and page URLs. For user interface details, see "Description/URL Parameter Dialog Box" on page 304.	Actions and pages
 Remove a Parameter from a Description/URL	Select this option to open the Remove Parameter from Description/URL dialog box, where you can remove a parameter from selected action descriptions and page URLs. For user interface details, see "Description/URL Parameter Dialog Box" on page 304.	Actions and pages
 Update Version	Select this option to open the Update Version wizard, where you can change the versions of selected scripts used in business transaction flows. For user interface details, see "Update Version Wizard" on page 437.	Script monitors

Default Columns

The following table lists the default columns displayed for each entity type in the Search Results area.

Entity Type	Default Columns
Application	<ul style="list-style-type: none"> ➤ Name. The application name. ➤ BPM Configured. Whether or not the application is configured for Business Process Monitor. ➤ BPM Status. The status of the Business Process Monitor configuration—active or inactive. ➤ RUM Configured. Whether or not the application is configured for Real User Monitor. ➤ RUM Status. The status of the Real User Monitor configuration—active or inactive. ➤ Protocol. The configured protocol of the application's front-end tier for Real User Monitor.
Business Transaction Flow	<ul style="list-style-type: none"> ➤ Name. The business transaction flow name. ➤ Application. The name of application in which the business transaction flow is included. ➤ Configured. Whether or not the business transaction flow is configured for Business Process Monitor. ➤ Status. The status of the Business Process Monitor configuration—active or inactive.
Business Transaction	<ul style="list-style-type: none"> ➤ Name. The name of the business transaction. ➤ RUM Configured. Whether or not the business transaction is configured for Real User Monitor. ➤ RUM Status. The status of the Real User Monitor configuration—active or inactive. ➤ BPM Configured. Whether or not the business transaction is configured for Business Process Monitor.
End User Group	<ul style="list-style-type: none"> ➤ Name. The name of the end-user group. ➤ Configured. Whether or not the business transaction is configured for Real User Monitor. ➤ Status. The status of the Real User Monitor configuration—active or inactive.

Entity Type	Default Columns
Event	<ul style="list-style-type: none"> ➤ Name. The Real User Monitor event name. ➤ Type. The Real User Monitor event type. ➤ Application. The application in which the event is included. ➤ Tier Name. The name of the application tier in which the event is included. ➤ Classification. The Real User Monitor event classification (denoted by an icon with a tooltip). ➤ Status. The status of the Real User Monitor event configuration—active or inactive.
Action/Page	<ul style="list-style-type: none"> ➤ Name. The action/page name. ➤ Application. The application in which the action/page is included. ➤ Tier Name. The name of the application tier in which the action/page is included. ➤ Status. The status of the Real User Monitor action/page configuration—active or inactive. A check mark denotes that the action/page configuration is active. ➤ Action Description/URL. The action description or page URL. ➤ Auto Discovered. A check mark denotes that the action/page was automatically discovered by Real User Monitor.
Script Monitor	<ul style="list-style-type: none"> ➤ Name. The script name. ➤ Application. The application in which the script is included. ➤ BTF Name. The business transaction flow in which the script is included. ➤ Version. The version number of the script.

Entity Type	Default Columns
Single Transaction Script	URL. The page URL.
WebTrace	<ul style="list-style-type: none"> ▶ Destination. The WebTrace's destination URL. ▶ Port. The destination port number. ▶ Application. The application in which the WebTrace is included. ▶ BTF Name. The business transaction flow in which the WebTrace is included.

Monitoring Tab

The Monitoring tab enables you to view, configure and manage the applications you want monitored by Business Process Monitor and Real User Monitor. The tab comprises two main display areas. The left pane includes the **Browse** tab and the **Search and Replace** tab. The right pane displays the configuration and settings of a CI selected in the Browse tab, or the results of a search made in the Search and Replace tab. The configuration and settings of a selected CI are displayed in a number of different tabs in the right pane, with only the tabs applicable to the selected CI visible.

To access	Select Admin > End User Management > Monitoring
Important information	The Monitoring tab is the default tab displayed when you access End User Management Administration.
See also	<ul style="list-style-type: none"> ▶ "End User Management Administration Overview" on page 22 ▶ "Monitoring Applications Overview" on page 23

Browse Tab

Enables you to select and display a view, and browse through the view to locate and manage the included CIs that are used in End User Management Administration.

For user interface details, see "Monitoring Page Browse Tab" on page 60.

Search and Replace Tab

Enables you to search for End User Management Administration entities that match specific criteria and to select multiple entities from the search results on which to perform various operations.

For user interface details, see "Monitoring Page Search and Replace Tab" on page 67.

CI Properties Tab

Enables you to view and change the name and description of a CI used in End User Management Administration.

For user interface details, see "CI Properties Page" on page 48.

Business Process Monitor Tab

Enables you to configure the Business Process Monitor settings for a selected CI. The Business Process Monitor tab includes the following pages:

- ▶ **Properties.** For user interface details, see "Business Process Monitor Application Properties Page" on page 179.
- ▶ **Default Settings.** For user interface details, see "Business Process Monitor Application Default Settings Page" on page 175.
- ▶ **Data Collectors.** For user interface details, see "Business Process Monitor Application Data Collectors Page" on page 173.
- ▶ **Reports Configuration.** For user interface details, see "Business Process Monitor Application Reports Configuration Page" on page 184.

Real User Monitor Tab

Enables you to configure the Real User Monitor settings for a selected CI. The Real User Monitor tab includes the following pages:

- ▶ **General.** For user interface details, see "Real User Monitor Application General Page" on page 356.
- ▶ **Session.** For user interface details, see "Real User Monitor Application Session Page" on page 375.

- ▶ **Data Collection.** For user interface details, see "Real User Monitor Application Data Collection Page" on page 336.
- ▶ **<Actions>.** For user interface details, see "Real User Monitor Application <Actions> Page" on page 321.
- ▶ **Events.** For user interface details, see "Real User Monitor Application Events Page" on page 350.

Alerts Tab

Enables you to configure End User Management alerts for a selected CI.

For details on administering End User Management alerts, see "Administer EUM Alerts" on page 475.

Location Offset Tab

Enables you to set threshold offsets for specific locations for a selected CI.





For user interface details, see "Location Offset Page" on page 57.

Query Repository Page

This page enables you to manage and store search queries that you use to search for End User Management Administration entities that match specific criteria. You can use the search results generated by queries to perform global replace and bulk operations on multiple entities.



To access	Select Admin > End User Management > Monitoring > Search > Search Definition > Query > Open Query Repository
------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
	New Search Query. Click to open the Search Query wizard, where you can create a new query. For user interface details, see "Search Query Wizard" on page 80.
	Edit Search Query. Click to open the Search Query wizard, where you can edit a selected query. For user interface details, see "Search Query Wizard" on page 80.
	Duplicate Search Query. Click to duplicate a selected query. A new query with the same configuration as the original is created and is automatically given the same name as the original with the addition of a period followed by a sequential number. For example, if you duplicate a query called myquery , the new query is called myquery.1 . If you then duplicate the query called myquery.1 , the new query is called myquery.1.1 and so forth.
	Delete Search Query. Click to delete a selected query.
Description	The query description.
Editable	A check mark denotes that the query is editable (that is, the query is a user defined query). Predefined queries included in HP Business Service Management cannot be edited.
Entity Type	The entity type on which the query is run.
Name	The query name.
Search Details	Lists the selected entity properties included in the query, together with details of their values to be matched. Note: <ul style="list-style-type: none"> ▶ An unconfigured property value is displayed as unspecified. ▶ An empty property value is displayed as ignored.

Search Query Wizard

This wizard enables you to create a new search query for locating End User Management Administration entities that match specific criteria. You can use the search results generated by the query to perform global replace and bulk operations on multiple entities.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab > Search tab > Search Definition area > Query > New search query ▶ Select Query Repository and click the Add Search Query  or Edit Search Query  buttons.
Wizard map	<p>This wizard contains:</p> <p>Define Query Details Page > Select Search Context Page > Define Search Criteria Page > Summary Page</p>

Define Query Details Page

This wizard page enables you to configure the name and description of a query in the Query Repository.

Important information	<ul style="list-style-type: none"> ▶ General information about this wizard is available here: "Search Query Wizard" on page 80 ▶ This page is only applicable when you access the Search Query wizard from the Query Repository page. For user interface details, see "Query Repository Page" on page 78.
Wizard map	<p>The Search Query Wizard contains:</p> <p>Define Query Details Page > Select Search Context Page > Define Search Criteria Page > Summary Page</p>

User interface elements are described below:

UI Elements (A-Z)	Description
Query description	An optional query description.
Query name	The query name.

Select Search Context Page

This wizard page enables you to configure the entity type to search for and the context in which to search for it. The selected entity type and context determine the properties that are displayed in the Define Search Criteria page.

Important information	General information about this wizard is available here: "Search Query Wizard" on page 80
Wizard map	The Search Query Wizard contains: Define Query Details Page > Select Search Context Page > Define Search Criteria Page > Summary Page

User interface elements are described below:

UI Elements (A-Z)	Description
Context	<p>Select the radio button for the context in which you want to search for the entities. Valid context options are:</p> <p>CI Properties. Search for the entities whose name and/or description include a specific string.</p> <p>Real User Monitor. Search for the entities by Real User Monitor properties.</p> <p>Business Process Monitor. Search for the entities by Business Process Monitor properties.</p> <p>Note: The context radio buttons are only enabled for Application and Business Transaction entity types. For all other entity types there is a default context which you cannot change.</p>
Entity type	<p>Select the radio button for the entity type for which you want to search.</p>

Define Search Criteria Page

This wizard page enables you to select the entity properties and their values to be matched during the search.

Important information	<ul style="list-style-type: none"> ▶ General information about this wizard is available here: "Search Query Wizard" on page 80 ▶ The available properties are determined by the entity type and context selected in the Select Search Context page.
Wizard map	<p>The Search Query Wizard contains:</p> <p>Define Query Details Page > Select Search Context Page > Define Search Criteria Page > Summary Page</p>

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
Search Criteria Area	
Predefined Search Criteria	<p>Predefined search criteria, with properties for matching during the search already selected.</p> <p>Select the check box next to the predefined search criteria you want to use.</p> <p>Note: If there are no predefined search criteria for the entity type selected, this field is not visible.</p>
Properties	<p>A hierarchical tree of the properties available for matching during the search, according to the context and entity type selected in the previous wizard page.</p> <p>Select the check boxes for the properties you want to update. The selected properties are displayed in the Search Details area.</p>
Search Details Area	
<Property settings>	<p>Each property selected in the Properties field is displayed, together with details of the value to be matched. Click the value link to open the Set Query Criteria dialog box, where you configure the new property value to be matched during the search. For user interface details, see "Set Query Criteria Dialog Box" on page 86.</p> <p>Default value: Before you configure a new value for a property, the value is displayed as unspecified.</p> <p>Note: If you configure an empty new value for a property, the value is displayed as ignored.</p>

 **Summary Page**

This wizard page enables you to view a summary of the query, change property values for matching, save the query in the Query Repository, and launch the query automatically when you exit the wizard.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ General information about this wizard is available here: "Search Query Wizard" on page 80 ▶ This page is only applicable when you access the Search Query wizard from the Search Definition area of the Monitoring Page Search tab. For user interface details, see "Search Definition Area" on page 67.
<p>Wizard map</p>	<p>The Search Query Wizard contains: Define Query Details Page > Select Search Context Page > Define Search Criteria Page > Summary Page</p>

User interface elements are described below:

UI Elements (A-Z)	Description
<p>Execute query immediately</p>	<p>Select this check box to launch the query automatically when you click Finish to end and exit the wizard. Default value: Selected</p>
<p>Query description</p>	<p>An optional description of the query. Note: This field is enabled only when the Save query check box is selected.</p>
<p>Query name</p>	<p>The query name. Note: This field is enabled only when the Save query check box is selected.</p>

UI Elements (A-Z)	Description
Save query	<p>Select this check box to save the query to the Query Repository and enter the query name and an optional description.</p> <p>Default value: Not selected</p>
Search Details	<p>Lists the selected entity properties included in the query, together with details of their values to be matched. Click a value link to open the Set Query Criteria dialog box, where you configure a new property value to be matched during the search. For user interface details, see "Set Query Criteria Dialog Box" on page 86.</p> <p>Default value: Before you configure a new value for a property, the value is displayed as unspecified.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Before you configure a new value for a property, the value is displayed as unspecified. ▶ All values must be configured before you can run the query. ▶ If you configure an empty new value for a property, the value is displayed as ignored.

Set New Value Dialog Box

This dialog box enables you to input a new value for updating a selected property in the Global Replace wizard.

To access	Select Global Replace wizard > Select and Update Properties page > Values pane and click the change link for a property.
Important information	The elements displayed in this dialog box vary according to the selected property.
See also	"Global Replace Wizard" on page 51

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Property value setting>	<p>The type of value you set for a property will vary according to the specific property for which you are setting the value. For example, it can be a free text field, a check box, a radio button selection, and so forth. For details about each setting, refer to the relevant user interface page for the specific property.</p> <p>Note: When the value is a free text field, make sure you adhere to any syntax exceptions and limitations (for example, a maximum length or permitted characters).</p>
Replace ... with ...	<p>For some properties, you can replace a string within an existing property value with a new string. In such cases, you are prompted to enter both the existing and new strings. All occurrences of the string in the existing property value are replaced by the new string.</p>

Set Query Criteria Dialog Box

This dialog box enables you to input a new value for a property to be matched when searching for End User Management Administration entities.

To access	Select Search Query wizard > Define Search Criteria page > Search Details area and click the value link for a property.
Important information	The elements displayed in this dialog box vary according to the selected property.
See also	"Search Query Wizard" on page 80

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Property value setting>	The type of value you set for a property will vary according to the specific property for which you are setting the value. For example, it can be a free text field, a check box, a radio button selection, and so forth. For details about each setting, refer to the relevant user interface page for the specific property.

Troubleshooting and Limitations

This section includes troubleshooting and limitations for End User Management Administration.

No Profile Database is Configured in Business Service Management

If no profile database is configured in Business Service Management, when you first access End User Management Administration a warning message is displayed and you cannot add Business Process Monitor or Real User Monitor applications.

2

Business Process Monitor Administration

This chapter includes:

Concepts

- ▶ Monitoring Essential Transactions on page 90
- ▶ Editing the Schedule for Business Process Monitor Applications/Business Transaction Flows on page 91
- ▶ Enabling Component Breakdown on page 92
- ▶ Enabling SOA Transaction Breakdown on page 94
- ▶ Script Parameter Management Overview on page 96

Tasks

- ▶ How to Set up Business Process Monitors on page 98
- ▶ How to Plan Business Process Monitor Applications on page 102
- ▶ How to Zip Scripts on page 104

Reference

- ▶ Guidelines for Working with QuickTest Professional on page 105
- ▶ VuGen Recording Tips on page 109
- ▶ Business Process Monitor Administration User Interface on page 119

Troubleshooting and Limitations on page 243

Concepts

Monitoring Essential Transactions

Scripts run by Business Process Monitor emulate real user actions using specific URLs or pre-recorded transactions that perform typical business processes in your application. Consider the following when determining the type of transactions to use:

- ▶ Establish the main applications or lines of business whose performance you want to monitor.
- ▶ Determine the business functions whose failure could cause harm to your company, for example, transactions that have significant impact on the business (such as purchases), heavy throughput transactions (such as home page download), or transactions integrated with legacy systems, since these integrations increase the risk for application failures.
- ▶ Identify transactions that hit the different components within your application infrastructure (servers and physical devices), for example, transactions high in database I/O (such as search requests), since those tend to stress the system.
- ▶ Monitor transactions that affect typical end-user experience, for example, links that users commonly follow or transactions associated with new promotions.
- ▶ Select transactions that enable you to verify and reinforce service level agreements, for example, mission-critical transactions that typically exhibit heavy throughput, high impact on the system and high database I/O, or transactions describing increased user actions (such as clicking on many links or visiting many parts of your site).
- ▶ Record transactions that interact with specific parts of your network infrastructure. For example, define a transaction that exercises just the Web server, another that interacts with the Web server and application server, and a third that interacts with the Web server, application server, and database server.

Editing the Schedule for Business Process Monitor Applications/Business Transaction Flows

When determining how often to run a Business Process Monitor application or business transaction flow, you should consider the following:

- ▶ How soon you want to know if the system is down. If the default wait of 15 minutes is too long, schedule the application/flow to run more frequently.
- ▶ How much load the system can handle. If the script monitoring an application/flow creates a high load on the system, schedule the application/flow to run less frequently so that the script does not cause system performance degradation.
- ▶ How much data is required for SLAs or reports. For example, if an SLA requires an application to be hit by a script from a specific location once every 15 minutes, it may not add any value to run an application/flow more frequently.
- ▶ How much load can the Business Process Monitor and Business Service Management handle. If you schedule an application/flow to run very frequently, it increases the load on the Business Process Monitor and Business Service Management. This may affect the performance of all the scripts run on the overloaded Business Process Monitor and the performance of Business Service Management.
- ▶ How closely the script is meant to emulate real users. If the users being emulated by the script only work specific hours, it may only be necessary to schedule the application/flow to run from one or two hours prior to the start of this time period, to one or two hours after the end of this time period.

Enabling Component Breakdown

If you enable breakdowns for the transaction monitors in an application, you can select the **Perform component breakdown** option to specify that you want HP Business Service Management to save complete component breakdown data (page components for Web based protocols, and TCP components/requests for non-Web based protocols) for a sampling of transaction instances. For user interface details, see "Default Transaction Settings Page" on page 150.

Collecting component breakdown data enables drilling down in the transaction breakdown reports, in the End User Management application. Drilling down to view the component breakdown data for the transaction instances for which data is collected, helps to pinpoint response time issues that occurred due to problems with a specific component (for example, a large or missing image on a page). For details on how component breakdown data appears in reports, see "BPM Page Component Breakdown on Demand" on page 993.

This section also includes:

- "Protocols for Breakdown" on page 92
- "Breakdown Samples" on page 93

Protocols for Breakdown

For component breakdown to appear in reports, the script containing the transactions must have been recorded using one of the protocols configured in the **agent1.cfg** file on the Business Process Monitor machine. Web based protocols are configured in the **BdSupportedProtocols** setting and non-Web based protocols are configured in the **AdvancedTcpBdSupportedProtocols** setting. For details on the agent1.cfg file, see "Parameters in agent1.cfg" in the *Business Process Monitor Administration* PDF.

If a script for which Business Process Monitor is configured to collect transaction breakdown data contains multiple protocols, only one type of breakdown is used:

- Web based breakdown is used providing one of the protocols is a Web based protocol that is included in the **BdSupportedProtocols** configuration setting in the **agent1.cfg** file on the Business Process Monitor machine.
- TCP breakdown is used providing one of the protocols is a non-Web based protocol that is included in the **AdvancedTcpBdSupportedProtocols** configuration setting and none of the protocols is a Web based protocol that is included in the **BdSupportedProtocols** configuration setting in the **agent1.cfg** file on the Business Process Monitor machine.

Breakdown Samples

By default, HP Business Service Management saves component breakdown data to the database once per every four transaction instances. The setting for how often to save component breakdown data can be modified from the PCBD section of the **topaz_data_server.cfg** file on the Business Process Monitor machine. For details, see "Business Process Monitor Configuration Files" in the *Business Process Monitor Administration* PDF.

Note to HP Software-as-a-Service customers: The default for saving page component breakdown data to the database differs for HP Software-as-a-Service. By default, page component breakdown data is saved when the transaction's threshold status changes to or from the Poor (red) status. For details on setting transaction thresholds, see "Default Transaction Settings Page" on page 150.

Enabling SOA Transaction Breakdown

You can configure Business Process Monitor to send SOA data to HP Business Service Management for inclusion in Application Management for SOA reports and Service Health. For details on incorporating SOA data from HP Business Process Monitor in Application Management for SOA, see "Enrich the SOA Model From Scripts" in *Solutions and Integrations*.

If a script contains both regular Business Process Monitor transactions and SOA WebService calls, samples for both types of data are sent to HP Business Service Management. Data for the regular Business Process Monitor transactions is included in HP Business Service Management reports and Service Health, and data for the SOA WebService calls is included in Application Management for SOA reports and Service Health. There is no automatic link between the two types of data, that is, you cannot view or access SOA breakdown data from regular Business Process Monitor transaction data and vice versa. You can, however, manually find a link between the different types of data by tracing them back to the same transaction.

You enable SOA breakdown when you configure the breakdown settings for a transaction monitor. For user interface details, see "Default Transaction Breakdown" on page 153. You add SOA scripts to a transaction monitor in the same way that you add regular Business Process Monitor scripts. For user interface details, see "Set Transaction Monitor Scripts Page" on page 155.

When you assign a script that includes SOA WebService calls to a business transaction flow, Configuration Items (CIs) for the included WebServices and operations are created in the Run-time Service Model (RTSM).

For details on troubleshooting and limitations for SOA transaction breakdown, see "SOA Transaction Breakdown Troubleshooting and Limitations" on page 243.

This section also includes:

- "Prerequisites" on page 95
- "Samples" on page 95
- "Transactions" on page 95
- "Configuration and Log Files" on page 96

Prerequisites

The option to enable SOA breakdown for a transaction monitor is only available when the following conditions exist:

- ▶ You have a valid Application Management for SOA license.
- ▶ You are using HP Business Process Monitor version 7.50 or later. If you are using an earlier version of HP Business Process Monitor, the check box to enable SOA data for a transaction monitor is visible and can be selected in End User Management Administration, but no SOA data is sent to HP Business Service Management from the Business Process Monitor machine running the earlier version.
- ▶ The transaction monitor's protocol type is Web Service (SOA) if it is a single protocol script, or one of the protocols is Web Service if it is a multiple protocols script.
- ▶ The scripts are record with HP Virtual User Generator version 9.10 or later. For details on using scripts recorded with earlier versions of HP Virtual User Generator, see "SOA Transaction Breakdown Troubleshooting and Limitations" on page 243.

Samples

If SOA breakdown is enabled for a transaction monitor, a performance sample is sent by the Business Process Monitor to Application Management for SOA for every **web_service_call** operation included in the script. If SOA errors are received for a **web_service_call** operation, an event sample is also sent.

Transactions

Unlike regular Business Process Monitor scripts, an SOA script does not have to include transactions to produce SOA data. However, even though no transactions may be recorded in a script, HP Business Process Monitor considers each **web_service_call** operation in a script as a transaction for internal purposes only. These internal transactions are not sent to, and do not appear in, HP Business Service Management.

Configuration and Log Files

For details on the Business Process Monitor configuration and log files for SOA transactions, see the following:

- ▶ "Parameters in topaz_data_server.cfg" in the *Business Process Monitor Administration* PDF.
- ▶ "Data Directory" in the *Business Process Monitor Administration* PDF.

Script Parameter Management Overview

HP Business Service Management's script parameter management feature enables you to manage the values of parameters included in HP Virtual User Generator (VuGen) transaction scripts that are run by Business Process Monitors to monitor applications and business transaction flows.

VuGen scripts contain parameters, such as user names and passwords that are used by the scripts to log in to monitored applications. You may need to change the values of these parameters at certain intervals. For example, if your IT organization requires periodic changes of login credentials. You may also need to have different values for a parameter in the same script when it is run on different Business Process Monitors. For example, if you monitor an application that prevents simultaneous logins with the same credentials on multiple Business Process Monitors.

Constantly having to edit scripts to update parameter values, or duplicate scripts and then make changes, is heavy maintenance, especially as to change a script you have to download it, edit it in VuGen, and then upload it again to Business Service Management.

Managing parameters in End User Management Administration enables you to set different parameter values to be used by scripts, without having to edit the scripts themselves. You set parameter values for specific scripts in specific applications or business transaction flows, and can also set different values to be used for the same parameter according to the Business Process Monitor that runs the script. You can also update the values for multiple parameters across multiple scripts at the same time.

When you configure a value for a script parameter, you can enter an expiration date for the value. Using expiration dates for parameter values helps you manage parameters with frequently changing values, such as passwords. The expiration date is an indication of when you need to change a parameter's value. The expiration date is for informational purposes only and does not trigger any notification or change.

Parameter values are stored in an application's configuration in the management database and use the same encryption as the original value in the script. You cannot set parameter values in End User Management Administration for parameters that use multiple values.

You can edit script parameters for scripts included in:

- ▶ A Business Process Monitor application. For user interface details, see "Script Parameters Pane" on page 182.
- ▶ A business transaction flow. For user interface details, see "Script Parameters Tab" on page 215.
- ▶ The Script Repository. For user interface details, see "Script Parameters Tab" on page 215.

Tasks

How to Set up Business Process Monitors

This task describes the process required to set up and use Business Process Monitor to collect data on the performance of specific business processes.

This task includes the following steps:

- "Prepare a plan for monitoring specific business processes" on page 99
- "Install Business Process Monitor components" on page 99
- "Create scripts" on page 99
- "Upload scripts to the Script Repository" on page 99
- "Create and configure applications for Business Process Monitor" on page 100
- "Create and configure business transaction flows" on page 100
- "Create single transaction scripts for business transaction flows - optional" on page 100
- "Create WebTraces for applications or business transaction flows - optional" on page 101
- "Set script parameter values - optional" on page 101
- "Set location aware thresholds - optional" on page 101
- "Configure data collector overrides - optional" on page 101
- "Grant permissions" on page 102
- "View Business Process Monitor data in reports and Service Health" on page 102

1 Prepare a plan for monitoring specific business processes

Prepare a plan that maps out the specific applications and business processes for which you want to collect data. Consider the locations from where you want to emulate end users accessing the application. Include information about the monitored IT infrastructure components associated with the applications (for example, servers being monitored by SiteScope that are running a Web-based application against which you plan to run Business Process Monitor scripts). For task details, see "How to Plan Business Process Monitor Applications" on page 102.

2 Install Business Process Monitor components

Install Business Process Monitor on machines designated to run scripts recorded with HP script recording tools such as HP Virtual User Generator. You can run multiple Business Process Monitors from multiple platforms. For details, see the *Business Process Monitor Administration* PDF.

3 Create scripts

Create scripts that include transactions that reflect the business processes for which you plan to collect data, and save them to a local or network drive. For details, refer to the *HP Virtual User Generator User's Guide*.

4 Upload scripts to the Script Repository

In the Script Repository, create folders and upload the scripts to the folders. For user interface details, see "Script Repository Page" on page 430.

Note: Scripts can also be uploaded to the Script Repository while configuring applications and business transaction flows for Business Process Monitor.

5 Create and configure applications for Business Process Monitor

In End User Management Administration, create applications and configure them for Business Process Monitor using the Business Process Monitor Application Configuration wizard. For user interface details, see "Business Process Monitor Application Configuration Wizard" on page 146.

6 Create and configure business transaction flows

In End User Management Administration, create business transaction flows and configure them for Business Process Monitor using the Business Transaction Flow Configuration wizard. For user interface details, see "Business Transaction Flow Configuration Wizard" on page 190.

7 Create single transaction scripts for business transaction flows - optional

In End User Management Administration, create single transaction scripts for business transaction flows. A single transaction script emulates navigation to a specified URL and enables you to track response time and availability results in End User Management reports. For user interface details, see "Single Transaction Script Dialog Box" on page 227.

8 Create WebTraces for applications or business transaction flows - optional

In End User Management Administration, create WebTraces for applications or business transaction flows. WebTrace monitors enable you to record the specific route taken from a data collector to a destination Web server or IP address, including the specific gateway servers at each hop. For user interface details, see "WebTrace Dialog Box" on page 240.

9 Set script parameter values - optional

In End User Management Administration, set specific script parameter values for an application or business transaction flow, and for specific data collectors. For concept details, see "Script Parameter Management Overview" on page 96.

10 Set location aware thresholds - optional

In End User Management Administration, set transaction threshold offsets for specific locations. For user interface details, see "Location Aware Thresholds Dialog Box" on page 318.

11 Configure data collector overrides - optional

In End User Management Administration, set overriding schedules and run modes for specific data collectors for Business Process Monitor applications and business transaction flows. For user interface details, see "Edit Data Collector Settings Dialog Box" on page 201.

12 Grant permissions

Grant permissions so that users can view and modify the Business Process Monitor related configuration settings in End User Management Administration. For concept details, see "Permissions Overview" in *Platform Administration*.

Note: Permissions for an application set in the End User Management context in the Permissions Manager do not affect the permissions to view that application in views defined in IT Universe Manager. Permissions for views must be set separately.

13 View Business Process Monitor data in reports and Service Health

Once data on the configured Business Process Monitor applications and business transaction flows has been collected, you can view the data in Business Process Monitor reports and in Service Health.

For details on Business Process Monitor reports, see "End User Management Reports Overview" on page 623.

For details on viewing Business Process Monitor data in Service Health, see "View Topology" in *Using Service Health*.

How to Plan Business Process Monitor Applications

This task describes how to plan Business Process Monitor applications to most effectively monitor and manage their performance. The information described in the steps below can assist you with effective application planning and should be considered before you create and run applications.

This task includes the following steps:

- ▶ "Prerequisites" on page 103
- ▶ "Monitor essential transactions" on page 103

- "Monitor from different locations" on page 103

1 Prerequisites

Before you begin application creation, make sure you:

- Start the Business Process Monitor on the host machines designated to run Business Process Monitor applications – for details, see the *Business Process Monitor Administration* PDF.
- Record scripts which are added to create transaction monitors for Business Process Monitor applications – for details, see the HP Virtual User Generator documentation and "Guidelines for Working with QuickTest Professional" on page 105.
- Add the recorded scripts to the Script Repository – for details, see "Script Repository Page" on page 430.
- Configure required administration settings, including database connections and permissions – for details, see "Database Administration" and "Permissions Overview" in *Platform Administration*.

2 Monitor essential transactions

Plan the transactions you want to monitor to ensure that you monitor essential transactions for your organization. For details on what you should consider when determining what to monitor, see "Monitoring Essential Transactions" on page 90.

3 Monitor from different locations

To obtain an accurate assessment of end-user experience, you should monitor from a variety of locations. If possible, select locations where customers are located. Monitoring from a variety of locations also enables you to better track and compare network performance from different Internet backbone locations and service providers.

How to Zip Scripts

This task describes how to zip the files comprising a transaction so that you can add it as a transaction monitor to a business process profile in End User Management Administration.

You can zip a transaction's files by:

- ▶ Using the HP Virtual User Generator. For details, see the HP Virtual User Generator documentation.
- ▶ Zipping the files in your file manager as described in the following procedure.

To zip transactions:

- 1 In your file manager, browse to the transaction's directory.
- 2 Select all the files in the directory (CTRL A) and create a zip file including all the files. You must use the name of the .usr file as the name of the zipped file. For example, if the .usr file is called `check_accounts usr`, the zip file must be named `check_accounts.zip`.

Ensure that the **Save full path info** option is not selected so that there are no paths in the path column of the zip archive.

Note: Do not select the directory itself to **Add to Zip** as this includes the directory name in the path column. You cannot add a zipped file that includes a directory to a profile in the console.

Reference

Guidelines for Working with QuickTest Professional

In certain environments, it may be necessary or preferable to use QuickTest Professional instead of VuGen to record scripts for use with Business Process Monitor. Examples of such environments include: certain Java applications, terminal emulators, home-grown applications written in Visual Basic or MVS, Lotus Notes, Siebel (in certain cases), a Delphi application using a third-party Oracle integration layer, an application that communicates using a proprietary, compressed, encrypted protocol, or an application using asynchronous communication.

Use the guidelines below when installing and using QuickTest Professional with HP Business Service Management. For more information about QuickTest Professional, see the *HP QuickTest Professional User Guide*.

Note: For additional recommendations to consider when scripting for Business Process Monitor with QuickTest Professional, see HP Software Self-solve knowledge base article KM198697.

This section also includes:

- "General" on page 106
- "Installing QuickTest Professional" on page 106
- "QuickTest Professional Script Content" on page 107
- "Running QuickTest Professional Scripts" on page 108

General

- ▶ Before recording QuickTest Professional scripts, select the **Record and run on these applications** option in the Record and Run Settings dialog box, and specify the applications against which the script will run. Failure to select this option may result in the failure of Business Process Monitor to run the script. To enable this option, open the script in QuickTest Professional, select **Automation > Record and Run Settings > Windows Applications**, and select the **Record and run only on Applications specified below** setting. Make sure the applications against which the script will run are defined.
- ▶ When calling values from a parameter file, note the following:
 - ▶ The data table expects the column name as the first parameter, for example `DataTable("A")` will access the value from column A. In QuickTest Professional, this is known as a data table parameter.
 - ▶ By default, QuickTest Professional runs a number of global iterations equal to the number of rows in the global data sheet. You can modify the default range of global iterations in QuickTest Professional from **File > Settings > Run**.
- ▶ Disable the screensaver on Business Process Monitor machines running QuickTest Professional scripts.

Installing QuickTest Professional

- ▶ When possible, install QuickTest Professional and record scripts (referred to as tests in the *HP QuickTest Professional User Guide*) on the same machine running the Business Process Monitor that will execute the scripts. It is further recommended to use the same operating system image on all Business Process Monitor machines that will execute the script. If it is not possible to record scripts on the Business Process Monitor machine, make sure to record scripts on a machine whose environment is the same as the Business Process Monitor machines that will run the scripts.
- ▶ Make sure to install Business Process Monitor prior to installing QuickTest Professional.

Note: You require a QuickTest Professional license to create and modify scripts, but do not require a license to run QuickTest Professional scripts on Business Process Monitor. When you install QuickTest Professional you are required to enter license details, but have an option of using QuickTest Professional for a 30-day trial period without a license. During this trial period, you are able to create and modify QuickTest Professional scripts.

QuickTest Professional Script Content

- Every QuickTest Professional script must contain at least one transaction to provide useful information in Business Process Monitor. To add transactions in QuickTest Professional, add the following lines to the script:
 - To start a transaction, click the Start Transaction button, or manually add the following statement: `Services.StartTransaction "<name of transaction>"`
 - To end a transaction, click the End Transaction button, or manually add the following statement: `Services.EndTransaction "<name of transaction>"`
- When a script starts, it usually launches some application. Scripts should be designed such that the application is closed at the end. Otherwise, the next invocation of the script will launch another instance of the application, which could cause the script to fail. Alternatively, design the script to check whether the application is already open and to launch the application only if it is not open. In this case, the script should return the application to its starting state.
- External Actions or other external resources (such as data table, function library, shared object repository, external environment variable) are not supported unless the external resource can be found from the Business Process Monitor machine (that is, if it was defined using the UNC network path and that UNC network path is also accessible from Business Process Monitor). Also, the user under which Business Process Monitor runs must have permissions to access the resources.

Running QuickTest Professional Scripts

- ▶ Executing a QuickTest Professional script in an application or business transaction flow (when run by Business Process Monitor) differs from executing it in QuickTest Professional. In Business Process Monitor, the script runs in *mdrv mode*, while in QuickTest Professional the script runs in *QTP mode* (which is a GUI mode). It is recommended to always run scripts in QuickTest Professional in *mdrv mode* to verify that they run correctly before using them in Business Process Monitor. To test the execution in *mdrv mode*, use one of the following methods:
 - ▶ Use Silent Test Runner (accessible from **Start > Programs > QuickTest Professional > Tools**), an application for running tests in *mdrv mode*. It provides a run log and transaction log that can be reviewed to verify that scripts run successfully.
 - ▶ Run *mdrv* using command line syntax. First, run the following command from the QuickTest Professional path with the `-usr` flag:
`"<QuickTest Professional installation directory>\bin\mdrv.exe" -usr <path to usr file>`

Then run the script using the following syntax:
`<QTP script path located under the BPM workspace directory>\script name.usr`

For example:
`<Business Process Monitor application directory>\workspace\agent1
\Site1\qtp_script\<long RTSM ID>\Check_users\Check_users.usr`
- ▶ Keep in mind that scripts run faster in *mdrv mode* than in *QTP mode*, which can result in synchronizations problems; thus scripts that run correctly in *QTP mode* might not run correctly in *mdrv mode*. Usually adding wait time or checking for an object's existence will solve this problem.

VuGen Recording Tips

This section describes tips and recommendations for recording scripts in HP Virtual User Generator (VuGen) when recording scripts for use in HP Business Service Management.

Note: It is recommended to change the name of a transaction in End User Management Administration, but if you change the name of a transaction in a VuGen script, you will no longer see historical data for the transaction in HP Business Service Management.

This section includes:

- ▶ "Recommended VuGen Run-Time Settings" on page 109
- ▶ "Default Functions at Start of Script" on page 116
- ▶ "Recommended VuGen Script Recording Techniques" on page 117

Recommended VuGen Run-Time Settings

The following run-time settings are recommended when creating scripts for HP Business Service Management using VuGen. You set run-time settings in VuGen. For details, see the HP Virtual User Generator documentation.

Note: For non-Web protocols, not all of the run-time settings described below are available. When recording scripts with non-Web protocols, it is recommended to use the default run-time settings, unless modifications are required to suit your specific environment.

General: Pacing

Setting	Recommended Value	Remarks
Number of iterations	1	Default setting. Typically, in HP Business Service Management, there is no need to have a script run multiple iterations during each scheduled run. Note: For multiple action protocols, this setting appears under the Run Logic node.
Start Each Iteration	As soon as the previous iteration ends	Default setting. This setting is applicable to HP Business Service Management only if the number of iterations is set to greater than 1.

General: Log

Setting	Recommended Value	Remarks
Enable logging	Disabled	When logging is enabled, it increases transaction response times. By default, Business Process Monitor sets the value to disabled.

General: Think Time

Setting	Recommended Value	Remarks
Ignore think time	Enabled	Default setting. When think time is enabled, it increases transaction response times when occurring inside a transaction.

General: Additional Attributes

Setting	Recommended Value	Remarks
No additional attributes		Default settings. This setting is not applicable to HP Business Service Management.

General: Miscellaneous

Setting	Recommended Value	Remarks
Continue on error	Enabled	Set this in the Error Handling section so that your scripts continue to run when errors occur.
Fail open transactions on lr_error_message	Disabled	Default setting. Set this in the Error Handling section. You can insert lr_error_message statements into a transaction for informational messages that can aid in identifying the reason for transaction failure. Such messages will display even with logging turned off (unlike lr_output_message). If statements to explicitly fail transactions are required, use lr_set_transaction_status.
Generate snapshot on error	Enabled	Set this in the Error Handling section so that you can later analyze the errors that occur during the script run.
Run Vuser as a process	Selected	Business Process Monitor always runs scripts as a process.
Define each action as a transaction	Disabled	
Define each step as a transaction	Disabled	

Network: Speed Simulation

Setting	Recommended Value	Remarks
Use maximum bandwidth or Use bandwidth <typical>	Enabled	Default setting. For B2B applications, it is reasonable to assume that maximum bandwidth emulation reflects the end-user experience. Otherwise, select the most widely used connection type of your customer base.

Browser: Browser Emulation (Web protocols)

Setting	Recommended Value	Remarks
Use Custom User-Agent String	Default setting	Although this is the recommended setting, you should select the browser type most suitable to the application being monitored.
Simulate browser cache	Enabled	Default setting. This setting is preferable as it simulates real browser behavior, especially when you have several transactions within the same script that are dependant on one another.
Cache URLs requiring content (HTMLs)	Disabled	This setting is preferable as, if the setting is enabled, VuGen will not download the content of a URL that is cached and may cause verification checks to fail. The replay engine will not check to see whether the content of the cached page has changed.
Check for newer versions of stored pages every visit to the page	Disabled	Default setting. This reflects the default browser setting.

Setting	Recommended Value	Remarks
Download non-HTML resources	Enabled	Default setting. This setting is preferable as it simulates real end-user experience.
Simulate a new user on each iteration	Enabled	Default setting. This setting is applicable to HP Business Service Management only if the number of iterations is set to greater than 1.
Clear cache on each iteration	Enabled	Default setting. This setting is applicable to HP Business Service Management only if the number of iterations is set to greater than 1.
DNS Caching	Yes	
HTTP Version	Default value	
Keep-Alive HTTP Connections	Yes	
HTTP request connect timeout (sec)	120	
HTTP request receive timeout (sec)	120	
Network Buffer Size	12288	
Step Download Timeout	120	
Resource Page Timeout is a warning	No	

Internet Protocol: Proxy (Web protocols)

Setting	Recommended Value	Remarks
No proxy (direct connection to the Internet)	Enabled	<p>Default setting.</p> <p>This is the recommended setting when direct connection to the Internet from the Business Process Monitor is possible, and/or when your end users are not typically accessing your application through a proxy server.</p> <p>If for any reason connection through a proxy is required to access the Internet (for example, if the Business Process Monitor machine is behind a firewall, or due to company policy requiring connection to the Internet through a proxy), or if you want to emulate end users connecting through a proxy server, select one of the available proxy server settings.</p>

Internet Protocol: Preferences (Web protocols)

Setting	Recommended Value	Remarks
Enable image and text check	Enabled	<p>If you are using checks in the script, it is recommended that you use <code>web_reg_find</code> and not <code>web_find</code>, as the latter has a significant effect on transaction response time. When using <code>web_reg_find</code>, you do not need to enable the Checks setting.</p> <p>However, if you are using the <code>web_find</code> or <code>web_image_check</code> functions, this setting needs to be enabled.</p>
Hits per second and HTTP Codes	Disabled	

Setting	Recommended Value	Remarks
Pages per second (HTML Mode Only)	Disabled	
Response Bytes per second	Disabled	
All Generate Web performance graphs settings	Disabled	These settings are not applicable to HP Business Service Management.
WinInet replay instead of Sockets (Windows only)	Disabled	Default setting. Only enable WinInet replay if you are recording in an environment that uses SOCKS proxy or proxy automatic configuration.
File and line in automatic transaction names	Disabled	These settings are not applicable to HP Business Service Management.
Non-critical resource errors as warnings	Enabled	Similarly to the way IE works, this prevents a transaction from failing on errors such as HTTP 404, which can occur, for example, if one image is missing from the page.
Save snapshot resources locally: disabled		This setting is not applicable to HP Business Service Management.
All Advanced Options can be left at default values, or modified as required.		To set Advanced Options, click the Options button in the Advanced section.

Internet Protocol: Download Filters (Web protocols)

Setting	Recommended Value	Remarks
Include only addresses in list	Enabled	Default setting. This setting is ignored as long as no addresses are listed. To enable this feature, choose either option (Include or Exclude) and add entries. For example, you can exclude the downloading of resources from a third-party vendor (address) for which you have no control (such as an ad server).

Internet Protocol: ContentCheck (Web protocols)

Setting	Recommended Value	Remarks
Enable ContentCheck during replay	Enabled	Default setting. It is recommended that you configure and use ContentCheck if possible. If you choose to enable this feature, you must define ContentCheck rules. If you do not have any ContentCheck rules defined, disable the feature. Note that an alternative method to verify content is the use of text checks using <code>web_reg_find</code> .

 **Default Functions at Start of Script**

The following default functions can be included at the start of a script, to exclude unnecessary files when you zip a script folder for uploading to the Central Repository Service in Business Service Management:

```
web_add_auto_header("Accept-Encoding","gzip, deflate");
```

Note: Although the excluded files are not necessary for running a script, you may require them for reference and analysis at a later stage. In such a case, do not include these default functions at the start of the script.

Recommended VuGen Script Recording Techniques

Use the following recommendations when recording scripts with VuGen for use in HP Business Service Management. For more information about recording-related terminology, see the HP Virtual User Generator documentation.

- ▶ While recording, insert transaction markers to mark the start and end of the specific business processes for which you want HP Business Service Management to collect data. For example, you might record a transaction file that includes navigating to the home page of a Web site, performing a user login, performing a search, and viewing the search results. You could break this script into two separate transactions—login and search. During recording, you would insert start and end transaction markers before and after each separate activity. HP Business Service Management would then track response time and availability data separately for each marked transaction in the transaction file. Note that you can also record a number of business process steps, and then after recording, manually insert transaction markers into the script.
- ▶ Record small transactions that contains just one logic step (for example, logging in, accessing a home page, performing a search, and so forth). This will improve the ability to later pinpoint and resolve problems.
- ▶ Record transactions that monitor specific components in your application architecture (for example, accessing the home page to monitor the Web server, performing a search to monitor the database server, and so forth).
- ▶ Ensure that each step of a script is contained within a transaction. By design, VuGen reports data only for those user steps in a script that are contained within a VuGen transaction. If a step is not contained within a transaction and the script fails at that point, the failure is not reported to Business Service Management and no alerts are sent.

- ▶ Always use correlation and fail the transaction if correlation fails.
- ▶ When recording Web-based transactions, include a `web_reg_find` check inside a transaction to verify that you receive the correct Web page. Ensure that you place the check statement between the start and end transaction statements.
- ▶ If you are interested in monitoring performance dependency, you can nest transactions one inside another.
- ▶ To get an overall picture of business process performance, while at the same time tracking the performance of individual steps within the business process, create a main transaction inside which you mark sub-transactions.

For example, say you want to monitor the business process of ordering a book in a Web-based application. You could create one main transaction that involves all the steps: accessing the home page, logging in, performing a search, submitting the order. Within this transaction you could mark sub-transactions that monitor each individual step in the process.

You monitor the sub-transactions to track the performance of the business process components (which might access different server machines in the application architecture); you monitor the overall transaction to get a clear picture of the performance of the complete business process, which is often useful for reporting, comparing to a competitor's application, and so forth.

- ▶ Add comments to your script to achieve good maintainability.
- ▶ Work with your application team to ensure that:
 - ▶ monitoring goals are being achieved.
 - ▶ any changes to the application are communicated to the script writer so that the script can be updated.
 - ▶ deployment of the updated scripts is coordinated with deployment of application upgrades.
- ▶ You must zip the script folder before uploading to the Central Repository Service in Business Service Management.

Business Process Monitor Administration User Interface

This section includes (in alphabetical order):

- Add Business Transaction Flow Dialog Box on page 120
- Add Data Collectors Dialog Box on page 121
- Add Data Collectors Wizard on page 124
- Add Scripts Wizard on page 135
- Business Process Monitor Application Configuration Wizard on page 146
- Business Process Monitor Application Data Collectors Page on page 173
- Business Process Monitor Application Default Settings Page on page 175
- Business Process Monitor Application Properties Page on page 179
- Business Process Monitor Application Reports Configuration Page on page 184
- Business Transaction Business Process Monitor Configuration Page on page 185
- Business Transaction Flow Configuration Wizard on page 190
- Business Transaction Flow Data Collectors Page on page 191
- Business Transaction Flow Properties Page on page 193
- Calculate Suggested Thresholds Dialog Box on page 200
- Edit Data Collector Settings Dialog Box on page 201
- Edit Script Parameter Dialog Box on page 208
- Edit Script Settings Dialog Box on page 209
- Edit Thresholds Dialog Box on page 217
- Remove Data Collectors Wizard on page 220
- Schedule Dialog Box on page 223
- Set Transaction Breakdown Dialog Box on page 226
- Single Transaction Script Dialog Box on page 227
- Unique Data Collector Values Dialog Box on page 234

- ▶ Update Version Wizard on page 235
- ▶ WebTrace Dialog Box on page 240

Add Business Transaction Flow Dialog Box

This dialog box enables you to add a business transaction flow for an application.


To access	Select Admin > End User Management > Monitoring tab. In the view tree, right-click an application and select Add > Business Transaction Flow .
Important information	<ul style="list-style-type: none"> ▶ You can only create a business transaction flow in this dialog box and cannot configure it. You configure the flow after you have created it in the Business Transaction Flow Properties and Data Collectors pages. For user interface details, see "Business Transaction Flow Properties Page" on page 193 and "Business Transaction Flow Data Collectors Page" on page 191. ▶ You can also use the Business Transaction Flow Configuration wizard to create and configure a new flow. For user interface details, see "Business Transaction Flow Configuration Wizard" on page 190.

User interface elements are described below:





UI Elements (A-Z)	Description
Description	The business transaction flow description.
Name	The business transaction flow name. Syntax exceptions: Cannot exceed 900 characters.




Add Data Collectors Dialog Box

This dialog box enables you to add data collectors to run transaction monitor scripts included in Business Process Monitor applications and business transaction flows.

<p>To access</p>	<p>Use one of the following:</p> <p>Select Admin > End User Management > Monitoring tab and click the Add Data Collectors  button in the:</p> <ul style="list-style-type: none"> ▶ Business Transaction Flow Properties page > Scripts pane > Add Scripts wizard > Assign Data Collectors page ▶ Business Transaction Flow Properties page > Scripts pane > Edit Script Settings dialog box > Assigned Data Collectors tab ▶ Business Transaction Flow Properties page > WebTraces pane > New WebTrace dialog box ▶ Business Transaction Flow Properties page > WebTraces pane > Edit WebTrace Settings dialog box ▶ Business Transaction Flow Properties page > Single Transaction Scripts pane > New Single Transaction Script dialog box > Assigned Data Collectors tab ▶ Business Transaction Flow Properties page > Single Transaction Scripts pane > Edit Single Transaction Script dialog box > Assigned Data Collectors tab ▶ Business Process Monitor Application Properties page > WebTraces pane > New WebTrace dialog box ▶ Business Process Monitor Application Properties page > WebTraces pane > Edit WebTrace Settings dialog box
<p>Important information</p>	<p>Select a single data collector by clicking a row in the list, or use the Shift or CTRL key to select several data collectors.</p>







User interface elements are described below:

UI Elements (A-Z)	Description
	Move to Selected Data Collectors. Click to move selected data collectors from the Available Data Collectors pane to the Selected Data Collectors pane.
	Move all to Selected Data Collectors. Click to move all data collectors from the Available Data Collectors pane to the Selected Data Collectors pane.
	Move to Available Data Collectors. Click to move selected data collectors from the Selected Data Collectors pane to the Available Data Collectors pane.
	Move all to Available Data Collectors. Click to move all data collectors from the Selected Data Collectors pane to the Available Data Collectors pane.
Available Data Collectors	The left pane on the page lists the available data collectors that you can select for the application.
Host	Displays the host name of the data collector.
Location	Displays the location of the data collector.
Private POP	A check mark denotes that the Business Process Monitor is run privately for your company (a private POP). Note: This element is visible only for HP Software-as-a-Service customers.

UI Elements (A-Z)	Description
Selected Data Collectors	The right pane on the page lists the selected data collectors for the application.
Source	<p>Displays an icon that shows how the data collector obtains its configuration. The possible icons are:</p> <ul style="list-style-type: none"> ▶  Configured locally. The data collector is assigned to the business transaction flow only. ▶  Inherits parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow and the same settings are used for both. ▶  Configured locally but can inherit parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow, but its settings have been changed for the business transaction flow. <p>Tooltip: A tooltip explains the meaning of the icon.</p> <p>Note: This element is visible only when adding data collectors to business transaction flows.</p>

Add Data Collectors Wizard

This wizard enables you to add data collectors to run transaction monitor scripts included in a Business Process Monitor application or business transaction flow, and to assign which transaction monitor scripts to run on those data collectors. It also enables you to add data collectors to multiple applications, business transaction flows, and transaction monitor scripts as part of a bulk operation.

<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab. In the view tree, select a Business Process Monitor application or a business transaction flow. In the Content pane, select Business Process Monitor tab > Data Collectors and click the Add Data Collectors  button. ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select the Search tab. Perform a search (for applications, business transaction flows, or script monitors) and in the Search Results pane, select the entities you want to update, click the Bulk Operations  button and select Add BPM Data Collectors from the Shortcut menu. ▶ Select Admin > End User Management > Script Repository tab. In the Folder Content pane, select a script that is in use and click the Script Search Assignment  button. In the Search Results dialog box, select the scripts you want to update, click the Bulk Operations  button and select Add BPM Data Collectors from the Shortcut menu. ▶ Select Admin > End User Management > Settings tab > Business Process Monitor Settings > BPM Agents. Select data collectors from the list and click the Search for Monitored Business Transaction Flows  button. In the Search Results dialog box, select the business transaction flows you want to update, click the Bulk Operations  button and select Add BPM Data Collectors from the Shortcut menu.
-------------------------	--





Wizard map (adding data collectors to an individual application or business transaction flow)	This wizard contains: Select Data Collectors Page > Assign Monitors Page (for business transaction flows) > Assign Business Transaction Flows Page (for applications) > Assign Data Collectors Page
Wizard map (adding data collectors as a bulk operation)	This wizard contains: Select Data Collectors Page > Change Data Collector Settings Page > Override Data Collectors Page > Summary Page





Select Data Collectors Page

This wizard page enables you to assign the data collector instances on which to run the transaction monitors of the application or business transaction flow.

Important Information	General information about this wizard is available here: "Add Data Collectors Wizard" on page 124.
Wizard map (adding data collectors to an individual application or business transaction flow)	The Add Data Collectors Wizard contains: Select Data Collectors Page > Assign Monitors Page (for business transaction flows) > Assign Business Transaction Flows Page (for applications) > Assign Data Collectors Page
Wizard map (adding data collectors as a bulk operation)	The Add Data Collectors Wizard contains: Select Data Collectors Page > Change Data Collector Settings Page > Override Data Collectors Page > Summary Page

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
	Select. Click to move selected data collectors from the Available Data Collectors pane to the Selected Data Collectors pane.
	Select All. Click to move all data collectors from the Available Data Collectors pane to the Selected Data Collectors pane.
	Deselect. Click to move selected data collectors from the Selected Data Collectors pane to the Available Data Collectors pane.
	Deselect All. Click to move all data collectors from the Selected Data Collectors pane to the Available Data Collectors pane.
<Custom attributes>	Displays custom attributes configured for the data collector. You can configure up to five different custom attributes for data collectors. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.
Available Data Collectors	The left pane on the page lists the available data collectors that you can select for the application or business transaction flow.
Host	Displays the host name of the data collector.
Location	Displays the location of the data collector.
Private POP	A check mark denotes that the Business Process Monitor is run privately for your company (a private POP). Note: This element is visible only for HP Software-as-a-Service customers.
Selected <entities>	Click the Selected <entities> link to open a window in which the selected <entitites> to which you are adding data collectors are displayed.





UI Elements (A-Z)	Description
Selected Data Collectors	The right pane on the page lists the selected data collectors for the application or business transaction flow.
Source	<p>Displays an icon that shows how the data collector obtains its configuration. The possible icons are:</p> <ul style="list-style-type: none"> ▶  Configured locally. The data collector is assigned to the business transaction flow only. ▶  Inherits parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow and the same settings are used for both. ▶  Configured locally but can inherit parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow, but its settings have been changed for the business transaction flow. You use the Restore Application Data Collectors button  to restore the parent application's data collector settings and override any locally configured settings. <p>Tooltip: A tooltip explains the meaning of the icon.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This element is visible only when adding data collectors to business transaction flows. ▶ This element is not visible for bulk operations.

Assign Monitors Page

This wizard page enables you to assign the transaction monitor scripts to run on the data collectors.

Important information	<ul style="list-style-type: none"> ▶ General information about this wizard is available here: "Add Data Collectors Wizard" on page 124. ▶ This page is included in the Add Data Collectors wizard only when the wizard is accessed from the Business Transaction Flow Data Collectors page.
Wizard map	The Add Data Collectors Wizard contains: Select Data Collectors Page > Assign Monitors Page > Assign Data Collectors Page

User interface elements are described below:

UI Elements (A-Z)	Description
	Select. Click to move selected monitors from the Available Monitors pane to the Selected Monitors pane.
	Select All. Click to move all monitors from the Available Monitors pane to the Selected Monitors pane.
	Deselect. Click to move selected monitors from the Selected Monitors pane to the Available Monitors pane.
	Deselect All. Click to move all monitors from the Selected Monitors pane to the Available Monitors pane.
Available Monitors	The left pane on the page lists the available monitors that you can select for the business transaction flow.
Name	The monitor name.
Selected Monitors	The right pane on the page lists the selected monitors for the business transaction flow.





UI Elements (A-Z)	Description
Source	The monitor source. That is, the entity monitored by the monitor. Valid sources are: <ul style="list-style-type: none"> ▶ Transaction ▶ WebTrace ▶ Single Transaction Monitor
Transactions	The names of the transactions included in the script. Note: This element is only populated for monitors whose source is Transaction.

Assign Business Transaction Flows Page

This wizard page enables you to assign the application's business transaction flows to be run by the data collectors.

Important information	This page is included in the Add Data Collectors wizard only when the wizard is accessed from the Business Process Monitor Application Data Collectors page.
Wizard map	The Add Data Collectors Wizard contains: Select Data Collectors Page > Assign Business Transaction Flows Page > Assign Data Collectors Page

User interface elements are described below:

UI Elements (A-Z)	Description
	Select. Click to move selected monitors from the Available Monitors pane to the Selected Monitors pane.
	Select All. Click to move all monitors from the Available Monitors pane to the Selected Monitors pane.
	Deselect. Click to move selected monitors from the Selected Monitors pane to the Available Monitors pane.
	Deselect All. Click to move all monitors from the Selected Monitors pane to the Available Monitors pane.



UI Elements (A-Z)	Description
Available Business Transaction Flows	The left pane on the page lists the available business transaction flows that you can select for the application.
Name	The business transaction flow name.
Selected Business Transaction Flows	The right pane on the page lists the selected business transaction flows for the application.
Source	The monitor source. That is, the entity monitored by the monitor.





Assign Data Collectors Page

This wizard page enables you to view details of the data collectors selected for the business transaction flows and edit their schedules and advanced settings.

Important Information	General information about this wizard is available here: "Add Data Collectors Wizard" on page 124.
Wizard map	The Add Data Collectors Wizard contains: Select Data Collectors Page > Assign Monitors Page (for business transaction flows) > Assign Business Transaction Flows Page (for applications) > Assign Data Collectors Page

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
	Edit Data Collector Settings. Click to open the Edit Data Collector Settings dialog box, where you configure schedules and advanced settings for the data collectors assigned to an application or business transaction flow. For user interface details, see "Edit Data Collector Settings Dialog Box" on page 201.
	Restore Application Data Collectors. Click to restore the application's data collector settings for selected data collectors. This overrides any locally configured settings for the selected data collectors in the business transaction flow. Note: This button is enabled only when data collectors that are assigned to both the business transaction flow and its parent application are selected.
<Custom attributes>	Displays custom attributes configured for the data collector. You can configure up to five different custom attributes for data collectors. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.
Assigned Monitors	Lists all the business transaction flow's monitors currently scheduled to run on the data collector host location. By default, all monitors are assigned to run on all off the business transaction flow's assigned data collectors.
Host	Displays the host alias of the data collector instance as defined on the data collector machine.
Location	Displays the location of the data collector instance as defined on the data collector machine.
Private POP	A check mark denotes that the Business Process Monitor is run privately for your company (a private POP). Note: This element is visible only for HP Software-as-a-Service customers.


UI Elements (A-Z)	Description
Schedules	Displays the schedule configured for the business transaction flow's monitors to run on the selected data collector.
Source	<p>Displays an icon that shows how the data collector obtains its configuration. The possible icons are:</p> <ul style="list-style-type: none"> ▶  Configured locally. The data collector is assigned to the business transaction flow only. ▶  Inherits parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow and the same settings are used for both. ▶  Configured locally but can inherit parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow, but its settings have been changed for the business transaction flow. You use the Restore Application Data Collectors button  to restore the parent application's data collector settings and override any locally configured settings. <p>Tooltip: A tooltip explains the meaning of the icon.</p>
Version	Displays the version of the data collector software installed on the data collector machine.

Change Data Collector Settings Page

This wizard page enables you to view details of the data collectors selected for the entity you are updating, and edit their schedules and advanced settings.

Important Information	General information about this wizard is available here: "Add Data Collectors Wizard" on page 124.
Wizard map	The Add Data Collectors Wizard contains: Select Data Collectors Page > Change Data Collector Settings Page > Override Data Collectors Page > Summary Page

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A-Z)	Description
	<p>Edit Data Collector Settings. Click to open the Edit Data Collector Settings dialog box, where you configure schedules and advanced settings for the data collectors assigned to the entity. For user interface details, see "Edit Data Collector Settings Dialog Box" on page 201.</p> <p>Note: Only the Schedules and Advanced Settings tabs in the Edit Data Collector Settings dialog box are available.</p>
Host	Displays the host name of the data collector.
Location	Displays the location of the data collector.
Private POP	<p>A check mark denotes that the Business Process Monitor is run privately for your company (a private POP).</p> <p>Note: This element is visible only for HP Software-as-a-Service customers.</p>
Schedules	Displays the schedules configured for the entity's monitors to run on the selected data collector.
Version	Displays the version of the data collector software installed on the data collector machine.

Override Data Collectors Page

This wizard page enables you to select whether the selected data collectors and schedules override an entity's previously assigned data collectors and schedules, or only apply to new data collectors added to the entity.

Important Information	General information about this wizard is available here: "Add Data Collectors Wizard" on page 124.
Wizard map	The Add Data Collectors Wizard contains: Select Data Collectors Page > Change Data Collector Settings Page > Override Data Collectors Page > Summary Page

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
Assign data collectors only when not assigned...	Select this radio button to assign only new data collectors and their schedules to an entity.
Override existing data collectors and schedules...	Select this radio button to override an entity's existing data collectors and schedules.

Summary Page

This wizard page displays a summary of the updates made by the wizard.


Important Information	General information about this wizard is available here: "Add Data Collectors Wizard" on page 124.
Wizard map	The Add Data Collectors Wizard contains: Select Data Collectors Page > Change Data Collector Settings Page > Override Data Collectors Page > Summary Page

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Entity> name	The name of the updated entity.
Status	The number of data collectors assigned to the entity by the wizard.

Add Scripts Wizard

This wizard enables you to assign scripts to a business transaction flow, set transaction thresholds for the transactions included in the scripts, assign Business Process Monitor data collectors to run the scripts, and configure script parameter values.

To access	Select Admin > End User Management > Monitoring tab. In the view tree, select a business transaction flow. In the Content pane, select Business Process Monitor tab > Properties , and in the Scripts pane click the Add Script  button.
Wizard map	This wizard contains: Add Scripts Page > Define Transaction Thresholds Page > Assign Data Collectors Page > Define Script Parameters Page





Add Scripts Page

This wizard page enables you to select scripts from the Script Repository and add them to a business transaction flow.

Important information	General information about this wizard is available here: "Add Scripts Wizard" on page 135.
Wizard map	The Add Scripts Wizard contains: Add Scripts Page > Define Transaction Thresholds Page > Assign Data Collectors Page > Define Script Parameters Page


<**General Settings**>


User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Move to Selected Scripts. Click to move selected scripts from the Available Scripts pane to the Selected Scripts pane.</p>
	<p>Move selected item with children to Selected Scripts. Click to move all the scripts in the selected folder from the Available Scripts pane to the Selected Scripts pane.</p>
	<p>Move to Available Scripts. Click to move selected scripts from the Selected Scripts pane to the Available Scripts pane.</p>
	<p>Move all to Available Scripts. Click to move all scripts from the Selected Scripts pane to the Available Scripts pane.</p>
<p>Script Repository</p>	<p>Click the Script Repository link to open the Script Repository page in a new window, where you manage scripts in the Script Repository. For user interface details, see "Script Repository Page" on page 430.</p>

Available Scripts Pane





User interface elements are described below:

UI Elements (A-Z)	Description
Browse Tab	<p><Script Repository tree>. The browse tab displays a tree of the folders and scripts in the Script Repository. Click the plus sign (+) next to an object in the tree to expand it and display its children. Click the minus sign (-) next to an open object in the tree to close it and hide its children. Click a script in the tree to select it for moving to the Selected Scripts pane.</p> <p>Note to HP Software-as-a-Service customers: Only scripts that have been verified (that is, scripts with a verification status of Verified or Verified without sandbox) are displayed in the tree and can be added to the business transaction flow.</p> <p> Add Script. Click to open the Add Script dialog box, where you can upload new scripts to a selected folder in the Script Repository. For user interface details, see "Script Repository Page" on page 430.</p>

UI Elements (A-Z)	Description
<p>Search Tab</p>	<p>Look in.</p> <p>Entire Script Repository. Select this radio button to search for a given string in the entire Script Repository.</p> <p><Specific directory>. Select this radio button to configure a specific directory in which to search for a given string. Click the Browse  button to open the Browse Tree dialog box, where you search for and select a directory in the Script Repository.</p>
	<p>Script name. Enter the string to search for. When the search is run, any script in the specified location whose name contains this string is included in the search results.</p>
	<p>Search. Click the Search button to run the configured search.</p>
	<p>Clear. Click the Clear button to clear the search settings.</p>
	<p>Search Results. All scripts in the specified location whose name contains the configured string are included in the search results. For each script located, the following information is displayed:</p> <ul style="list-style-type: none"> ➤ Name. The name of the selected script. ➤ Version. The version of the selected script. ➤ Script Repository Path. The path of the selected script in the Script Repository. <p>Click a script in the Search Results list to select it for moving to the Selected Scripts pane.</p>


Selected Scripts Pane

User interface elements are described below:


UI Elements (A-Z)	Description
	Up. Click to move a selected script higher in the order of selected scripts. This determines the order of the scripts in the business transaction flow.
	Down. Click to move a selected script lower in the order of selected scripts. This determines the order of the scripts in the business transaction flow.
	Select Version. Click to open the Select Version dialog box, where you can select which version of a selected script to use. By default, the most current version of the script is used.
	Set Transaction Breakdown. Click to open the Select Transaction Breakdown dialog box, where you configure the transaction breakdown settings for a selected script. For user interface details, see "Set Transaction Breakdown Dialog Box" on page 226.
Name	Displays the name of the selected script.
Script Repository Path	Displays the path of the selected script in the Script Repository.
Version	Displays the version of the selected script.

Define Transaction Thresholds Page

This wizard page lists the transactions included in the scripts you add to the business transaction flow and enables you to set transaction thresholds for them.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ General information about this wizard is available here: "Add Scripts Wizard" on page 135. ▶ Select a single transaction by clicking a row in the transaction list and enter thresholds directly in the row. Use the Shift or CTRL key to select several transactions and click the Edit Thresholds  button to open the Edit Thresholds dialog box, where you configure thresholds for all the selected transactions.
<p>Wizard map</p>	<p>The Add Scripts Wizard contains:</p> <p>Add Scripts Page > Define Transaction Thresholds Page > Assign Data Collectors Page> Define Script Parameters Page</p>

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Edit Thresholds. Click to open the Edit Thresholds dialog box, where you configure transaction thresholds for multiple transactions. For user interface details, see "Edit Thresholds Dialog Box" on page 217.</p>
<p>Availability</p>	<p>The availability threshold percentage for the transaction.</p>
<p>Critical</p>	<p>The response time threshold above which the transaction's status is Critical.</p> <p>Note: The default color for critical transactions in Service Health and reports is red.</p>





UI Elements (A-Z)	Description
Minor	<p>The response time thresholds between which the transaction's status is Minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The default color for Minor transactions in Service Health and reports is yellow. ▶ The Minor transaction threshold is automatically set to the range between the OK and Critical thresholds that you configure for the transaction.
OK	<p>The response time threshold below which the transaction's status is OK.</p> <p>Note: The default color for OK transactions in Service Health and reports is green.</p>
Outlier	<p>The response time threshold above which the transaction is considered to be an Outlier. Outliers are transactions whose response time exceeds a defined time range.</p> <p>Note: You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports. For user interface details, see "Default Transaction Thresholds" on page 151.</p>
Scripts	The transaction monitor script in which the transaction is included.
Transaction Name	The transaction name.





Assign Data Collectors Page

This wizard page enables you to assign Business Process Monitor data collectors to run the scripts included in the business transaction flow.

Important information	General information about this wizard is available here: "Add Scripts Wizard" on page 135.
Wizard map	<p>The Add Scripts Wizard contains:</p> <p>Add Scripts Page > Define Transaction Thresholds Page > Assign Data Collectors Page > Define Script Parameters Page</p>

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A-Z)	Description
	Add Data Collectors. Click to open the Add Data Collectors dialog box, where you select the data collectors you want to add to the business transaction flow. For user interface details, see "Add Data Collectors Dialog Box" on page 121.
	Edit Data Collector Settings. Click to open the Edit Data Collector Settings dialog box, where you configure the schedule and advanced settings for selected data collectors for the business transaction flow. For user interface details, see "Edit Data Collector Settings Dialog Box" on page 201.
	Restore Application Data Collectors. Click to restore the application's data collector settings for selected data collectors. This overrides any locally configured settings for the selected data collectors in the business transaction flow. Note: This button is enabled only when data collectors that are assigned to both the business transaction flow and its parent application are selected.
	Remove Data Collectors. Click to remove selected data collectors from the business transaction flow.
<Custom attributes>	Displays custom attributes configured for the data collector. You can configure up to five different custom attributes for data collectors. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.
Assigned Monitors	Displays the monitor scripts assigned to run on the data collector.
Host	Displays the host alias of the data collector instance as defined on the data collector machine.
Location	Displays the location of the data collector instance as defined on the data collector machine.



UI Elements (A-Z)	Description
Private POP	<p>A check mark denotes that the Business Process Monitor is run privately for your company (a private POP).</p> <p>Note: This element is visible only for HP Software-as-a-Service customers.</p>
Schedules	Displays the schedule configured for the data collector.
Source	<p>Displays an icon that shows how the data collector obtains its configuration. The possible icons are:</p> <ul style="list-style-type: none"> ▶  Configured locally. The data collector is assigned to the business transaction flow only. ▶  Inherits parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow and the same settings are used for both. ▶  Configured locally but can inherit parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow, but its settings have been changed for the business transaction flow. You use the Restore Application Data Collectors button  to restore the parent application's data collector settings and override any locally configured settings. <p>Tooltip: A tooltip explains the meaning of the icon.</p>
Version	Displays the version of the data collector software installed on the data collector machine.



Define Script Parameters Page

This wizard page enables you to assign a value to a parameter used by a script included in a business transaction flow, that is different than the default parameter value. It also enables you to set a value for a parameter for a specific data collector assigned to run the script.

Important information	General information about this wizard is available here: "Add Scripts Wizard" on page 135.
Wizard map	The Add Scripts Wizard contains: Add Scripts Page > Define Transaction Thresholds Page > Assign Data Collectors Page > Define Script Parameters Page
See also	"Script Parameter Management Overview" on page 96

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A-Z)	Description
	Edit Script Parameter. Click to open the Edit Script Parameter dialog box, where you can edit the value, description and expiration date for a selected parameter. For user interface details, see "Edit Script Parameter Dialog Box" on page 208. Note: This button is disabled for parameters containing multiple values.
	View Unique Data Collector Values. Click to open the Unique Data Collector Values dialog box, where you can view the parameter's settings for each data collector and set specific values by data collector. For user interface details, see "Unique Data Collector Values Dialog Box" on page 234. Note: This button is disabled for parameters containing multiple values.

UI Elements (A-Z)	Description
	<p>Restore Script Parameter Value. Click to restore the original script parameter value.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>
Description	<p>A free text description for the parameter.</p> <p>Note: You can edit the description by clicking the relevant cell in the table.</p>
Expiration Date	<p>An expiration date for the parameter value. You can configure expiration dates for parameter values to help you manage parameters with frequently changing values, such as passwords. The expiration date is an indication of when you want to change a parameter's value.</p> <p>Note: You can edit the expiration date by clicking the arrow in the relevant table cell. A calendar opens from which you can select a date.</p>
Name	<p>The parameter name.</p>
Script Name	<p>The name of the script in which the parameter is used.</p>
Unique Data Collector Values	<p>A list of the Business Process Monitors for which different values of the parameter are configured. You can view the data collectors and the parameter values configured for them by clicking the View Unique Data Collector Values  button.</p>
Value	<p>The parameter value.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ For parameters marked sensitive, the value is not displayed and a row of black dots, indicating the number of characters in the value, is displayed instead. ▶ For parameters containing multiple values, the value is not displayed and the message [Multiple Values] is displayed instead.

Business Process Monitor Application Configuration Wizard

This wizard enables you to create a new application and its Business Process Monitor configuration in End User Management Administration, or to add a Business Process Monitor configuration to an existing application (for example, to an existing Real User Monitor application that does not yet have a Business Process Monitor configuration).

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab. In the view tree, right-click the root object of the view and click Add > Application and its BPM Configuration. ▶ Select Admin > End User Management > Monitoring tab. In the view tree, right-click an existing application that is not configured for Business Process Monitor and click Add > BPM Configuration.
Wizard map	<p>This wizard contains:</p> <p>Application Properties Page > Default Transaction Settings Page > Set Transaction Monitor Scripts Page > Application Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>
Relevant tasks	<p>"How to Set up Business Process Monitors" on page 98</p>

Application Properties Page

This wizard page enables you to configure the CI and Business Process Monitor properties for a new Business Process application.

Important information	General information about this wizard is available here: "Business Process Monitor Application Configuration Wizard" on page 146.
Wizard map	The Business Process Monitor Application Configuration Wizard contains: Application Properties Page > Default Transaction Settings Page > Set Transaction Monitor Scripts Page > Application Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page

CI Properties Pane

Important information	When you are adding a Business Process Monitor configuration to an existing application, the fields in the CI Properties pane are disabled and display existing information only.
------------------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
Description	Enter a description for the application CI.
Name	<p>The application CI name.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ When you create a new application, this field is mandatory. ▶ When you add a Business Process Monitor configuration to an existing application, the existing application CI name is displayed and cannot be edited. <p>Syntax exceptions:</p> <ul style="list-style-type: none"> ▶ Cannot exceed 900 characters. ▶ Names that include characters not supported by the Windows file system are not supported in Business Process Monitor.
Type	<p>Displays the CI type that is created for the application.</p> <p>Default value: Application</p>

Business Process Monitor Properties Pane

User interface elements are described below:

UI Elements (A-Z)	Description
License type	<p>Select a Business Process Monitor license to assign to the application. Click the license to open a list of licenses that you can assign to the application.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Even if you have a valid 360 license, it does not appear as an option if you do not have change permissions for both Real User Monitor and Business Process Monitor configurations. ▶ If you assign or unassign a 360 license to a Business Process Monitor application that is also configured for Real User Monitor, the 360 license is also automatically assigned to, or unassigned from, the Real User Monitor application.
Profile database	<p>Select a profile database for storing this application's Business Process Monitor information. The list includes all the profile databases defined for this Business Service Management installation.</p> <p>For details on configuring profile databases in Business Service Management, see "Database Administration" in <i>Platform Administration</i>.</p> <p>Default value: The default profile database configured for Business Service Management.</p> <p>Note to HP Software-as-a-Service customers: This element is not displayed.</p>

UI Elements (A-Z)	Description
Status	Select the relevant radio button to configure whether or not the application is active. Default value: Active
Time zone	Select a GMT offset —the time zone, in relation to GMT, that HP Business Service Management uses to determine when daily aggregation should occur for data collected by this application. Tip: The time zone should be set to match the time zone in which the HP Business Service Management servers and database machine are located. Example: if you want Business Service Management to aggregate data collected by the application based on Pacific Time, enter -8, since Pacific Time is GMT-8 hours.

Default Transaction Settings Page

This wizard page enables you to configure the default transaction threshold and breakdown settings that are assigned to all transactions included in the application's business transaction flows.

Important information	General information about this wizard is available here: "Business Process Monitor Application Configuration Wizard" on page 146.
Wizard map	The Business Process Monitor Application Configuration Wizard contains: Application Properties Page > Default Transaction Settings Page > Set Transaction Monitor Scripts Page > Application Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page

Default Transaction Thresholds

This area enables you to set the transaction response times, which are used to indicate transaction performance status by creating performance boundaries. There are three transaction threshold ranges—OK, Minor, and Critical—which are color-coded when used in the reports that display transaction performance data and in Service Health. The color-coding enables quick pinpointing of problem areas that need further analysis.

You can also configure how HP Business Service Management treats outlier values. Outliers are transactions whose response time exceeds a defined time range.

Important information	<ul style="list-style-type: none"> ▶ When setting transaction thresholds, you should take into account factors such as application performance under ideal conditions, competitors' performance, generally accepted performance standards, service level agreements, and end-user feedback. ▶ You should consider the alert trigger criteria you specify in your alert schemes. For example, if you set up an alert scheme to trigger a high priority alert whenever the response time of a transaction is greater than 15 seconds, you may want to set the Poor range for that transaction to 15 seconds or more.
------------------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
Availability	Enter the default availability threshold percentage for transactions.
Critical	Enter the response time threshold above which a transaction's status is Critical. Default value: 12 seconds Note: The default color for critical transactions in Service Health and reports is red.
Ignore outlier values	Select this check box to instruct HP Business Service Management to ignore outlier transactions (and not include the data in Service Health or in reports).

UI Elements (A-Z)	Description
<p>Minor</p>	<p>Displays the response time thresholds between which a transaction's status is Minor.</p> <p>Default value: 8–12 seconds</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The default color for Minor transactions in Service Health and reports is yellow. ▶ The Minor transaction thresholds are automatically set to the range between the OK and Critical thresholds that you configure for a transaction.
<p>OK</p>	<p>Enter the response time threshold below which a transaction's status is OK.</p> <p>Default value: 8 seconds</p> <p>Note: The default color for OK transactions in Service Health and reports is green.</p>
<p>Outlier</p>	<p>Enter the response time threshold above which a transaction is considered to be an Outlier. Outliers are transactions whose response time exceeds a defined time range. You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports.</p> <p>Default value: 45 seconds</p> <p>Note: By selecting or clearing the Ignore outlier data for reports check box, you can specify whether outlier transactions are treated as failed transactions or ignored completely in reports. If you selected to ignore outlier values, any transaction that takes longer than this value to complete is ignored in Service Health and in reports. If you did not select to ignore outlier values and if the transaction response time is greater than this value, its status is Failed.</p>

Default Transaction Breakdown

User interface elements are described below:

UI Elements (A-Z)	Description
Enable breakdown	Select the Enable breakdown check box to generate transaction breakdown data when running the selected Web or TCP monitor. For details on the transaction breakdown reports, see "Understanding Transaction Breakdown in Reports" on page 635.
Enable Diagnostics /TV breakdown	Select Enable Diagnostics/TV breakdown to see J2EE and .Net data. This data is available in HP Diagnostics and Transaction Management reports only if you have valid HP Diagnostics and Transaction Management licenses. For details, see the <i>HP Diagnostics Installation and Configuration Guide</i> and the <i>HP TransactionVision Deployment Guide</i> PDF.
Enable Siebel breakdown	Select the Enable Siebel breakdown check box to see Siebel Application Response Measurement (SARM) data in Application Management for Siebel.
Enable SOA breakdown	<p>Select the Enable SOA breakdown check box to see SOA data in Application Management for SOA.</p> <p>For details on incorporating SOA data from HP Business Process Monitor in Application Management for SOA, see "Enrich the SOA Model From Scripts" on in <i>Solutions and Integrations</i>.</p> <p>For details on enabling SOA breakdown in HP Business Process Monitor, see "Enabling SOA Transaction Breakdown" on page 94.</p> <p>Default value: Enabled</p>

UI Elements (A-Z)	Description
<p>Perform component breakdown</p>	<p>Select the Perform component breakdown check box to save complete component (page components for Web based protocols and TCP components (requests) for non-Web based protocols) breakdown data for a sampling of transaction instances. By default, HP Business Service Management saves component breakdown data to the database once per every four transaction instances.</p> <p>Note: You can only select this check box if you have enabled breakdown.</p>
<p>Report additional error information</p>	<p>Select the Report additional error information check box to include date, time, location, and error messages for failed transactions in applicable End User Management reports. If this option is disabled, HP Business Service Management reports only average error times. Disabling this option decreases the amount of data that is sent from the Business Process Monitors running the transaction breakdown to the Gateway Server and profile database. For details on the Error Log, see "Error Log" on page 812.</p> <p>Note: You can only select this check box if you have enabled breakdown.</p>







Set Transaction Monitor Scripts Page

This wizard page enables you to assign transaction monitor scripts to be run by Business Process Monitor for the application or business transaction flow.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ General information about the Business Process Monitor Application Configuration wizard is available here: "Business Process Monitor Application Configuration Wizard" on page 146. ▶ General information about the Business Transaction Flow Configuration wizard is available here: "Business Transaction Flow Configuration Wizard" on page 190. ▶ The Set Transaction Monitor Scripts page is included in both the Business Process Monitor Application Configuration Wizard and the Business Transaction Flow Configuration Wizard. ▶ Select a single script by clicking a row in the Available Scripts or Selected Scripts panes. Use the Shift or CTRL key to select several scripts.
<p>Wizard map— Business Process Monitor Application Configuration Wizard</p>	<p>The Business Process Monitor Application Configuration Wizard contains:</p> <p>Application Properties Page > Default Transaction Settings Page > Set Transaction Monitor Scripts Page > Application Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>
<p>Wizard map— Business Transaction Flow Configuration Wizard</p>	<p>The Business Transaction Flow Configuration Wizard contains:</p> <p>Set Transaction Monitor Scripts Page > Assign Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>

<General Settings>


User interface elements are described below:


UI Elements (A-Z)	Description
	Move to Selected Scripts. Click to move selected scripts from the Available Scripts pane to the Selected Scripts pane.
	Move selected item with children to Selected Scripts. Click to move selected scripts and their children from the Available Scripts pane to the Selected Scripts pane.
	Move to Available Scripts. Click to move selected scripts from the Selected Scripts pane to the Available Scripts pane.
	Move all to Available Scripts. Click to move all scripts from the Selected Scripts pane to the Available Scripts pane.
Business Transaction Flows status	<p>Select the appropriate radio button to set the business transaction flows CI status as active or inactive.</p> <p>Default value: Active</p> <p>Note: The status of the business transaction flow is overridden by the status of its parent application. This means that if the application is inactive, the business transaction flow is also inactive, regardless of this setting.</p>
Create a business transaction flow CI for each script	<p>Select this radio button to generate a separate business transaction flow CI for each transaction monitor script configured.</p> <p>Default value: Selected</p> <p>Note: This element is not visible when you are adding the Business Process Monitor configuration for an existing business transaction flow.</p>

UI Elements (A-Z)	Description
<p>Group all scripts under one business transaction flow CI named</p>	<p>Select this radio button to generate only one business transaction flow CI for all of the transaction monitor scripts configured, and enter a name for the business transaction flow CI.</p> <p>Note: This element is not visible when you are adding the Business Process Monitor configuration for an existing business transaction flow.</p> <p>Syntax exceptions: Names that include characters not supported by the Windows file system are not supported in Business Process Monitor.</p>
<p>Script Repository</p>	<p>Click the Script Repository link to open the Script Repository page in a new window, where you manage scripts in the Script Repository. For user interface details, see "Script Repository Page" on page 430.</p>

Available Scripts Pane





User interface elements are described below:

UI Elements (A-Z)	Description
<p>Browse Tab</p>	<p><Script Repository tree>. The browse tab displays a tree of the scripts in the Script Repository. Click the plus sign (+) next to an object in the tree to expand it and display its children. Click the minus sign (-) next to an open object in the tree to close it and hide its children. Click a script in the tree to select it for moving to the Selected Scripts pane.</p> <p>Tooltip: Hold the cursor over a script in the tree to display its full name, description, creation date, and last modification date.</p> <p> Add Script. Click to open the Add Script dialog box, where you can upload new scripts to the Script Repository. For user interface details, see "Add Script Dialog Box" on page 419.</p>

UI Elements (A-Z)	Description
<p>Search Tab</p>	<p>Look in.</p> <p>Entire Script Repository. Select this radio button to search for a given string in the entire Script Repository.</p> <p><Specific directory>. Select this radio button to configure a specific directory in which to search for a given string. Click the Browse  button to open the Browse Tree dialog box, where you view and select a Script Repository directory.</p>
	<p>Script name. Enter the string to search for. When the search is run, any script in the specified location whose name contains this string is included in the search results.</p>
	<p>Search. Click the Search button to run the configured search.</p>
	<p>Clear. Click the Clear button to clear the search settings.</p>
	<p>Search Results. All scripts in the specified location whose name contains the configured string are included in the search results. For each script located, the following information is displayed:</p> <ul style="list-style-type: none"> ➤ Name. The name of the selected script. ➤ Version. The version number of the selected script. ➤ Script Repository Path. The path of the selected script in the Script Repository. <p>Click a script in the Search Results list to select it for moving to the Selected Scripts pane.</p>

Selected Scripts Pane

User interface elements are described below:




UI Elements (A-Z)	Description
	Up. Click to move a selected script higher in the order of selected scripts.
	Down. Click to move a selected script lower in the order of selected scripts.
	Select Version. Click to open the Select Version dialog box, where you can select which version of a selected script to use. By default, the most current version of the script is used.
	Set Transaction Breakdown. Click to open the Select Transaction Breakdown dialog box, where you configure the transaction breakdown settings for a selected script. For user interface details, see "Set Transaction Breakdown Dialog Box" on page 226.
Name	Displays the name of the selected script.
Script Repository Path	Displays the path of the selected script in the Script Repository.
Version	Displays the version number of the selected script.

Application Data Collectors Page

This wizard page enables you to configure the default data collectors and their settings, which are assigned to all the business transaction flows you add to the application.

Important information	General information about this wizard is available here: "Business Process Monitor Application Configuration Wizard" on page 146.
Wizard map	The Business Process Monitor Application Configuration Wizard contains: Application Properties Page > Default Transaction Settings Page > Set Transaction Monitor Scripts Page > Application Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A-Z)	Description
	Add Data Collectors. Click to open the Add Data Collectors dialog box, where you select the data collectors you want to add to the application as default data collectors for business transaction flows. For user interface details, see "Add Data Collectors Dialog Box" on page 121.
	Remove Data Collectors. Click to remove selected data collectors from the list of default data collectors for business transaction flows in the application.
	Edit Data Collector Settings. Click to open the Edit Data Collector Settings dialog box, where you configure the schedule and advanced settings for selected default data collectors for business transaction flows in the application. You can also assign or unassign business transaction flows from the data collectors. For user interface details, see "Edit Data Collector Settings Dialog Box" on page 201.

UI Elements (A-Z)	Description
<Custom attributes>	Displays custom attributes configured for the data collector. You can configure up to five different custom attributes for data collectors. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.
Assigned Business Transaction Flows	Displays the business transaction flows to which the data collector is assigned.
Host	Displays the host alias of the data collector instance as defined on the data collector machine.
Location	Displays the location of the data collector instance as defined on the data collector machine.
Private POP	A check mark denotes that the Business Process Monitor is run privately for your company (a private POP). Note: This element is visible only for HP Software-as-a-Service customers.
Schedules	Displays the schedule configured for the data collector.
Version	Displays the version of the data collector software installed on the data collector machine.

Assign Data Collectors Page





This wizard page enables you to:





- ▶ View details of the data collectors selected for the business transaction flow.
- ▶ Add and remove data collectors for the business transaction flow.
- ▶ Modify the list of monitors each data collector runs.
- ▶ Configure the data collectors' schedules and settings.

The data collectors assigned to the application in which the business transaction flow is included are, by default, assigned to the business transaction flow.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ General information about the Business Transaction Flow Configuration wizard is available in "Business Transaction Flow Configuration Wizard" on page 190. ▶ Settings are saved to the data collector only if you complete the steps in the wizard and click Finish. If you click Cancel during the wizard, any changes you make to schedules or advanced properties are not saved.
<p>Wizard map</p>	<p>The Business Transaction Flow Configuration Wizard contains:</p> <p>Set Transaction Monitor Scripts Page > Assign Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>


User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
	Add Data Collectors. Click to open the Add Data Collectors dialog box, where you can select data collectors to add to the business transaction flow. For user interface details, see "Add Data Collectors Dialog Box" on page 121.
	Edit Data Collector Settings. Click to open the Edit Data Collector Settings dialog box, where you configure schedules, assigned monitors and advanced settings for the data collectors assigned to an application or business transaction flow. For user interface details, see "Edit Data Collector Settings Dialog Box" on page 201.
	Restore Application Data Collectors. Click to restore the application's data collector settings for selected data collectors. This overrides any locally configured settings for the selected data collectors in the business transaction flow. Note: This button is enabled only when data collectors that are assigned to both the business transaction flow and its parent application are selected.
	Remove Data Collectors. Click to remove selected data collectors from the business transaction flow.
<Custom attributes>	Displays custom attributes configured for the data collector. You can configure up to five different custom attributes for data collectors. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.
Assigned Monitors	Lists all the business transaction flow's monitors currently scheduled to run on the data collector host location. By default, all monitors are assigned to run on all off the business transaction flow's assigned data collectors.
Host	Displays the host alias of the data collector instance as defined on the data collector machine.

UI Elements (A-Z)	Description
Location	Displays the location of the data collector instance as defined on the data collector machine.
Private POP	A check mark denotes that the Business Process Monitor is run privately for your company (a private POP). Note: This element is visible only for HP Software-as-a-Service customers.
Schedules	Displays the schedule configured for the business transaction flow's monitors to run on the selected data collector.
Source	<p>Displays an icon that shows how the data collector obtains its configuration. The possible icons are:</p> <ul style="list-style-type: none"> ▶  Configured locally. The data collector is assigned to the business transaction flow only. ▶  Inherits parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow and the same settings are used for both. ▶  Configured locally but can inherit parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow, but its settings have been changed for the business transaction flow. You use the Restore Application Data Collectors button  to restore the parent application's data collector settings and override any locally configured settings. <p>Tooltip: A tooltip explains the meaning of the icon.</p>
Version	Displays the version of the data collector software installed on the data collector machine.


Set Transaction Thresholds Page

This wizard page enables you to set thresholds for individual transactions that are part of the transaction monitor scripts assigned to the application or business transaction flow.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ General information about the Business Process Monitor Application Configuration wizard is available here: "Business Process Monitor Application Configuration Wizard" on page 146. ▶ General information about the Business Transaction Flow Configuration wizard is available here: "Business Transaction Flow Configuration Wizard" on page 190. ▶ The Set Transaction Thresholds page is included in both the Business Process Monitor Application Configuration wizard and the Business Transaction Flow Configuration wizard. ▶ By default, all transactions that are part of the configured transaction monitor scripts are assigned the default threshold values that you configured for the application (on the Default Transaction Settings page of the BPM Application wizard). For user interface details, see "Default Transaction Settings Page" on page 150. ▶ Select a single transaction by clicking a row in the transaction list and enter thresholds directly in the row. Use the Shift or CTRL key to select several transactions and click the Edit Thresholds  button to open the Edit Thresholds dialog box, where you configure thresholds for all the selected transactions. For user interface details, see "Edit Thresholds Dialog Box" on page 217.
-------------------------------------	---

<p>Wizard map— Business Process Monitor Application Configuration Wizard</p>	<p>The Business Process Monitor Application Configuration Wizard contains:</p> <p>Application Properties Page > Default Transaction Settings Page > Set Transaction Monitor Scripts Page > Application Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>
<p>Wizard map— Business Transaction Flow Configuration Wizard</p>	<p>The Business Transaction Flow Configuration Wizard contains:</p> <p>Set Transaction Monitor Scripts Page > Assign Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Edit Thresholds. Click to open the Edit Thresholds dialog box, where you configure transaction thresholds for multiple transactions. For user interface details, see "Edit Thresholds Dialog Box" on page 217.</p> <p>Note: Use the Shift or CTRL key to select several transactions.</p>
<p>Availability</p>	<p>Enter the availability threshold percentage for the transaction.</p>
<p>Critical</p>	<p>Enter the response time threshold above which the transaction's status is Critical.</p> <p>Note: The default color for critical transactions in Service Health and reports is red.</p>




UI Elements (A-Z)	Description
Minor	<p>Displays the response time thresholds between which the transaction's status is Minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The default color for Minor transactions in Service Health and reports is yellow. ▶ The Minor transaction threshold is automatically set to the range between the OK and Critical thresholds that you configure for the transaction.
OK	<p>Enter the response time threshold below which the transaction's status is OK.</p> <p>Note: The default color for OK transactions in Service Health and reports is green.</p>
Outlier	<p>Enter the response time threshold above which the transaction is considered to be an Outlier. Outliers are transactions whose response time exceeds a defined time range.</p> <p>Note: You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports. For user interface details, see "Default Transaction Thresholds" on page 151.</p>
Scripts	<p>Displays the transaction monitor scripts in which the transaction is included.</p>
Transaction Name	<p>Displays the transaction name.</p>


Define Script Parameter Values Page

This wizard page enables you to assign a value to a parameter used by a script included in the application or business transaction flow, that is different than the default parameter value. It also enables you to set a value for a parameter for a specific data collector assigned to run the script.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ General information about the BPM Application wizard is available in "Business Process Monitor Application Configuration Wizard" on page 146. ▶ General information about the BPM Business Transaction Flow wizard is available in "Business Transaction Flow Configuration Wizard" on page 190. ▶ The Define Script Parameters page is included in both the BPM Application wizard and the BPM Business Transaction Flow wizard.
<p>Wizard map— Business Process Monitor Application Configuration Wizard</p>	<p>The Business Process Monitor Application Configuration Wizard contains:</p> <p>Application Properties Page > Default Transaction Settings Page > Set Transaction Monitor Scripts Page > Application Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>
<p>Wizard map— Business Transaction Flow Configuration Wizard</p>	<p>The Business Transaction Flow Configuration Wizard contains:</p> <p>Set Transaction Monitor Scripts Page > Assign Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>
<p>See also</p>	<p>"Script Parameter Management Overview" on page 96</p>

The following elements are included (unlabeled GUI elements are shown in angle brackets>):

UI Elements (A-Z)	Description
	<p>Edit Script Parameter. Click to open the Edit Script Parameter dialog box, where you can edit the value, description and expiration date for a selected parameter. For user interface details, see "Edit Script Parameter Dialog Box" on page 208.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>
	<p>View Unique Data Collector Values. Click to open the Unique Data Collector Values dialog box, where you can view the parameter's settings for each data collector and set specific values by data collector. For user interface details, see "Unique Data Collector Values Dialog Box" on page 234.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>
	<p>Restore Script Parameter Value. Click to restore the original script parameter value.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>
<p>Description</p>	<p>A free text description for the parameter.</p> <p>Note: You can edit the description by clicking the relevant cell in the table.</p>
<p>Expiration Date</p>	<p>An expiration date for the parameter value. You can configure expiration dates for parameter values to help you manage parameters with frequently changing values, such as passwords. The expiration date is an indication of when you want to change a parameter's value.</p> <p>Note: You can edit the expiration date by clicking the arrow in the relevant table cell. A calendar opens from which you can select a date.</p>
<p>Name</p>	<p>The parameter name.</p>

UI Elements (A-Z)	Description
Script Name	The name of the script in which the parameter is used.
Unique Data Collector Values	A list of the Business Process Monitors for which different values of the parameter are configured. You can view the data collectors and the parameter values configured for them by clicking the View Unique Data Collector Values  button.
Value	<p>The parameter value.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ For parameters marked sensitive, the value is not displayed and a row of black dots, indicating the number of characters in the value, is displayed instead. ▶ For parameters containing multiple values, the value is not displayed and the message [Multiple Values] is displayed instead.



Preview Page

This wizard page enables you to view the application or business transaction flow you are creating and all the business transaction flows (for applications) and transactions that are part of it. Click **Back** to make any changes to the application or business transaction flow. Click **Finish** to save the application or business transaction flow. Updating your new application or business transaction flow may take a few moments, depending on how many monitors you selected and the size of the scripts added as transaction monitors.



<p>Important information</p>	<ul style="list-style-type: none"> ▶ General information about the Business Process Monitor Application Configuration wizard is available here: "Business Process Monitor Application Configuration Wizard" on page 146. ▶ General information about the Business Transaction Flow Configuration wizard is available here: "Business Transaction Flow Configuration Wizard" on page 190. ▶ The Preview page is included in both the Business Process Monitor Application Configuration wizard and the Business Transaction Flow Configuration wizard. ▶ The object icons are the same as those displayed in the view tree. This same hierarchy appears in the view tree once you finish the wizard.
<p>Wizard map— Business Process Monitor Application Configuration Wizard</p>	<p>The Business Process Monitor Application Configuration Wizard contains:</p> <p>Application Properties Page > Default Transaction Settings Page > Set Transaction Monitor Scripts Page > Application Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>
<p>Wizard map— Business Transaction Flow Configuration Wizard</p>	<p>The Business Transaction Flow Configuration Wizard contains:</p> <p>Set Transaction Monitor Scripts Page > Assign Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>

 **Finish Page**

This wizard page displays the status of the application or business transaction flow you created, as well as its business transaction flows (for applications) and transactions. It also indicates if there were any errors during creation. Click the **Close** button to exit from and close the wizard.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ General information about the Business Process Monitor Application Configuration wizard is available here: "Business Process Monitor Application Configuration Wizard" on page 146. ▶ General information about the Business Transaction Flow Configuration wizard is available here: "Business Transaction Flow Configuration Wizard" on page 190. ▶ The Finish page is included in both the Business Process Monitor Application Configuration wizard and the Business Transaction Flow Configuration wizard. ▶ The object icons are the same as those displayed in the view tree. This same hierarchy appears in the view tree once you finish the wizard.
<p>Wizard map— Business Process Monitor Application Configuration Wizard</p>	<p>The Business Process Monitor Application Configuration Wizard contains:</p> <p>Application Properties Page > Default Transaction Settings Page > Set Transaction Monitor Scripts Page > Application Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>
<p>Wizard map— Business Transaction Flow Configuration Wizard</p>	<p>The Business Transaction Flow Configuration Wizard contains:</p> <p>Set Transaction Monitor Scripts Page > Assign Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>

User interface elements are described below:




UI Elements (A-Z)	Description
Additional Details	Displays any additional information about the creation of the relevant CI.
Name	Displays a hierarchical tree with the names of the application (when you create an application), business transaction flow, or transaction CI that was created.
Status	Displays an icon showing the status of the CI creation:  Successful  Failed
Type	Displays the type of CI that was created.

Business Process Monitor Application Data Collectors Page

This page enables you to view and configure a Business Process Monitor application's default data collectors. Default data collectors are automatically assigned to all business transaction flows added to the application.

To access	Select Admin > End User Management > Monitoring tab. In the view tree, select a Business Process Monitor application and in the Content pane, select Business Process Monitor tab > Data Collectors .
------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A-Z)	Description
	Add Data Collectors. Click to open the Add Data Collectors dialog box, where you select the data collectors you want to add to the application as default data collectors for business transaction flows. For user interface details, see "Add Data Collectors Dialog Box" on page 121.
	Edit Data Collector Settings. Click to open the Edit Data Collector Settings dialog box, where you configure the schedule and advanced settings for selected default data collectors for business transaction flows in the application. For user interface details, see "Edit Data Collector Settings Dialog Box" on page 201.
	Remove Data Collectors. Click to remove selected data collectors from the list of default data collectors for business transaction flows in the application.
<Custom attributes>	Displays custom attributes configured for the data collector. You can configure up to five different custom attributes for data collectors. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.
Assigned Business Transaction Flows	Displays the application's business transaction flows assigned to run on the data collector.
Assigned WebTraces	Displays the application's WebTraces assigned to run on the data collector.
Host	Displays the host name of the data collector instance as defined on the data collector machine.
Location	Displays the location of the data collector instance as defined on the data collector machine.
Private POP	A check mark denotes that the Business Process Monitor is run privately for your company (a private POP). Note: This element is visible only for HP Software-as-a-Service customers.

UI Elements (A-Z)	Description
Schedules	Displays the schedule configured for the data collector.
Version	Displays the version of the data collector software installed on the data collector machine.

Business Process Monitor Application Default Settings Page

This page enables you to view and configure a Business Process Monitor application's default transaction settings. Default transaction settings are assigned to all transactions added to the application.

To access	Select Admin > End User Management > Monitoring tab. In the view tree, select a Business Process Monitor application and in the Content pane, select Business Process Monitor tab > Default Settings .
------------------	---

Default Transaction Thresholds Pane

User interface elements are described below:

UI Elements (A-Z)	Description
Availability	Enter the availability threshold percentage for the transactions.
Critical	Enter the response time threshold above which a transaction's status is Critical. Default value: 12 seconds Note: The default color for critical transactions in Service Health and reports is red.
Ignore outlier values	Select this check box to instruct HP Business Service Management to ignore outlier transactions (and not include the data in Service Health or in reports).

UI Elements (A-Z)	Description
<p>Minor</p>	<p>Displays the response time thresholds between which a transaction's status is Minor.</p> <p>Default value: 8–12 seconds</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The default color for Minor transactions in Service Health and reports is yellow. ▶ The Minor transaction thresholds are automatically set to the range between the OK and Critical thresholds that you configure for a transaction.
<p>OK</p>	<p>Enter the response time threshold below which a transaction's status is OK.</p> <p>Default value: 8 seconds</p> <p>Note: The default color for OK transactions in Service Health and reports is green.</p>
<p>Outlier</p>	<p>Enter the response time threshold above which a transaction is considered to be an Outlier. Outliers are transactions whose response time exceeds a defined time range. You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports.</p> <p>Default value: 45 seconds</p> <p>Note: By selecting or clearing the Ignore outlier data for reports check box, you can specify whether outlier transactions are treated as failed transactions or ignored completely in reports. If you selected to ignore outlier values, any transaction that takes longer than this value to complete is ignored in Service Health and in reports. If you did not select to ignore outlier values and if the transaction response time is greater than this value, its status is Failed.</p>

Default Transaction Breakdown Pane

User interface elements are described below:

UI Elements (A-Z)	Description
Enable breakdown	Select the Enable breakdown check box to generate transaction breakdown data when running the selected Web or TCP monitor. For details on the transaction breakdown reports, see "Understanding Transaction Breakdown in Reports" on page 635.
Enable Diagnostics /TV breakdown	Select Enable Diagnostics/TV breakdown to see J2EE and .Net data. This data is available in HP Diagnostics and Transaction Management reports only if you have valid HP Diagnostics and Transaction Management licenses. For details, see the <i>HP Diagnostics Installation and Configuration Guide</i> and the <i>HP TransactionVision Deployment Guide</i> PDF.
Enable Siebel breakdown	Select the Enable Siebel breakdown check box to see Siebel Application Response Measurement (SARM) data in Application Management for Siebel.
Enable SOA breakdown	<p>Select the Enable SOA breakdown check box to see SOA data in Application Management for SOA.</p> <p>For details on incorporating SOA data from HP Business Process Monitor in Application Management for SOA, see "Enrich the SOA Model From Scripts" on in <i>Solutions and Integrations</i>.</p> <p>For details on enabling SOA breakdown in HP Business Process Monitor, see "Enabling SOA Transaction Breakdown" on page 94.</p> <p>Default value: Enabled</p>

UI Elements (A-Z)	Description
<p>Perform component breakdown</p>	<p>Select the Perform component breakdown check box to save complete component (page components for Web based protocols and TCP components (requests) for non-Web based protocols) breakdown data for a sampling of transaction instances. By default, HP Business Service Management saves component breakdown data to the database once per every four transaction instances.</p> <p>Note: You can only select this check box if you have enabled breakdown.</p>
<p>Report additional error information</p>	<p>Select the Report additional error information check box to include date, time, location, and error messages for failed transactions in applicable End User Management reports. If this option is disabled, HP Business Service Management reports only average error times. Disabling this option decreases the amount of data that is sent from the Business Process Monitors running the transaction breakdown to the Gateway Server and profile database. For details on the Error Log, see "Error Log" on page 812.</p> <p>Note: You can only select this check box if you have enabled breakdown.</p>

Business Process Monitor Application Properties Page

This page enables you to view and configure a Business Process Monitor application's main properties.

To access	Select Admin > End User Management > Monitoring tab. In the view tree, select an application and in the Content pane, select Business Process Monitor tab > Properties .
------------------	---

General Application Settings Pane

User interface elements are described below:



UI Elements (A-Z)	Description
Downtime/Event Schedule	Click the Downtime/Event Schedule link to configure and manage downtime and event schedules for the application. The Downtime Management page opens in a new window. For user interface details, see "Downtime Management Page" in <i>Platform Administration</i> .
License type	<p>The Business Process Monitor license assigned to the application. Click the license to open a list of licenses that you can assign to the application.</p> <p>Note:</p> <ul style="list-style-type: none"> ➤ If you have only one license key installed, you cannot edit the license type. ➤ Even if you have a valid 360 license, it does not appear as an option if you do not have change permissions for both Real User Monitor and Business Process Monitor configurations. ➤ If you assign or unassign a 360 license to a Business Process Monitor application that is also configured for Real User Monitor, the 360 license is also automatically assigned to, or unassigned from, the Real User Monitor application.

UI Elements (A-Z)	Description
Profile database	<p>The profile database name for storing the application's Business Process Monitor information. This setting is defined when creating a new Business Process Monitor configuration for an application and cannot be edited once it is set.</p> <p>Note to HP Software-as-a-Service customers: This element is not displayed.</p>
Status	<p>Select the relevant radio button to configure whether or not the application's Business Process Monitor configuration is active.</p>
Time zone	<p>Select a GMT offset—the time zone, in relation to GMT, that HP Business Service Management uses to determine when daily aggregation should occur for data collected by this application.</p> <p>Tip: The time zone should be set to match the time zone in which the HP Business Service Management servers and database machine are located.</p> <p>Example: if you want Business Service Management to aggregate data collected by the application based on Pacific Time, enter -8, since Pacific Time is GMT-8 hours.</p>

Business Transaction Flows Order Pane

Important information	<p>The business transaction flow order is applicable when all of the following conditions are met:</p> <ul style="list-style-type: none"> ▶ All the business transaction flows run on the same Business Process Monitor. ▶ The business transaction flows use the default application schedule. ▶ The monitor run mode is set to Classic (default), Sequential, or Stepped. If set to Dialup mode, Business Process Monitor may override the configured run order. For details on run modes, see "Run Modes" in the <i>Business Process Monitor Administration</i> PDF.
------------------------------	--




User interface elements are described below:

UI Elements (A-Z)	Description
	Up. Click to move a selected business transaction flow higher in the running order of the application's business transaction flows.
	Down. Click to move a selected business transaction flow lower in the running order of the application's business transaction flows.
Data Collectors	The data collectors assigned to run the business transaction flow.
Name	The business transaction flow name.

WebTraces Pane

Important information	Business Process Monitors earlier than version 9.00 cannot be assigned to Webtraces on the application level and do not appear as available data collectors.
------------------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
	New WebTrace. Click to open the New WebTrace dialog box, where you configure a new WebTrace for the application. For user interface details, see "WebTrace Dialog Box" on page 240.
	Edit WebTrace Settings. Click to open the Edit WebTrace dialog box, where you configure the settings for a selected WebTrace. For user interface details, see "WebTrace Dialog Box" on page 240.
	Delete WebTraces. Click to delete selected WebTraces from the application.
Assigned Data Collectors	The data collector assigned to run the WebTrace.




UI Elements (A-Z)	Description
Destination	The Web server address on which the trace is performed.
Port	The port number of the Web server on which the trace is performed.


Script Parameters Pane

This area enables you to configure parameters (such as user name, password, and so forth) that are required by a script to run properly.

See also	"Script Parameter Management Overview" on page 96
-----------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Edit Script Parameter. Click to open the Edit Script Parameter dialog box, where you can edit the value, description and expiration date for a selected parameter. For user interface details, see "Edit Script Parameter Dialog Box" on page 208.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>
	<p>View Unique Data Collector Values. Click to open the Unique Data Collector Values dialog box, where you can view the parameter's settings for each data collector and set specific values by data collector. For user interface details, see "Unique Data Collector Values Dialog Box" on page 234.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>
	<p>Restore Script Parameter Value. Click to restore the original script parameter value.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>





UI Elements (A-Z)	Description
Business Transaction Flow Name	The name of the business transaction flow in which the script is included.
Description	A free text description for the parameter.
Expiration Date	<p>An expiration date for the parameter value. You can configure expiration dates for parameter values to help you manage parameters with frequently changing values, such as passwords. The expiration date is an indication of when you want to change a parameter's value.</p> <p>Note: You can edit the expiration date by clicking the arrow in the relevant table cell. A calendar opens from which you can select a date.</p>
Name	The parameter name.
Script Name	The name of the script in which the parameter is used.
Unique Data Collector Values	<p>A list of the Business Process Monitors for which different values of the parameter are configured. You can view the data collectors and the parameter values configured for them by clicking the View Unique Data Collector Values  button.</p>
Value	The configured parameter value for the specific data collector.

Business Process Monitor Application Reports Configuration Page

This page enables you to modify the colors used to represent an application's transactions in End User Management reports and to specify the order in which an application's transactions appear in the reports.

To access	Select Admin > End User Management > Monitoring tab. In the view tree, select an application and in the Content pane, select Business Process Monitor tab > Reports Configuration .
------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
	Up. Click to change the order of a selected transaction by moving it up.
	Down. Click to change the order of a selected transaction by moving it down.
	Restore Original Order. Click to re-order the transactions in their original order, before you made any changes.
Business Transaction Flow	The business transaction flow in which the transaction is included.
Color	The configured color for the transaction in End User Management reports. Click a color cell and the down arrow  button to display a color chart, where you can select a different color for the transaction.
Monitors	The application scripts and single transaction scripts in which the transaction is included.
Name	The transaction name.



Business Transaction Business Process Monitor Configuration Page





This page enables you to display and edit the threshold settings for a Business Transaction included in a business transaction flow. Also enables you to view the scripts in which the Business Transaction is included and the transaction name used in the scripts.

To access	Select Admin > End User Management > Monitoring tab. In the view tree, select a Business Transaction and in the Content pane, select the Business Process Monitor tab.
-----------	--

Thresholds Pane

User interface elements are described below:

UI Elements (A-Z)	Description
	Edit Thresholds. Click to open the Edit Thresholds dialog box, where you configure transaction thresholds for multiple locations. For user interface details, see "Edit Thresholds Dialog Box" on page 217.
	Restore location specific threshold values. Click to restore threshold values for selected locations based on specific threshold offsets configured for the applicable locations. For user interface details on configuring location offsets, see "Edit Location Offset Dialog Box" on page 49. Note: This button is enabled only when the selected transactions' locations have configured transaction offsets.

UI Elements (A-Z)	Description
	<p>Calculate suggested thresholds. Click to open the Calculate Suggested Thresholds dialog box, where you set the dates and formula for calculating suggested transaction thresholds. For user interface details, see "Calculate Suggested Thresholds Dialog Box" on page 200.</p> <p>Note: When the suggested thresholds are calculated, the Suggested OK, Suggested Minor, and Suggested Critical columns are displayed in the Transaction Performance Thresholds pane.</p>
	<p>Accept suggested thresholds. Click to accept the suggested thresholds for selected transactions or locations. The thresholds for the selected transactions or locations are updated to the suggested thresholds.</p>
	<p>Hide suggested thresholds. Click to hide the Suggested OK, Suggested Minor, and Suggested Critical columns.</p> <p>Note: This button is enabled only when suggested thresholds have been calculated and are displayed.</p>
	<p>Show suggested thresholds. Click to show the Suggested OK, Suggested Minor, and Suggested Critical columns.</p> <p>Note: This button is enabled only when suggested thresholds have been calculated, but are hidden.</p>
<p>Critical</p>	<p>The response time threshold above which the transaction's status is Critical.</p> <p>Note: The default color for critical transactions in Service Health and reports is red.</p>

UI Elements (A-Z)	Description
Minor	<p>The response time thresholds between which the transaction's status is Minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The default color for Minor transactions in Service Health and reports is yellow. ▶ The Minor transaction threshold is automatically set to the range between the OK and Critical thresholds that you configure for the transaction.
OK	<p>The response time threshold below which the transaction's status is OK.</p> <p>Note: The default color for OK transactions in Service Health and reports is green.</p>
Outlier	<p>The response time threshold above which the transaction is considered to be an Outlier. Outliers are transactions whose response time exceeds a defined time range.</p> <p>Note: You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports. For user interface details, see "Default Transaction Thresholds" on page 151.</p>
Scripts	<p>The name of the script in which the transaction is included.</p>
Suggested Critical	<p>The suggested response time threshold above which the transaction's status is Critical.</p> <p>Note: This column is displayed when you click the Calculate Suggested Thresholds or Show Suggested Thresholds button.</p>

UI Elements (A-Z)	Description
Suggested Minor	<p>The suggested response time thresholds between which the transaction's status is Minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The suggest minor transaction threshold is automatically set to the range between the suggested OK and Critical thresholds. ▶ This column is displayed when you click the Calculate Suggested Thresholds or Show Suggested Thresholds button.
Suggested OK	<p>The suggested response time threshold below which the transaction's status is OK.</p> <p>Note: This column is displayed when you click the Calculate Suggested Thresholds or Show Suggested Thresholds button.</p>
Transaction	<p>A tree displaying the applicable locations for the transaction.</p>

Availability Threshold Pane

User interface elements are described below:

UI Elements (A-Z)	Description
Availability	<p>The availability threshold percentage configured for the transaction.</p>

Scripts Pane

User interface elements are described below:

UI Elements (A-Z)	Description
Included in scripts	The script in which the transaction is included.
Name in scripts	<p>The transaction name as used in scripts.</p> <p>Note: If you change the name of a Business Transaction CI (in the CI Properties page), the transaction name in existing scripts is not changed. Elsewhere, however, (for example, in Service Health, reports, and End User Management administration) the transaction name is changed and persistent data for the CI is preserved. For details on the CI Properties page user interface, see "CI Properties Page" on page 48.</p>

Business Transaction Flow Configuration Wizard

This wizard enables you to create a new business transaction flow and its Business Process Monitor configuration in End User Management Administration, or to add a Business Process Monitor configuration to an existing, but as yet unconfigured, business transaction flow.





<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ To create and configure a new business transaction flow, select Admin > End User Management > Monitoring tab. In the view tree, right-click the Business Process Monitor application for which you want to create a business transaction flow, and click Add > Business Transaction Flows with BPM Configuration. ▶ To configure a previously created, but as yet unconfigured, business transaction flow, select Admin > End User Management > Monitoring tab. In the view tree, right-click the existing business transaction flow that is not yet configured for Business Process Monitor and click Add > BPM Configuration.
<p>Important information</p>	<p>The pages in this wizard are also included in the Business Process Monitor Application Configuration wizard. For a description of the pages, see "Business Process Monitor Application Configuration Wizard" on page 146.</p>
<p>Wizard map</p>	<p>This wizard contains:</p> <p>Set Transaction Monitor Scripts Page > Assign Data Collectors Page > Set Transaction Thresholds Page > Define Script Parameter Values Page > Preview Page > Finish Page</p>





Business Transaction Flow Data Collectors Page

This page enables you to view and update the Business Process Monitor data collectors assigned to a business transaction flow.

To access	Select Admin > End User Management > Monitoring tab. In the view tree, select a business transaction flow and in the Content pane, select Business Process Monitor tab > Data Collectors .
------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A-Z)	Description
	Add Data Collectors. Click to open the Add Data Collectors wizard, where you select the data collectors you want to add to the business transaction flow and assign monitors to them. For user interface details, see "Add Data Collectors Wizard" on page 124.
	Edit Data Collector Settings. Click to open the Edit Data Collector Settings dialog box, where you configure the schedules, assigned monitors, and advanced settings for selected data collectors for the business transaction flow. For user interface details, see "Edit Data Collector Settings Dialog Box" on page 201.
	Restore Application Data Collectors. Click to restore the application's data collector settings for selected data collectors. This overrides any locally configured settings for the selected data collectors in the business transaction flow. Note: This button is enabled only when data collectors that are assigned to both the business transaction flow and its parent application are selected.
	Remove Data Collectors. Click to remove selected data collectors from the business transaction flow.

UI Elements (A-Z)	Description
<Custom attributes>	Displays custom attributes configured for the data collector. You can configure up to five different custom attributes for data collectors. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.
Assigned Monitors	Displays the monitor scripts assigned to run on the data collector.
Host	Displays the host alias of the data collector instance as defined on the data collector machine.
Location	Displays the location of the data collector instance as defined on the data collector machine.
Private POP	<p>A check mark denotes that the Business Process Monitor is run privately for your company (a private POP).</p> <p>Note: This element is visible only for HP Software-as-a-Service customers.</p>
Schedules	Displays the schedule configured for the data collector.
Source	<p>Displays an icon that shows how the data collector obtains its configuration. The possible icons are:</p> <ul style="list-style-type: none"> ▶  Configured locally. The data collector is assigned to the business transaction flow only. ▶  Inherits parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow and the same settings are used for both. ▶  Configured locally but can inherit parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow, but its settings have been changed for the business transaction flow. You use the Restore Application Data Collectors button  to restore the parent application's data collector settings and override any locally configured settings. <p>Tooltip: A tooltip explains the meaning of the icon.</p>
Version	Displays the version of the data collector software installed on the data collector machine.

Business Transaction Flow Properties Page

This page enables you to view and update the properties of a business transaction flow.

To access	Select Admin > End User Management > Monitoring tab. In the view tree, select a business transaction flow and in the Content pane, select Business Process Monitor tab > Properties .
------------------	--





General Settings Pane





User interface elements are described below:

UI Elements (A-Z)	Description
Status	Select the relevant radio button to configure whether or not the business transaction flow is active.

Scripts Pane



User interface elements are described below:


UI Elements (A-Z)	Description
	Add Script. Click to open the Add Scripts wizard, where you select and configure scripts for the business transaction flow. For user interface details, see "Add Scripts Wizard" on page 135.
	Edit Script Settings. Click to open the Edit Script Settings dialog box, where you configure the assigned data collectors, transaction thresholds, transaction breakdown settings, and script parameter values for selected scripts. For user interface details, see "Edit Script Settings Dialog Box" on page 209.
	Remove Script. Click to delete selected scripts from the business transaction flow.
	Up. Click to change the order of a selected script by moving it up.

UI Elements (A-Z)	Description
	Down. Click to change the order of a selected script by moving it down.
	Update Version. Click to open the Update Version wizard, where you can change the version number of a script, assign script parameters, and set transaction thresholds for a selected script. For user interface details, see "Update Version Wizard" on page 235.
Assigned Data Collectors	The data collectors assigned to run the script.
Name	The script name.
Script Repository Path	The path of the script in the Script Repository. Note: Click the path link to open the Script Repository dialog box for the selected script. For user interface details, see "Script Repository Page" on page 430.
Version	The script version number. Note: If a newer version of the script is available, the  icon is also displayed. Click the Update Version  button in the Scripts pane toolbar to change the script version used.

WebTraces Pane




User interface elements are described below:

UI Elements (A-Z)	Description
	New WebTrace. Click to open the New WebTrace dialog box, where you configure a new WebTrace for the business transaction flow. For user interface details, see "WebTrace Dialog Box" on page 240.
	Edit WebTrace Settings. Click to open the Edit WebTrace dialog box, where you configure the settings for a selected WebTrace. For user interface details, see "WebTrace Dialog Box" on page 240.

UI Elements (A-Z)	Description
	Delete WebTraces. Click to delete selected WebTraces from the business transaction flow.
Assigned Data Collectors	The data collector assigned to run the WebTrace.
Destination	The Web server address on which the trace is performed.
Port	The port number of the Web server on which the trace is performed.


Single Transaction Scripts Pane

User interface elements are described below:



UI Elements (A-Z)	Description
	New Single Transaction Script. Click to open the New Single Transaction Script dialog box, where you configure a new single transaction script for the business transaction flow. For user interface details, see "Single Transaction Script Dialog Box" on page 227.
	Edit Single Transaction Script. Click to open the Edit Single Transaction Script dialog box, where you configure the settings for a selected single transaction script. For user interface details, see "Single Transaction Script Dialog Box" on page 227.
	Delete Single Transaction Scripts. Click to delete selected single transaction scripts from the business transaction flow.
Assigned Data Collectors	The data collectors assigned to run the single transaction script.
Transaction Name	The name of the single transaction script.
URL	The URL monitored by the single transaction script.





Transaction Performance Thresholds Pane

This area lists the transactions included in the business transaction flow and enables you to set transaction thresholds for them.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ Thresholds configured for a specific location for a transaction, override any location threshold offset configured for that location in the transaction's parent application. ▶ Select a single transaction by clicking a row in the transaction list and enter thresholds directly in the row. Use the Shift or CTRL key to select several transactions and click the Edit Thresholds  button to open the Edit Thresholds dialog box, where you configure thresholds for all the selected transactions.
-------------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A-Z)	Description
	<p>Edit Thresholds. Click to open the Edit Thresholds dialog box, where you configure transaction thresholds for multiple transactions. For user interface details, see "Edit Thresholds Dialog Box" on page 217.</p>
	<p>Restore location specific threshold values. Click to restore threshold values for selected transactions based on specific threshold offsets configured for the applicable locations. For concept details, see "Location Threshold Offsets Overview" on page 29.</p> <p>Note: This button is enabled only when the selected transactions' locations have configured transaction offsets.</p>


UI Elements (A-Z)	Description
	<p>Calculate suggested thresholds. Click to open the Calculate Suggested Thresholds dialog box, where you set the dates and formula for calculating suggested transaction thresholds. For user interface details, see "Calculate Suggested Thresholds Dialog Box" on page 200.</p> <p>Note: When the suggested thresholds are calculated, the Suggested OK, Suggested Minor, and Suggested Critical columns are displayed in the Transaction Performance Thresholds pane.</p>
	<p>Accept suggested thresholds. Click to accept the suggested thresholds for selected transactions or locations. The thresholds for the selected transactions or locations are updated to the suggested thresholds.</p>
	<p>Hide suggested thresholds. Click to hide the Suggested OK, Suggested Minor, and Suggested Critical columns.</p> <p>Note: This button is enabled only when suggested thresholds have been calculated and are displayed.</p>
	<p>Show suggested thresholds. Click to show the Suggested OK, Suggested Minor, and Suggested Critical columns.</p> <p>Note: This button is enabled only when suggested thresholds have been calculated, but are hidden.</p>
<p><Select tree option></p>	<p>Select the way you want to view the tree. Valid options are:</p> <ul style="list-style-type: none"> ▶ Location - Transaction. For each location in the tree, the applicable transactions are displayed. <p>Note: When you select this option, the first column in the table is called Location.</p> ▶ Transaction - Location. For each transaction in the tree, the applicable locations are displayed. <p>Note: When you select this option, the first column in the table is called Transaction.</p>

UI Elements (A-Z)	Description
Critical	<p>The response time threshold above which the transaction's status is Critical.</p> <p>Note: The default color for critical transactions in Service Health and reports is red.</p>
Location	<p>The location name. Click a location in the tree to expand it to display its applicable transactions.</p> <p>Note: This element is visible when you select the Location - Transaction view option for the tree.</p>
Minor	<p>The response time thresholds between which the transaction's status is Minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The default color for Minor transactions in Service Health and reports is yellow. ▶ The Minor transaction threshold is automatically set to the range between the OK and Critical thresholds that you configure for the transaction.
OK	<p>The response time threshold below which the transaction's status is OK.</p> <p>Note: The default color for OK transactions in Service Health and reports is green.</p>
Outlier	<p>The response time threshold above which the transaction is considered to be an Outlier. Outliers are transactions whose response time exceeds a defined time range.</p> <p>Note: You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports. For user interface details, see "Default Transaction Thresholds" on page 151.</p>
Scripts	<p>The name of the script in which the transaction is included.</p>
Suggested Critical	<p>The suggested response time threshold above which the transaction's status is Critical.</p> <p>Note: This column is displayed when you click the Calculate Suggested Thresholds or Show Suggested Thresholds button.</p>

UI Elements (A-Z)	Description
Suggested Minor	<p>The suggested response time thresholds between which the transaction's status is Minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The suggest minor transaction threshold is automatically set to the range between the suggested OK and Critical thresholds. ▶ This column is displayed when you click the Calculate Suggested Thresholds or Show Suggested Thresholds button.
Suggested OK	<p>The suggested response time threshold below which the transaction's status is OK.</p> <p>Note: This column is displayed when you click the Calculate Suggested Thresholds or Show Suggested Thresholds button.</p>
Transaction	<p>The transaction name. Click a transaction in the tree to expand it to display its applicable locations.</p> <p>Note: This element is visible when you select the Transaction - Location view option for the tree.</p>


Transaction Availability Thresholds Pane

User interface elements are described below:

UI Elements (A-Z)	Description
	Edit Availability Thresholds. Click to open the Edit Availability Thresholds dialog box, where you configure the availability threshold percentage for selected transactions.
Availability	The availability threshold percentage configured for the transaction.
Scripts	The name of the script in which the transaction is included.
Transaction	The transaction name.

Calculate Suggested Thresholds Dialog Box

This dialog box enables you to configure the time period and formula settings used to calculate suggested transaction thresholds.

To access	<p>Select Admin > End User Management > Monitoring tab and click the Calculate Suggested Thresholds  button in one of the following:</p> <ul style="list-style-type: none"> ▶ Business Transaction Flow Properties Page > Transaction Performance Thresholds Pane ▶ Business Transaction Business Process Monitor Configuration Page > Thresholds Pane
------------------	---

Starting Date Area

The Starting Date area displays a calendar in which you can click a date to select it as the starting date for the period from which suggested transaction thresholds are calculated. The period runs from the selected starting date to the current date. By default, the selected starting date is two weeks prior to the current date.

Business Service Management calculates suggested thresholds by using multiples of the average transaction times and standard deviations for the transactions in the configured time period, according to a formula that you configure in the Formula Settings area of the dialog box.

Note: The time taken to calculate suggested thresholds is determined by the length of the time period you configure.

Formula Settings Area

Important information	<ul style="list-style-type: none"> ▶ The formula for calculating suggested transaction thresholds is: $n(\text{average transaction time for the configured time period}) \times n(\text{standard deviation for the configured time period})$ ▶ The suggested Minor transaction threshold is automatically set to the range between the suggested OK and suggested Critical thresholds for the transaction.
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):


UI Elements (A-Z)	Description
<Critical formula>	Configure the multiples of the average transaction time determined from the configured time period to use as the basis for the suggested Critical threshold, and the multiples of the standard deviation to add to it.
<OK formula>	Configure the multiples of the average transaction time determined from the configured time period to use as the basis for the suggested OK threshold, and the multiples of the standard deviation to add to it.

Edit Data Collector Settings Dialog Box

This dialog box enables you to:




- ▶ View details for the data collectors selected for a Business Process Monitor application or business transaction flow.
- ▶ Modify the list of monitors each data collector runs.
- ▶ Configure the data collectors' settings.

You can assign any, or all, of the monitors added to the Business Process Monitor application or business transaction flow to any, or all, of the assigned data collectors. This gives a complete picture of all the monitors running within the application or flow and which Business Process Monitor instances are running which monitors.

<p>To access</p>	<p>Select Admin > End User Management > Monitoring tab and click the Edit Data Collector Settings  button in one of the following:</p> <ul style="list-style-type: none"> ▶ Business Process Monitor Application Data Collectors page ▶ Business Process Monitor Application Configuration wizard > Application Data Collectors page ▶ Business Transaction Flow Data Collectors page ▶ Business Transaction Flow wizard > Assign Data Collectors page ▶ New WebTrace dialog box ▶ Edit WebTrace Settings dialog box ▶ New Single Transaction Script dialog box > Assigned Data Collectors tab ▶ Edit Single Transaction Script Settings dialog box > Assigned Data Collectors tab ▶ Add Scripts wizard > Assign Data Collectors page ▶ Edit Script Settings dialog box > Assigned Data Collectors tab
<p>Important information</p>	<ul style="list-style-type: none"> ▶ The availability of the different tabs depends from where you access the dialog box. ▶ Select a single data collector by clicking a row in the list, or use the Shift or CTRL key to select several data collectors.

Schedules Tab



User interface elements are described below:

UI Elements (A-Z)	Description
	<p>New Schedule. Click to open the New Schedule dialog box, where you create a new schedule for the Business Process Monitor application or business transaction flow. For details, see "Schedule Dialog Box" on page 223.</p>
	<p>Edit Schedule. Click to open the Edit Schedule dialog box, where you edit selected schedules for the Business Process Monitor application or business transaction flow. For details, see "Schedule Dialog Box" on page 223.</p>
	<p>Delete Schedules. Click to remove selected schedules from the Business Process Monitor application or business transaction flow configuration.</p> <p>Note: You cannot delete all the schedules as there must be at least one schedule configured.</p>
<p>Assigned to Data Collectors</p>	<p>Displays the data collectors to which the schedule is assigned.</p>
<p>Offset</p>	<p>Displays the configured offset for a schedule. The offset is the time by which to delay the scheduled running of monitors on a data collector. The offset can be the Business Process Monitor default, or a user defined number of seconds (up to 1000 seconds).</p>
<p>Schedules</p>	<p>The schedule configured for the Business Process Monitor application or business transaction flow to run on the selected data collectors (only relevant for monitors running on a Business Process Monitor).</p>
<p>Time Zone</p>	<p>Displays the time zone on which the data collector instance bases its scheduling.</p>

Business Transaction Flow Tab

<p>Important information</p>	<ul style="list-style-type: none"> ➤ This tab is only available for Business Process Monitor applications. ➤ Select a single business transaction flow by clicking a row in the list, or use the Shift or CTRL key to select several flows.
-------------------------------------	---



User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Add Monitors. Click to open the Add Monitors dialog box, where you can add monitors to the selected data collectors.</p>
	<p>Remove Monitors. Click to remove selected monitors from the list of monitors assigned to the selected data collectors.</p>
<p>Assigned Data Collectors</p>	<p>The data collectors assigned to run the monitor.</p>
<p>Name</p>	<p>The monitor name.</p>
<p>Source</p>	<p>The monitor source—business transaction flow or WebTrace.</p>

Monitors Tab

Important information	<ul style="list-style-type: none"> ▶ This tab is only available for business transaction flows ▶ Select a single monitor by clicking a row in the list, or use the Shift or CTRL key to select several monitors.
------------------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
	Add Monitors. Click to open the Add Monitors dialog box, where you can add monitors to the selected data collectors.
	Remove Monitors. Click to remove selected monitors from the list of monitors assigned to the selected data collectors.
Assigned Data Collectors	The data collectors assigned to run the monitor.
Name	The monitor name.
Source	The monitor type.
Transactions	The transactions included in the monitor.

Advanced Settings Tab

User interface elements are described below:

UI Elements (A-Z)	Description
Run mode	<p>The run mode determines how Business Process Monitor runs the tasks in a Business Process Monitor application or business transaction flow when an iteration begins. Some of the run modes run the tasks in a specific order; in this case, the scripts run in the order defined in the Business Process Monitor application or business transaction flow.</p> <p>For details on the available run mode options, see "Run Mode Options" on page 207.</p>
Step	<p>If you select Stepped as the run mode option, set the Step value in seconds.</p> <p>Note: If Stepped is not selected as the run mode, this setting is disabled.</p>
Timeout	<p>Set the timeout value in seconds. This value determines the time limit after which the data collector (Business Process Monitor) running all the monitors added to a Business Process Monitor application or business transaction flow timeouts each of the scripts or WebTrace schemes if they are still running. This setting overrides the timeout value set on the data collector itself (default value on the Business Process Monitor is 15 minutes). If this value is set to -1 (default value), the timeout value on the Business Process Monitor is used.</p>

Run Mode Options


The following are the supported run modes that you can configure for a data collector running a business transaction flow:

Option	Description
Classic	All scripts in the business transaction flow (BTF) run sequentially according to their defined order, with an internal algorithm that ensures an optimal load distribution during the BTF run. All WebTrace schemes run concurrently with the first script, once the BTF begins an iteration.
Dialup	If a business transaction flow has two or more scripts, the first script begins running when the business transaction flow begins an iteration. When the first script completes its run, all WebTrace schemes and scripts, excluding the first and last scripts, run in Classic mode. When all tasks stop running, the last script runs. If a business transaction flow has fewer than two scripts, it runs in Classic mode. Note: If the first script completes its run, the last script always runs.
Sequential	All business transaction flow tasks run sequentially (with only one task running at a time). The script tasks run according to the defined order. WebTrace tasks run after the last script is completed, with an undefined (though consistent) order.
Stepped	Each task begins running after a defined time period (step) has passed from the time the previous task started. The scripts run according to the defined order. The WebTrace tasks also run in stepped mode after the last script has started, in an undefined (though consistent) order.
Concurrent	All tasks begin running simultaneously when the business transaction flow begins an iteration.

For further details on the specific run mode options and setting the step value, see "Run Schedules and Orders" in the *Business Process Monitor Administration* PDF.

Edit Script Parameter Dialog Box

This dialog box enables you to change the value of a script parameter for an application monitored by Business Process Monitor, or a business transaction flow. It also enables you to enter a description and expiration date for a parameter.

To access	In the Edit Script Settings dialog box, select the Script Parameters tab, select the parameters whose value you want to change and click the Edit Script Parameter  button.
Important information	<ul style="list-style-type: none"> ▶ You cannot edit script parameters for a parameter that contains multiple values. ▶ If you change the value of a parameter, it is changed for all data collectors that run the script for the application or business transaction flow.
See also	"Script Parameter Management Overview" on page 96



User interface elements are described below:

UI Elements (A-Z)	Description
Confirm Value	When you enter a value for a parameter marked sensitive (for example, a password parameter), you must confirm the value by entering it again. Note: The value itself is not displayed and a row of black dots is displayed instead.
Description	A free text description for the parameter.

UI Elements (A-Z)	Description
Expiration Date	An expiration date for the parameter value. You can configure expiration dates for parameter values to help you manage parameters with frequently changing values, such as passwords. The expiration date is an indication of when you want to change a parameter's value. Click the arrow in the field to open a calendar from which you can select a date.
Name	The parameter name.
Value	The parameter value. Note: For parameters marked sensitive, the value is not displayed and a row of black dots is displayed instead.





Edit Script Settings Dialog Box





This dialog box enables you to view and configure transaction threshold and breakdown settings for scripts included in a business transaction flow. It also enables you to assign Business Process Monitor data collectors to run the transaction monitor scripts, as well as to view and configure the parameters used in a script.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab. In the view tree, select a business transaction flow. In the Content pane, select the Business Process Monitor Properties page and in the Scripts pane click the Edit Script Settings  button. ▶ Select Admin > End User Management > Script Repository tab. Search for script assignments for scripts that are in use and in the Search Results dialog box, select a script and click the Edit Script Settings  button.
------------------	--

Assigned Data Collectors Tab


User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
	Add Data Collectors. Click to open the Add Data Collectors dialog box, where you select the data collectors you want to add to the business transaction flow. For user interface details, see "Add Data Collectors Dialog Box" on page 121.
	Edit Data Collector Settings. Click to open the Edit Data Collector Settings dialog box, where you configure the schedule and advanced settings for selected data collectors for the business transaction flow. For user interface details, see "Edit Data Collector Settings Dialog Box" on page 201.
	Restore Application Data Collectors. Click to restore the application's data collector settings for selected data collectors. This overrides any locally configured settings for the selected data collectors in the business transaction flow. Note: This button is enabled only when data collectors that are assigned to both the script and its parent application are selected.
	Remove Data Collectors. Click to remove selected data collectors from the business transaction flow.
<Custom attributes>	Displays custom attributes configured for the data collector. You can configure up to five different custom attributes for data collectors. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.
Assigned Monitors	Displays the monitor scripts assigned to run on the data collector.
Host	Displays the host alias of the data collector instance as defined on the data collector machine.

UI Elements (A-Z)	Description
Location	Displays the location of the data collector instance as defined on the data collector machine.
Private POP	A check mark denotes that the Business Process Monitor is run privately for your company (a private POP). Note: This element is visible only for HP Software-as-a-Service customers.
Schedules	Displays the schedule configured for the data collector.
Source	Displays an icon that shows how the data collector obtains its configuration. The possible icons are: <ul style="list-style-type: none"> ▶  Configured locally. The data collector is assigned to the script only. ▶  Inherits parent application's data collector settings. The data collector is assigned to both the application and the script and the same settings are used for both. ▶  Configured locally but can inherit parent application's data collector settings. The data collector is assigned to both the application and the script, but its settings have been changed for the script. You use the Restore Application Data Collectors button  to restore the parent application's data collector settings and override any locally configured settings. Tooltip: A tooltip explains the meaning of the icon.
Version	Displays the version of the data collector software installed on the data collector machine.

Transaction Thresholds Tab

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Edit Thresholds. Click to open the Edit Thresholds dialog box, where you configure transaction thresholds for multiple transactions. For user interface details, see "Edit Thresholds Dialog Box" on page 217.</p>
<p>Availability</p>	<p>The availability threshold percentage for the transaction.</p>
<p>Critical</p>	<p>The response time threshold above which the transaction's status is Critical.</p> <p>Note: The default color for critical transactions in Service Health and reports is red.</p>
<p>Minor</p>	<p>The response time thresholds between which the transaction's status is Minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The default color for Minor transactions in Service Health and reports is yellow. ▶ The Minor transaction threshold is automatically set to the range between the OK and Critical thresholds that you configure for the transaction.
<p>OK</p>	<p>The response time threshold below which the transaction's status is OK.</p> <p>Note: The default color for OK transactions in Service Health and reports is green.</p>
<p>Outlier</p>	<p>The response time threshold above which the transaction is considered to be an Outlier. Outliers are transactions whose response time exceeds a defined time range.</p> <p>Note: You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports. For user interface details, see "Default Transaction Thresholds" on page 151.</p>

UI Elements (A-Z)	Description
Scripts	The transaction monitor script in which the transaction is included.
Transaction Name	The transaction name.

Transaction Breakdown Tab

User interface elements are described below:




UI Elements (A-Z)	Description
Enable breakdown	Select the Enable breakdown check box to generate transaction breakdown data when running the selected Web or TCP monitor. For details on the transaction breakdown reports, see "Understanding Transaction Breakdown in Reports" on page 635.
Enable Diagnostics /TV breakdown	Select Enable Diagnostics/TV breakdown to see J2EE and .Net data. This data is available in HP Diagnostics and Transaction Management reports only if you have valid HP Diagnostics and Transaction Management licenses. For details, see the <i>HP Diagnostics Installation and Configuration Guide</i> and the <i>HP TransactionVision Deployment Guide</i> PDF.
Enable Siebel breakdown	Select the Enable Siebel breakdown check box to see Siebel Application Response Measurement (SARM) data in Application Management for Siebel.
Enable SOA breakdown	Select the Enable SOA breakdown check box to see SOA data in Application Management for SOA. For details on incorporating SOA data from HP Business Process Monitor in Application Management for SOA, see "Enrich the SOA Model From Scripts" on in <i>Solutions and Integrations</i> . For details on enabling SOA breakdown in HP Business Process Monitor, see "Enabling SOA Transaction Breakdown" on page 94. Default value: Enabled


UI Elements (A-Z)	Description
<p>Perform component breakdown</p>	<p>Select the Perform component breakdown check box to save complete component (page components for Web based protocols and TCP components (requests) for non-Web based protocols) breakdown data for a sampling of transaction instances. By default, HP Business Service Management saves component breakdown data to the database once per every four transaction instances.</p> <p>Note: You can only select this check box if you have enabled breakdown.</p>
<p>Report additional error information</p>	<p>Select the Report additional error information check box to include date, time, location, and error messages for failed transactions in applicable End User Management reports. If this option is disabled, HP Business Service Management reports only average error times. Disabling this option decreases the amount of data that is sent from the Business Process Monitors running the transaction breakdown to the Gateway Server and profile database. For details on the Error Log, see "Error Log" on page 812.</p> <p>Note: You can only select this check box if you have enabled breakdown.</p>

Script Parameters Tab

See also	"Script Parameter Management Overview" on page 96
-----------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Edit Script Parameter. Click to open the Edit Script Parameter dialog box, where you can edit the value, description and expiration date for a selected parameter. For user interface details, see "Edit Script Parameter Dialog Box" on page 208.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>
	<p>View Unique Data Collector Values. Click to open the Unique Data Collector Values dialog box, where you can view the parameter's settings for each data collector and set specific values by data collector. For user interface details, see "Unique Data Collector Values Dialog Box" on page 234.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>
	<p>Restore Script Parameter Value. Click to restore the original script parameter value.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>
Description	<p>A free text description for the parameter.</p> <p>Note: You can edit the description by clicking the relevant cell in the table.</p>


UI Elements (A-Z)	Description
Expiration Date	<p>An expiration date for the parameter value. You can configure expiration dates for parameter values to help you manage parameters with frequently changing values, such as passwords. The expiration date is an indication of when you want to change a parameter's value.</p> <p>Note: You can edit the expiration date by clicking the arrow in the relevant table cell. A calendar opens from which you can select a date.</p>
Name	The parameter name.
Unique Data Collector Values	<p>A list of the Business Process Monitors for which different values of the parameter are configured. You can view the data collectors and the parameter values configured for them by clicking the View Unique Data Collector Values  button.</p>
Value	<p>The parameter value.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ For parameters marked sensitive, the value is not displayed and a row of black dots, indicating the number of characters in the value, is displayed instead. ▶ For parameters containing multiple values, the value is not displayed and the message [Multiple Values] is displayed instead.

Edit Thresholds Dialog Box

This dialog box enables you to set the transaction response times for selected transactions in a business transaction flow.

Transaction thresholds are used to validate service level agreements by creating performance boundaries. There are three transaction threshold ranges—OK, Minor, and Critical—which are color-coded when used in Service Health and in the reports that display transaction performance data. The color-coding enables quick pinpointing of problem areas that need further analysis.

You can also configure an outlier threshold. Outliers are transactions whose response time exceeds a defined time range.

<p>To access</p>	<p>Select Admin > End User Management > Monitoring tab and click the Edit Threshold  button in one of the following:</p> <ul style="list-style-type: none"> ▶ Add Script wizard > Define Transaction Thresholds page ▶ Business Transaction Flow Properties page > Edit Script Settings dialog box > Transaction Thresholds tab ▶ Update Version wizard > Define Transaction Thresholds page ▶ Business Process Monitor Application Configuration wizard > Set Transaction Thresholds page ▶ BPM Business Transaction Flow wizard > Set Transaction Thresholds page ▶ Business Transaction Business Process Monitor Configuration page > Thresholds pane
-------------------------	--

<p>Important information</p>	<ul style="list-style-type: none"> ▶ By default, all transactions included in a business transaction flow are initially assigned the default transaction threshold settings for the Business Process Monitor application that includes the business transaction flow. You configure the default transaction threshold settings in the BPM Application wizard. For user interface details, see "Default Transaction Settings Page" on page 150. ▶ When setting transaction thresholds, you should take into account factors such as application performance under ideal conditions, competitors' performance, generally accepted performance standards, service level agreements, and end-user feedback. ▶ You should consider the alert trigger criteria you specify in your alert schemes. For example, if you set up an alert scheme to trigger a high priority alert whenever the response time of a transaction is greater than 15 seconds, you may want to set the Poor range for that transaction to 15 seconds or more. ▶ Select a single transaction by clicking a row in the list, or use the Shift or CTRL key to select several transactions.
-------------------------------------	--






User interface elements are described below:

UI Elements (A-Z)	Description
<p>Availability</p>	<p>Enter the availability threshold percentage for the transactions.</p> <p>Note: This element is not displayed when you access the dialog box from the Business Transaction Business Process Monitor Configuration page > Thresholds pane.</p>
<p>Critical</p>	<p>Enter the response time threshold above which a transaction's status is Critical.</p> <p>Note: The default color for critical transactions in Service Health and reports is red.</p>

UI Elements (A-Z)	Description
Minor	<p>Displays the response time thresholds between which a transaction's status is Minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The default color for Minor transactions in Service Health and reports is yellow. ▶ The Minor transaction thresholds are automatically set to the range between the OK and Critical thresholds that you configure for a transaction.
OK	<p>Enter the response time threshold below which a transaction's status is OK.</p> <p>Note: The default color for OK transactions in Service Health and reports is green.</p>
Outlier	<p>Enter the response time threshold above which a transaction is considered to be an Outlier. Outliers are transactions whose response time exceeds a defined time range. You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports.</p> <p>Note: You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports. For user interface details, see "Default Transaction Thresholds" on page 151.</p>

Remove Data Collectors Wizard

This wizard enables you to remove data collectors assigned to run selected Business Process Monitor applications, business transaction flows, or scripts, as part of a bulk operation.





<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab, and in the view tree select the Search tab. Run a search and in the Search Results pane, select the entities you want to update, click the Bulk Operations  button and select Remove BPM Data Collectors from the Shortcut menu. ▶ Select Admin > End User Management > Script Repository tab. In the Folder Content pane, select a script that is in use and click the Script Search Assignment  button. In the Search Results dialog box, select the scripts you want to update, click the Bulk Operations  button and select Remove BPM Data Collectors from the Shortcut menu. ▶ Select Admin > End User Management > Settings tab > Business Process Monitor Settings > BPM Agents. Select data collectors from the list and click the Search for Monitored Business Transaction Flows  button. In the Search Results dialog box, select the business transaction flows you want to update, click the Bulk Operations  button and select Remove BPM Data Collectors from the Shortcut menu.
<p>Wizard map</p>	<p>This wizard contains: Remove Data Collectors Page > Summary Page</p>

Remove Data Collectors Page

This wizard page enables you to select and remove data collectors assigned to run selected Business Process Monitor applications, business transaction flows, or scripts.

Important information	<ul style="list-style-type: none"> ▶ General information about this wizard is available here: "Remove Data Collectors Wizard" on page 220 ▶ Select a single data collector by clicking a row in the list, or use the Shift or CTRL key to select several data collectors.
Wizard map	The Remove Data Collectors Wizard contains: Remove Data Collectors Page > Summary Page

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
	Select. Click to move selected data collectors from the Available Data Collectors pane to the Selected Data Collectors pane.
	Select All. Click to move all data collectors from the Available Data Collectors pane to the Selected Data Collectors pane.
	Deselect. Click to move selected data collectors from the Selected Data Collectors pane to the Available Data Collectors pane.
	Deselect All. Click to move all data collectors from the Selected Data Collectors pane to the Available Data Collectors pane.
<Custom attributes>	Displays custom attributes configured for the data collector. You can configure up to five different custom attributes for data collectors. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.

UI Elements (A-Z)	Description
Available Data Collectors	The left pane on the page lists the available data collectors that you can select to be removed from the selected <entities>.
Host	Displays the host name of the data collector.
Location	Displays the location of the data collector.
Selected <entities>	Click the Selected <entities> link to open a window in which the selected <entitites> from which you are removing data collectors are displayed.
Selected Data Collectors	The right pane on the page lists the selected data collectors to be removed from the selected <entities>.

Summary Page

This wizard page enables you to view the affected entities (Business Process Monitor applications, business transaction flows, or scripts) and the number of data collectors removed from them by this wizard.



Important Information	General information about this wizard is available here: "Remove Data Collectors Wizard" on page 220
Wizard map	The Remove Data Collectors Wizard contains: Remove Data Collectors Page > Summary Page

User interface elements are described below:

UI Elements (A-Z)	Description
<Entity> Name	The name of the Business Process Monitor application, business transaction flow, or script.
Status	The number of data collectors that were removed from the entity.

Schedule Dialog Box

This dialog box enables you to set a schedule for a Business Process Monitor to run assigned scripts for a Business Process Monitor application or business transaction flow.

To access	In the Edit Data Collector Settings dialog box, click the New Schedule  button, or Edit Schedule  button.
Important information	When setting multiple schedules for a Business Process Monitor application or business transaction flow, keep in mind that if the schedules overlap at any time, the application or flow is run according to both schedules. The exception is if the application or flow is still running when a second schedule is set to start; in which case, the iteration of that application or flow is not run and the data collector skips that scheduled iteration.

Frequency and Recurrence Range Pane

User interface elements are described below:

UI Elements (A-Z)	Description
Create custom schedule	<p>Select this radio button and create a custom frequency and recurrence range by configuring the following properties:</p> <ul style="list-style-type: none"> ▶ Frequency for running the application/business transaction flow ▶ Days of the week on which to run the application/business transaction flow ▶ Hours in the day during which to run the application/business transaction flow <p>Tip: If there are no special considerations to take into account, it is recommended that you use the default scheduling scheme: Every 15 minutes, all week, all day.</p>
Select from defined schedules	Select this radio button and choose a predefined frequency and recurrence range.

Time Zone Pane

This area enables you to select the time zone option on which the data collector instance bases its scheduling.

User interface elements are described below:

UI Elements (A-Z)	Description
Data collector time	<p>Select this radio button to have the data collector instance base its scheduling on the data collector machine's time clock.</p> <p>Note: Depending on the data collector location, local time may vary among machines.</p>
Offset from GMT	<p>Select this radio button to have the data collector instance base its scheduling on the time zone you set. Specify a time zone in relation to GMT.</p> <p>Default value: Data collector time</p> <p>Note: This setting is ignored if a frequency and recurrence setting for all day, all week is configured.</p> <p>Tip: Choosing Offset from GMT enables you to synchronize transaction run times among hosts.</p> <p>Example: if you want the data collector instance to run profiles based on Pacific Time, you would type -8, since Pacific Time is GMT-8 hours.</p>

Start Offset Pane


This area enables you to set the Start Offset option to delay the scheduled running of the Business Process Monitor application or business transaction flow. This enables the optimal distribution of script runs over time and minimizes the parallel running of many scripts. For details on the start offset, see "Run Schedules and Orders" in the *Business Process Monitor Administration* PDF.

User interface elements are described below:

UI Elements (A-Z)	Description
BPM default	Select this radio button to use the start offset automatically assigned in the Business Process Monitor for each profile that has this setting.
User defined	<p>Select this radio button and set the amount of seconds the Business Process Monitor should offset the running of the Business Process Monitor application or business transaction flow.</p> <ul style="list-style-type: none"> ▶ If you define the start offset value as 0, then no offset is applied for the Business Process Monitor application or business transaction flow and the run starts at the time specified in the schedule. ▶ If you define the start offset as -1, or do not enter a value, then the Business Process Monitor that runs the Business Process Monitor application or business transaction flow allocates a start offset according to the BPM default. ▶ If you enter a positive value, the Business Process Monitor application or business transaction flow is run that many seconds later than the schedule configured for it. For example, if the Business Process Monitor application or business transaction flow is scheduled to run every hour, beginning at noon and you enter 5 seconds as the user-defined start offset, the Business Process Monitor application or business transaction flow begins running at 12:00 and 5 seconds, and continuing running every hour, at the hour plus 5 seconds.



Set Transaction Breakdown Dialog Box

This dialog box enables you to set the transaction breakdown settings for selected scripts.

<p>To access</p>	<p>Select Admin > End User Management > Monitoring tab and click the Set Transaction Breakdown  button in one of the following:</p> <ul style="list-style-type: none"> ▶ Business Process Monitor Application Configuration wizard > Set Transaction Monitor Scripts page ▶ Add Script wizard > Add Scripts page
<p>Important information</p>	<ul style="list-style-type: none"> ▶ For a description of the fields included in the dialog box, see "Default Transaction Breakdown" on page 153. ▶ By default, all scripts included in a business transaction flow are initially assigned the default transaction breakdown settings for the Business Process Monitor application that includes the business transaction flow. You configure the default transaction breakdown settings in the BPM Application wizard. For user interface details, see "Default Transaction Settings Page" on page 150. ▶ In the Selected Scripts pane, select a single script by clicking a row, or use the Shift or CTRL key to select several scripts.

Single Transaction Script Dialog Box

This dialog box enables you to add a single transaction script to an existing business transaction flow, or to configure existing single transaction script settings. A single transaction script emulates navigation to a specified URL. You then track the response time and availability results in reports

To access	Select Admin > End User Management > Monitoring tab. In the view tree, select a business transaction flow. In the Content pane, select Business Process Monitor tab > Properties page, and in the Single Transaction Scripts pane click the New Single Transaction Script  , button or Edit Single Transaction Script Settings  button.
------------------	---

Properties Tab

User interface elements are described below:

UI Elements	Description
URL Settings	<p>URL to monitor. Type the URL that you want HP Business Service Management to access. Include the protocol, host, and optionally include the port, URL path, and parameters.</p>
	<p>Test URL. Click the Test URL button to open the configured URL in a new browser.</p>
	<p>Transaction name. Enter a name for the single URL monitor. This name identifies this monitor in the view tree, in Service Health, and in reports.</p> <p>Syntax exceptions:</p> <ul style="list-style-type: none"> ▶ If the transaction name exceeds 95 characters, Business Process Monitor may not be able to run the script. ▶ Allowed characters are a-z, A-Z, 0-9, and <code>` ~ ! @ # \$ % ^ & * () _ - + { } ; <space></code>
	<p>Use secure logon. If the URL you specify requires authentication, select the Use secure logon check box.</p>
	<p>Login name. Enter the login name required for secure logon.</p> <p>Note: This field is enabled only when you select the Use secure logon check box.</p>
	<p>Login password. Enter the password required for secure logon.</p> <p>Note: This field is enabled only when you select the Use secure logon check box.</p>

UI Elements	Description
Text Validation Settings	<p>Enable text validation. Select the check box to enable text validation. You can configure a text check as a way of verifying that the configured URL reaches the correct page.</p>
	<p><Search area>. Select whether HP Business Service Management should search for the text in the HTML source file or on the screen (the text that appears in the browser window).</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ If you select in the source file, HP Business Service Management looks for text strings as they appear in the Web page's source code. Ensure that text strings do not include hard returns or special characters. ▶ This field is enabled only when you select the Enable text validation check box.
	<p>Enter the text to be searched for. Enter the required text string to search for.</p> <p>Note: This field is enabled only when you select the Enable text validation check box.</p>
	<p><Text condition>. Specify whether the text should exist or not exist for HP Business Service Management to consider the URL successful.</p> <p>Note: This field is enabled only when you select the Enable text validation check box.</p>
Run-time Settings	<p>Modem emulation. Select the modem emulation setting that best reflects the type of connection used by your customer base. In this way, the data that HP Business Service Management collects more closely reflects the actual user experience of your customers.</p>

Transaction Settings Tab





User interface elements are described below:





UI Elements	Description
Transaction Thresholds	<p>OK. The response time threshold below which the transaction's status is OK.</p> <p>Note: The default color for OK transactions in Service Health and reports is green.</p>
	<p>Minor. The response time thresholds between which the transaction's status is Minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The default color for Minor transactions in Service Health and reports is yellow. ▶ The Minor transaction threshold is automatically set to the range between the OK and Critical thresholds that you configure for the transaction.
	<p>Critical. The response time threshold above which the transaction's status is Critical.</p> <p>Note: The default color for critical transactions in Service Health and reports is red.</p>
	<p>Outlier. The response time threshold above which the transaction is considered to be an Outlier. Outliers are transactions whose response time exceeds a defined time range.</p> <p>Note: You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports. For user interface details, see "Default Transaction Thresholds" on page 151.</p>

UI Elements	Description
Transaction Breakdown	<p>Enable breakdown. Select the check box to generate transaction breakdown data when running the monitor.</p>
	<p>Report additional error information. Select the check box to include date, time, location, and error messages for failed transactions in applicable End User Management reports. If this option is disabled, HP Business Service Management reports only average error times. Disabling this option decreases the amount of data that is sent from the Business Process Monitors running the transaction breakdown to the Gateway Server and profile database. For details on the Error Log, see "Error Log" on page 812.</p> <p>Note: You can only select this check box if you have enabled breakdown.</p>
	<p>Perform component breakdown. Select the check box to save complete page component breakdown data for a sampling of transaction instances. By default, HP Business Service Management saves page component breakdown data to the database once per every four transaction instances.</p> <p>Note: You can only select this check box if you have enabled breakdown.</p>
	<p>Enable Diagnostics/TV breakdown. Select the check box to see J2EE and .Net data. This data is available in HP Diagnostics and Transaction Management reports only if you have valid HP Diagnostics and Transaction Management licenses. For details, see the <i>HP Diagnostics Installation and Configuration Guide</i> and the Transaction Management documentation.</p>

Assigned Data Collectors Tab


User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A-Z)	Description
	Add Data Collectors. Click to open the Add Data Collectors dialog box, where you select the data collectors you want to run the single transaction script. For user interface details, see "Add Data Collectors Dialog Box" on page 121.
	Edit Data Collector Settings. Click to open the Edit Data Collector Settings dialog box, where you configure the schedule and advanced settings for selected data collectors for the single transaction script. For user interface details, see "Edit Data Collector Settings Dialog Box" on page 201.
	Restore Application Data Collectors. Click to restore the application's data collector settings for selected data collectors. This overrides any locally configured settings for the selected data collectors in the Single Transaction Script. Note: This button is enabled only when data collectors that are assigned to both the Single Transaction Script and its parent application are selected.
	Remove Data Collectors. Click to remove selected data collectors from the list of data collectors for the single transaction script.
<Custom attributes>	Displays custom attributes configured for the data collector. You can configure up to five different custom attributes for data collectors. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.
Host	Displays the host alias of the data collector instance as defined on the data collector machine.
Location	Displays the location of the data collector instance as defined on the data collector machine.



UI Elements (A-Z)	Description
Private POP	<p>A check mark denotes that the Business Process Monitor is run privately for your company (a private POP).</p> <p>Note: This element is visible only for HP Software-as-a-Service customers.</p>
Schedules	Displays the schedule configured for the data collector.
Source	<p>Displays an icon that shows how the data collector obtains its configuration. The possible icons are:</p> <ul style="list-style-type: none"> ▶  Configured locally. The data collector is assigned to the Single Transaction Script only. ▶  Inherits parent application's data collector settings. The data collector is assigned to both the application and the Single Transaction Script and the same settings are used for both. ▶  Configured locally but can inherit parent application's data collector settings. The data collector is assigned to both the application and the Single Transaction Script, but its settings have been changed for the Single Transaction Script. You use the Restore Application Data Collectors button  to restore the parent application's data collector settings and override any locally configured settings. <p>Tooltip: A tooltip explains the meaning of the icon.</p>
Version	Displays the version of the data collector software installed on the data collector machine.

Unique Data Collector Values Dialog Box

This dialog box enables you to configure an application or business transaction flow's script parameter value for a specific data collector.

To access	In the Edit Script Settings dialog box, select the Script Parameters tab, select the parameters whose value you want to change and click the View Unique Data Collector Values  button.
See also	"Script Parameter Management Overview" on page 96


User interface elements are described below:

UI Elements (A-Z)	Description
	Edit Script Parameter. Click to open the Edit Script Parameter dialog box, where you can edit the value, description and expiration date for a selected parameter for a specific data collector. For user interface details, see "Edit Script Parameter Dialog Box" on page 208.
	Delete Script Parameter Override. Click to restore the parameter value to the value configured for all data collectors. If you have not manually configured such a value, the original script parameter value is used.
DC Name	The name of the data collector configured to run the script.
Description	A free text description for the parameter.
Expiration Date	An expiration date for the parameter value. You can configure expiration dates for parameter values to help you manage parameters with frequently changing values, such as passwords. The expiration date is an indication of when you want to change a parameter's value. Note: You can edit the expiration date by clicking the arrow in the relevant table cell. A calendar opens from which you can select a date.
Name	The parameter name.

UI Elements (A-Z)	Description
Script Name	The name of the script in which the parameter is used.
Unique Data Collector Value	A check mark indicates that different values for the parameter have been configured for specific data collectors.
Value	The configured parameter value for the specific data collector.

Update Version Wizard

This wizard enables you to change the version of a script included in a business transaction flow, as well as to set parameter values used by the script. It also enables you to set transaction thresholds for the transactions included in the script.

To access	Select Admin > End User Management > Monitoring tab. In the view tree, select a business transaction flow. In the Content pane select Business Process Monitor tab > Properties , and in the Scripts pane click the Update Version  button.
Wizard map	This wizard contains: Update Version Page > Define Script Parameters Page > Define Transaction Thresholds Page

Update Version Page

This wizard page displays the current version of the script used in the business transaction flow and enables you to select a different version.

Important information	General information about this wizard is available here: "Update Version Wizard" on page 235.
------------------------------	---

Wizard map	The Update Version Wizard contains: Update Version Page > Define Script Parameters Page > Define Transaction Thresholds Page
See also	"Script Repository" on page 409

User interface elements are described below:




UI Elements (A-Z)	Description
Select the script version	Displays the current script version. Select the version to which you want to update the script.


Define Script Parameters Page

This wizard page enables you to configure parameter values (such as user name, password, and so forth) that are required by a script to run properly.

Important information	General information about this wizard is available here: "Update Version Wizard" on page 235.
Wizard map	The Update Version Wizard contains: Update Version Page > Define Script Parameters Page > Define Transaction Thresholds Page
See also	"Script Parameter Management Overview" on page 96


User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Edit Script Parameter. Click to open the Edit Script Parameter dialog box, where you can edit the value, description and expiration date for a selected parameter. For user interface details, see "Edit Script Parameter Dialog Box" on page 208.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>
	<p>View Unique Data Collector Values. Click to open the Unique Data Collector Values dialog box, where you can view the parameter's settings for each data collector and set specific values by data collector. For user interface details, see "Unique Data Collector Values Dialog Box" on page 234.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>
	<p>Restore Script Parameter Value. Click to restore the original script parameter value.</p> <p>Note: This button is disabled for parameters containing multiple values.</p>
<p>Description</p>	<p>A free text description for the parameter.</p> <p>Note: You can edit the description by clicking the relevant cell in the table.</p>
<p>Expiration Date</p>	<p>An expiration date for the parameter value. You can configure expiration dates for parameter values to help you manage parameters with frequently changing values, such as passwords. The expiration date is an indication of when you want to change a parameter's value.</p> <p>Note: You can edit the expiration date by clicking the arrow in the relevant table cell. A calendar opens from which you can select a date.</p>
<p>Name</p>	<p>The parameter name.</p>
<p>Script Name</p>	<p>The name of the script in which the parameter is used.</p>


UI Elements (A-Z)	Description
Unique DC Values	A list of the Business Process Monitors for which different values of the parameter are configured. You can view the data collectors and the parameter values configured for them by clicking the View Unique Data Collector Values  button.
Value	The parameter value. Note: <ul style="list-style-type: none"> ▶ For parameters marked sensitive, the value is not displayed and a row of black dots, indicating the number of characters in the value, is displayed instead. ▶ For parameters containing multiple values, the value is not displayed and the message [Multiple Values] is displayed instead.

Define Transaction Thresholds Page

This wizard page lists the transactions included in the scripts you add to the business transaction flow and enables you to set transaction thresholds for them.



Important information	<ul style="list-style-type: none"> ▶ General information about this wizard is available here: "Update Version Wizard" on page 235. ▶ Select a single transaction by clicking a row in the transaction list and enter thresholds directly in the row. Use the Shift or CTRL key to select several transactions and click the Edit Thresholds  button to open the Edit Thresholds dialog box, where you configure thresholds for all the selected transactions.
Wizard map	The Update Version Wizard contains: Update Version Page > Define Script Parameters Page > Define Transaction Thresholds Page

User interface elements are described below:

UI Elements (A-Z)	Description
	Edit Thresholds. Click to open the Edit Thresholds dialog box, where you configure transaction thresholds for multiple transactions. For user interface details, see "Edit Thresholds Dialog Box" on page 217.
Critical	The response time threshold above which the transaction's status is Critical. Note: The default color for critical transactions in Service Health and reports is red.
Minor	The response time thresholds between which the transaction's status is Minor. Note: <ul style="list-style-type: none"> ▶ The default color for Minor transactions in Service Health and reports is yellow. ▶ The Minor transaction threshold is automatically set to the range between the OK and Critical thresholds that you configure for the transaction.
OK	The response time threshold below which the transaction's status is OK. Note: The default color for OK transactions in Service Health and reports is green.
Outlier	The response time threshold above which the transaction is considered to be an Outlier. Outliers are transactions whose response time exceeds a defined time range. Note: You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports. For user interface details, see "Default Transaction Thresholds" on page 151.
Scripts	The transaction monitor script in which the transaction is included.
Transaction Name	The transaction name.

WebTrace Dialog Box

This dialog box enables you to add a WebTrace to a Business Process Monitor application or to a business transaction flow. It also enables you to configure existing WebTrace settings. WebTrace monitors enable you to record the specific route taken from the data collector to the destination Web server or IP address, including the specific gateway servers at each hop.

To access	Select Admin > End User Management > Monitoring tab. In the view tree, select an application or business transaction flow. In the Content pane, select the Business Process Monitor tab > Properties page, and in the WebTraces pane click the New WebTrace  button or Edit Webtrace Settings  button.
Important information	Business Process Monitors earlier than version 9.00 cannot be assigned to Webtraces on the application level and do not appear as available data collectors.





Properties Pane




User interface elements are described below:

UI Elements (A-Z)	Description
Destination	Enter a destination Web server address to specify the Web server on which you want the trace to be performed. You can enter the Web server address as a domain name or as an IP address. Note: WebTrace monitors do not support destination servers that begin with a numeric digit. IP addresses are supported. Syntax exceptions: Do not include the string http:// or https:// when typing the server address.
Port	Enter the port number for the destination Web server. Default value: 80

Data Collectors Pane

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
	Add Data Collectors. Click to open the Add Data Collectors dialog box, where you select the data collectors you want to run the WebTrace. For user interface details, see "Add Data Collectors Dialog Box" on page 121.
	Edit Data Collector Settings. Click to open the Edit Data Collector Settings dialog box, where you configure the schedule and advanced settings for selected data collectors for the WebTrace. For user interface details, see "Edit Data Collector Settings Dialog Box" on page 201.
	Restore Application Data Collectors. Click to restore the application's data collector settings for selected data collectors. This overrides any locally configured settings for the selected data collectors in the business transaction flow. Note: This button is enabled only when data collectors that are assigned to both the business transaction flow and its parent application are selected.
	Remove Data Collectors. Click to remove selected data collectors from the list of data collectors for the WebTrace.
<Custom attributes>	Displays custom attributes configured for the data collector. You can configure up to five different custom attributes for data collectors. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.
Host	Displays the host alias of the data collector instance as defined on the data collector machine.
Location	Displays the location of the data collector instance as defined on the data collector machine.

UI Elements (A-Z)	Description
<p>Private POP</p>	<p>A check mark denotes that the Business Process Monitor is run privately for your company (a private POP).</p> <p>Note: This element is visible only for HP Software-as-a-Service customers.</p>
<p>Schedules</p>	<p>Displays the schedule configured for the data collector.</p>
<p>Source</p>	<p>Displays an icon that shows how the data collector obtains its configuration. The possible icons are:</p> <ul style="list-style-type: none"> ➤  Configured locally. The data collector is assigned to the business transaction flow only. ➤  Inherits parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow and the same settings are used for both. ➤  Configured locally but can inherit parent application's data collector settings. The data collector is assigned to both the application and the business transaction flow, but its settings have been changed for the business transaction flow. <p>Tooltip: A tooltip explains the meaning of the icon.</p> <p>Note: This element is visible only when adding data collectors to business transaction flows.</p>
<p>Version</p>	<p>Displays the version of the data collector software installed on the data collector machine.</p>

Troubleshooting and Limitations

This section includes troubleshooting and limitations for Business Process Monitor Administration.

SOA Transaction Breakdown Troubleshooting and Limitations

The following limitations apply when you enable SOA breakdown for a transaction monitor:

- ▶ Only scripts that are recorded in HP Virtual User Generator version 9.10 or later are supported for SOA breakdown. To use a script recorded with HP Virtual User Generator version 9.00, detach the script from a profile (if attached), open and save the script in HP Virtual User Generator version 9.10 or later, and reattach the script to the profile. Scripts recorded with HP Virtual User Generator version 8.10 FP3 and earlier are not supported and you must record the script again using HP Virtual User Generator version 9.10 or later.
- ▶ SOAP calls and REST WebServices calls are not supported for SOA data breakdown.
- ▶ WebServices calls over JMS are not supported for SOA data breakdown.
- ▶ HP Business Process Monitor only supports WSDL version 1.1. For details on WSDL versions in Web Services protocols, see the HP Virtual User Generator documentation.
- ▶ Each Web Services script must be parsed successfully with at least one toolkit (not all scripts need to be parsed with both .NET and Axis toolkits). It is recommended to use the **Axis/Java based Web Services Framework** toolkit for Java based services and the **.NET Framework** toolkit for .NET services.
- ▶ HP Business Process Monitor supports SOAP version 1.1 when using a .NET toolkit and SOAP version 1.2 when using an Axis toolkit.

- ▶ If you are using a version of HP Business Process Monitor earlier than version 7.50, but all the other prerequisites are met, the check box to enable SOA breakdown for a transaction monitor is visible and can be selected in End User Management Administration, but no SOA data is sent to HP Business Service Management from the Business Process Monitor machine running the earlier version.
- ▶ If certain major errors occur in an SOA script, the check box to enable SOA breakdown for a transaction monitor may not be visible, even though all the prerequisites are met.

Business Process Monitor Script Errors

For details of Business Process Monitor script error codes, see the *LoadRunner Troubleshooting Guide* in the LoadRunner documentation.

Using Different Languages for Application, Business Transaction Flow, Transaction, and Script Names

Application, business transaction flow, transaction, and script names must be entered in the same language that is set for the operation system of the Business Process Monitor on which they are run.

Samples are not Updated in Business Service Management

Samples from Business Process Monitor versions earlier than 9.00 can take a few minutes before they are updated in Business Service Management.

3

Real User Monitor Administration

This chapter includes:

Concepts

- ▶ Real User Monitor Overview on page 246
- ▶ Frame Unification on page 247
- ▶ Using the URL Builder on page 249
- ▶ URL Wildcards on page 250
- ▶ Correlating Collected Data with Configured Pages on page 251
- ▶ Correlation Algorithm for Multiple URL Matches of Business Critical Pages on page 256
- ▶ User Name Translation on page 257
- ▶ Host Aliases Overview on page 258
- ▶ End-User Groups Overview on page 258

Tasks

- ▶ How to Set up Real User Monitors on page 260
- ▶ How to Export and Import Real User Monitor Configurations on page 263

Reference

- ▶ Transaction Matching on page 270
- ▶ Real User Monitor Administration User Interface on page 276

Concepts

Real User Monitor Overview

HP Real User Monitor monitors both user and system initiated network traffic between client machines and servers and between servers, collecting network and server performance and availability data in real time.

After having installed a Real User Monitor engine and probe (for details, see the *Real User Monitor Administration* PDF) you must configure Real User Monitor in End User Management Administration to be able to monitor applications and end users.

The settings you configure in End User Management Administration are used by the Real User Monitor engine to collect and process real-time data from the Real User Monitor probes. By comparing this data to predefined thresholds, HP Business Service Management is able to pinpoint performance related issues as experienced by end-users. You use Real User Monitor reports to help identify the cause of delays and determine the business impact of performance issues experienced by end-users.

You use End User Management Administration to:

- ▶ **Define applications to be monitored.** This includes configuring applications, application events, pages, page events, and transactions.
- ▶ **Assign Real User Monitor Engines and Probes.** Assign the engines and probes to monitor the configured applications and related entities.

Note: Real User Monitor Engines and Probes are only registered and available in Business Service Management once you have installed them and configured them in the Real User Monitor Web Console. For details, refer to the *Real User Monitor Administration* PDF.

- ▶ **Create end-user groups.**

You use the view tree to navigate and work with the configured CI collections, applications, transactions, and end-user groups. The entities displayed in the tree depend on the selected view. For details on the different predefined End User Management views, see "Predefined Views for End User Management" on page 36.

Note: End-user groups are included in the RUM End Users view and are not included in the Application Management view, which is the default view in End User Management.

Frame Unification

By default, Real User Monitor considers each inline frame (that is, a frame included in another frame by use of the HTML Frame command) in a monitored page as a separate page for reporting and statistical purposes. You can configure Real User Monitor to unify the inline frames in a page so that they are treated as children of the parent frame in which they appear. You can configure frame unification for an entire application, as well as for individual pages included in a transaction.

Measurements for a unified, parent frame are calculated from its children's measurements. It is possible for a unified, parent frame's server, network, or client time to be less than the individual server, network, or client time of one of its child frames. This can occur when the download time of the frames used in the calculation overlap, but register different measurements for the same time period. For example, two inline frames may be downloading at the same time, but one registers server time while the other registers network time.

The section also includes:

- "Unifying Frames for an Application" on page 248
- "Unifying Frames for a Page in a Transaction" on page 248

Unifying Frames for an Application

You enable frame unification for Web applications when you create or edit an application in End User Management Administration (for details, see "Real User Monitor Application Configuration Wizard" on page 327). In the Session Details report and the Session Replay page, pages that are part of applications for which frame unification is enabled are displayed in a hierarchical tree showing the parent frames and their children.

Measurements are displayed for each child frame listed in the Session Details page and totals calculated from the children's measurements are displayed for the parent frame. For details on the Session Details report, see "Session Details Report" on page 918 and for details on the Session Replay page, see "Session Replay Page" on page 924.

Note:

- ▶ Real User Monitor also supports frame unification for Siebel applications, which is based on a predefined list of user actions. A user action is a click in a page (for example, clicking a link or selecting an item from a drop-down list) that triggers http requests. When performed, each user action is considered as a parent in the hierarchical tree and all the http requests that are triggered by the action are considered its children.
- ▶ In the hierarchical tree in the Session Details report and the Session Replay page, a parent frame appears both as a parent frame (with calculated totals from its children) and as a child frame of itself.

Unifying Frames for a Page in a Transaction

You enable frame unification for a page in a transaction when you create or edit a transaction in End User Management Administration (for details, see "Business Transaction Real User Monitor Configuration Page" on page 291). You must also enable frame unification for the application in which the transaction is defined. In the RUM Transaction Summary report, measurements for pages enabled for frame unification in a transaction included in the report are calculated from the frame measurements of the page's children. For details on the RUM Transaction Summary report, see "RUM Transaction Summary Report" on page 911.

Using the URL Builder

You use the URL Builder to define URLs when configuring session reset settings, applications, pages, and error page events.

When you enter the URL in the **URL** box in the upper area of the URL Builder dialog box, the URL is automatically broken down into the five following composite parts in the lower area of the URL Builder dialog box.

- ▶ **URL Protocol.** The protocol used to fetch the URL. HTTP is the standard protocol for regular communications and https is the protocol used when the URL is accessed using Secure Sockets Layer (SSL).
- ▶ **URL Host.** The name of the machine on which the file, or resource, that you wish to access via the URL resides.
- ▶ **URL Port.** The port number used to connect to the URL host machine. The default port when using the http protocol is 80 and when using the https protocol, the default port is 443.
- ▶ **URL Path.** The path to the file, or resource, that you wish to access via the URL.
- ▶ **URL Parameters.** URL parameters form a query string that is used by the URL to narrow its search by filtering for specific values in specific parameters. Each parameter in the string includes the parameter name and the value being searched for. Parameters are separated from the rest of the URL by a question mark (?). Configured URLs must use the ampersand character (&) as the parameter delimiter.

Any change to the composite parts is automatically updated and displayed in the full URL in the **URL** box in the upper area of the URL Builder dialog box. Similarly, any change made to the full URL is automatically updated and displayed in the composite parts.

When configuring a URL, you can use the asterisk (*) wildcard. For details, see "URL Wildcards" on page 250.

Note: The URL cannot exceed 1000 characters and cannot include the # sign followed by an asterisk (#*).

Example of URL Composite Parts

The following table shows the composite parts of the URL `http://www.hp.com/cgi-bin/search/search.cgi?country_code=corp&keyword=real%20user%20monitor`

URL Part	Value
Protocol	http
Host	www.hp.com
Port	80 (default)
URL Path	cgi-bin/search/search.cgi
Parameters	country_code=corp&keyword=real%20user%20monitor

URL Wildcards

The asterisk (*) is the only valid wildcard character that can be used when defining a URL. The asterisk can be used in the URL host, the URL port, the URL path, and the URL parameters. The asterisk wildcard character represents any combination of characters and is applicable to where it is placed. For example:

- **hp*** is equivalent to any string of characters that begins with **hp**
- ***hp** is equivalent to any string of characters that ends with **hp**
- ***hp*** is equivalent to any string of characters that has **hp** in it somewhere
- **h*p** is equivalent to any string of characters that begins with **h** and ends with **p**

By default, an asterisk is considered to be a wildcard. If you want to use an asterisk as a literal in a string and not as a wildcard, precede it with a backslash (\). For example, the string `my*str*` is matched with `my*str123`, but is not matched with `my123str123`.

Note:

- ▶ The asterisk wildcard character cannot be used in the URL port when defining an application URL.
 - ▶ The asterisk wildcard character can be used in the value part of a parameter, but cannot be used in the parameter name.
 - ▶ If the URL parameter string contains only an asterisk wildcard character and nothing else, this indicates that the URL must contain at least one parameter, but it does not matter what the parameter name or the value is.
-

Correlating Collected Data with Configured Pages

In addition to correlating wildcard expressions (for details, see "URL Wildcards" on page 250), Real User Monitor uses other guiding principles, or rules in correlating recorded URLs collected by the probes with the URLs you configure in End User Management Administration. You can reconfigure some of the default correlation rules according to which Real User Monitor operates in the Real User Monitor Engine. For details, see "URL Correlation Parameters" in the *Real User Monitor Administration* PDF.

This section includes:

- ▶ "Correlating Session ID Parameters" on page 252
- ▶ "Correlating URL Suffixes" on page 253
- ▶ "Correlation and Case-Sensitivity" on page 254
- ▶ "Correlating Parameters Without Values" on page 254
- ▶ "Correlating URLs Containing Bookmarks" on page 254

- "Correlating URLs Without URL Paths" on page 254
- "Correlating URLs Ending with a Directory" on page 254
- "Correlating Ports" on page 255
- "Correlating URLs Containing Basic Authentication" on page 255
- "Correlating Parameters" on page 255

Correlating Session ID Parameters

By default, Real User Monitor takes the session ID parameters of the recorded URL into consideration when correlating the recorded URL with a configured URL. It looks to match the recorded URL to a configured URL containing the identical session ID parameter values. In addition, Real User Monitor treats URLs with non-identical session ID parameter values as separate entities when calculating global statistics such as Most Popular Pages.

You can instruct Real User Monitor to ignore session ID parameters when correlating a recorded URL with a configured URL by configuring the **HPRUM\conf\configurationmanager\Application_Server_Types_configuration.xml** file on the Real User Monitor engine machine (for details, see "URL Correlation Parameters" in the *Real User Monitor Administration* PDF). For example, if you set the application server as **BroadVision**, Real User Monitor ignores the **BV_SessionID** and **BV_EngineID** parameters in the following URL:

http://www.hp.com/~anand/Ticket_Confirm.jsp?BV_SessionID=@@@@1812057630.1043567934@@@@&BV_EngineID=cccdadchgdfmlmcefecehidfhdfk.0&value=0000144976

The URL is translated as follows:

http://www.hp.com/~anand/Ticket_Confirm.jsp?BV_SessionID=*&BV_EngineID=*&value=0000144976

As a result, the recorded URL can be correlated with a configured URL that contains different **BV_SessionID** and **BV_EngineID** parameters.

The different **BV_SessionID** and **BV_EngineID** parameter values are also ignored when Real User Monitor calculates global statistics such as Most Popular Pages. In the above example, all BroadVision sessions are recorded as http://www.hp.com/~anand/Ticket_Confirm.jsp?BV_SessionID=*&BV_EngineID=*&value=0000144976 for global statistic purposes.

Note:

- ▶ Vugen and Business Process Monitor transactions that do not contain a session ID in either a header cookie or the URL, cannot be correlated as individual sessions. Vugen and Business Process Monitors should be configured to include a session ID in a header cookie, or the URL, in transactions.
 - ▶ If the interval between Business Process Monitor samples is greater than the session time-out configured for the Real User Monitor engine in End User Management Administration, the open session is closed and a new session started for the next sample, even if a session ID is not included in the sample.
-

Correlating URL Suffixes

By default, Real User Monitor considers a URL with the suffix of **index.html** to be the same as the root URL. For example, <http://www.hp.com/index.html> is considered to be the same as <http://www.hp.com/>. To instruct Real User Monitor to consider other suffixes as being the same as the root URL, or to instruct Real User Monitor to consider all URL suffixes as being different from the root URL, you can set the **adaptIndexurl** and **urlIndexStrings** parameters in the Real User Monitor engine (for details, see "URL Correlation Parameters" in the *Real User Monitor Administration* PDF).

Correlation and Case-Sensitivity

By default, Real User Monitor URL correlation is case insensitive—that is, a recorded URL such as <http://www.hp.com/runEnginePage.html> is correlated with the configured URL <http://www.hp.com/rumenginepage.html>. However, you can instruct Real User Monitor to use case-sensitive URL correlation (for all but the host and protocol parts of a URL) by setting the **adaptCaseSensitive** parameter in the Real User Monitor engine (for details, see "URL Correlation Parameters" in the *Real User Monitor Administration* PDF).

Correlating Parameters Without Values

Real User Monitor correlates a URL even if it contains a parameter key without a value. For example, a recorded URL such as http://www.hp.com/cgi-bin/search/search.cgi?country_code is still correlated even though no value has been specified for the **country_code** parameter.

Correlating URLs Containing Bookmarks

Real User Monitor ignores bookmarks when performing URL correlation. For example, the recorded URL <http://www.hp.com:80/?A=2#bookmark3> is correlated with the configured URL <http://www.hp.com:80/?A=2>.

Correlating URLs Without URL Paths

Real User Monitor considers URLs that do not contain URL paths to be identical to URLs that contain a slash following the host part of the URL. For example, the recorded URL <http://www.hp.com> is correlated with the configured URL <http://www.hp.com/>.

Correlating URLs Ending with a Directory

Real User Monitor does not consider URLs that contain a double slash representing a directory to be identical to URLs that contain a single slash following the host part of the URL. For example, the recorded URL <http://www.hp.com//> is not correlated with the configured URL <http://www.hp.com/>.

Correlating Ports

Real User Monitor assigns a default port to a recorded URL in which a port number is not specified. For example, a recorded URL such as <http://www.hp.com> is correlated with the configured URL <http://www.hp.com:80>.

Correlating URLs Containing Basic Authentication

By default, Real User Monitor ignores basic authentication when performing URL correlation. For example, the recorded URL http://bob:my_password@www.hp.com is correlated with the configured URL <http://www.hp.com>. However, you can instruct Real User Monitor to consider basic authentication when performing URL correlation by setting the **basicAuthentication** parameter in the Real User Monitor engine (for details, see "URL Correlation Parameters" in the *Real User Monitor Administration* PDF).

Correlating Parameters

By default, Real User Monitor query parameter correlation is not order sensitive. For example, the recorded URL <http://www.hp.com:80?a=2&b=2&c=3> can be correlated with the configured URL <http://www.hp.com:80/?b=2&c=3&a=2> or the configured URL <http://www.hp.com:80/?b=2&a=2&c=3>.

Correlation Algorithm for Multiple URL Matches of Business Critical Pages

This section describes the algorithm that Real User Monitor uses to determine with which URL definition a recorded URL is correlated, if several URL definitions match the recorded URL. A URL can be correlated with only one configured page.

If a recorded URL matches several URL definitions, Real User Monitor determines which configured page to correlate with the recorded URL based on the placement of the asterisk (*) wildcard character in the configured URL. URLs comprise up to five parts, separated by delimiters (for details of the different parts, see "Using the URL Builder" on page 249). Real User Monitor first tries to match the recorded URL to a defined URL with an asterisk in the last part of the defined URL. If no match can be made, Real User Monitor then tries to match the recorded URL to a defined URL with an asterisk in the one but last part of the defined URL. In this manner it keeps trying to find a match up to an asterisk, moving backwards from part to part in the defined URL. For example, if you configured the following two URLs:

- http://www.hp.com/cgi-bin/search/search.cgi?*
- http://www.hp.com/cgi*

and the following URL is recorded:

http://www.hp.com/cgi-bin/search/search.cgi?country_code=corp&keyword=real+user+monitor

the recorded URL is correlated with http://www.hp.com/cgi-bin/search/search.cgi?* because the asterisk is located in the last part (query parameters), rather than in a preceding part of the URL.

If two configured URLs both contain asterisks in the same part of the URL, the Real User Monitor matches the recorded URL to the configured URL with which it shares the greatest number of consecutive joint characters from the beginning of the URL. For example, if you configured the following two URLs:

- http://www.hp.com/cgi*
- http://www.hp.com/cgi-bin*

and the following URL is recorded:

http://www.hp.com/cgi-bin/search/search.cgi?country_code=corp&keyword=real+user+monitor

the recorded URL is correlated with http://www.hp.com/cgi-bin*.

User Name Translation

When configuring a Web or SOAP application to be monitored in End User Management Administration, you can select a user name translation file if you want Real User Monitor to translate a user's login name located in monitored data to a real name.

An empty name translation file called **UserLoginNames.csv** is located in the **<Real User Monitor engine root directory>\conf\resolver** directory. To add a user for name translation, edit the file and enter the user's login name in the first column and the user's real name in the second column.

For details on configuring a user name translation file in an application, see "User Name Detection Area" on page 363.

Host Aliases Overview

You can create host aliases for Real User Monitor applications. For analysis purposes, it is often helpful to group several hosts and monitor these hosts together, as a unit. This enables you to monitor pages that are located on multiple servers as the same page and view them as such in the Real User Monitor reports. For example, if your organization has different Web sites in a number of countries, each showing similar information such as company profile, events, products, and so forth, you could create a host alias for all of the required pages so that they would appear as one unit in the Real User Monitor reports. The host unit is known as a host alias, which you configure and manage in the Real User Monitor Application Data Collection page. For user interface details, see "Host Aliases Area" on page 350.

End-User Groups Overview

You create end-user groups to configure Real User Monitor to collect and report data for specific end users. Each end user for whom you want Real User Monitor to collect and report data must belong to an end-user group. Data collected for end-users who do not belong to a configured end-user group are included in a default end-user group called **Others**. An end-user group can contain multiple end users or a single end user.

By default, Real User Monitor collects data for the end users included in an end-user group, but you can configure Real User Monitor to ignore the data for the end users included in a specific end-user group and not collect or report such data.

You configure end-user groups by user names, IP ranges, or session properties. Once configured, you cannot change the way end users are identified for an end-user group (for example, you cannot change user names to IP ranges for a configured end-user group), but you can change the configuration for the identification method (for example, you can change the IP addresses configured for an end-user group).

Configured end-user groups are applicable for all the defined applications in End User Management that are monitored by Real User Monitor, but the users included in an end-user group are determined in the context of a single application. It is possible that an end user is a member of one group in an application, but is a member of a different group in another application.

If an end user belongs to more than one end-user group within the context of an application, Real User Monitor determines in which end-user group to include the end user by user name, IP address, or session properties, in that order. If an end user belongs to more than one group based on session properties within the context of an application, the order of the session properties as configured for the application determine in which end-user group the end user is included (with the highest session property used).

Real User Monitor automatically creates end-user subgroups, which are displayed in End User Management reports, according to the IP resolution configured for the end-user group.

For user interface details on configuring end-user groups, see "Add End User Group with Real User Monitor Configuration Dialog Box" on page 283.

Tasks

How to Set up Real User Monitors

This task describes the working order required to set up and use Real User Monitor to collect data on the performance of real users accessing defined applications.

This task includes the following steps:

- "Install Real User Monitor components" on page 260
- "Define applications" on page 261
- "Define actions/pages" on page 261
- "Define transactions" on page 262
- "Configure events" on page 262
- "Create end-user groups" on page 262
- "Set location aware thresholds - optional" on page 262
- "Grant permissions" on page 262
- "View Real User Monitor data in reports and in Service Health" on page 263

1 Install Real User Monitor components

Install the Real User Monitor engine, probe, and MySQL database. Use the Real User Monitor Engine Web Console to administer connection parameters between Real User Monitor and HP Business Service Management and for other engine administration tasks.

For details, see the *Real User Monitor Administration* PDF.

2 Define applications

In End User Management Administration, define the applications to be monitored and configure them for Real User Monitor. For user interface details, see "Real User Monitor Application Configuration Wizard" on page 327.

3 Define actions/pages

In End User Management Administration, define an application's actions/pages, that are used to create transactions. You configure actions (generic actions or queries) for non-http-based applications and pages or operations for http-based applications. The type of action you define for an application depends on the application's protocol.

For user interface details on creating actions, see "Description Builder" on page 301.

For user interface details on creating pages and operations, see "URL Builder" on page 403.

4 Define transactions

In End User Management Administration, define the transactions to be monitored by the Real User Monitor. For user interface details, see "Business Transaction Real User Monitor Configuration Page" on page 291.

5 Configure events

In End User Management Administration, define Real User Monitor events for applications. The type of events you can define for an application depend on the application's protocol. For user interface details, see "Real User Monitor Application Events Page" on page 350.

6 Create end-user groups

In End User Management Administration, create the end-user groups to be monitored by the Real User Monitor. End users not included in a configured end-user group are automatically included a default group called **Others**. You can define end-user groups by IP addresses, user names, or by session properties (for http applications and session aware non-http applications). For user interface details, see "Add End User Group with Real User Monitor Configuration Dialog Box" on page 283.

7 Set location aware thresholds - optional

In End User Management Administration, set threshold offsets for specific locations. You can set a threshold offset to be added to configured thresholds for all the traffic monitored from a specific location. For user interface details, see "Location Aware Thresholds Dialog Box" on page 318.

8 Grant permissions

Grant permissions so that users can view and modify the Real User Monitor related configuration settings in End User Management Administration. For concept details, see "Permissions Overview" in *Platform Administration*.

9 View Real User Monitor data in reports and in Service Health

Once data on the configured applications, actions, transactions, events, and end-user groups has been collected and aggregated, you can view the data in End User Management reports and in Service Health.

For details on End User Management reports, see "End User Management Reports Overview" on page 623.

For details on viewing Real User Monitor data in Service Health, see "View Topology" in *Using Service Health*.

How to Export and Import Real User Monitor Configurations

This task describes how to export and import Real User Monitor configurations for applications and end-user groups, so that you can transfer them from one system to another (for example, from a testing environment to a production environment).

Note:

- ▶ All the steps in this task are carried out in the JMX console.
- ▶ The steps in this task are optional, but you can only import files that have been previously exported.
- ▶ Business Process Monitor configurations are not exported.

To access the JMX console and service:

- 1 Launch your Web browser and enter the following address, to access the JMX console and service:

<http://<HP Business Service Management Gateway Server name>:8080/jmx-console/HtmlAdaptor?action=inspectMBean&name=Topaz:service=RUM+Configuration+Template+Service>

- 2 Enter your JMX console authentication credentials. If you do not know your authentication credentials, contact your system administrator.

To export a Real User Monitor application configuration:

- 1 In the **exportRumLogicalApplication** operation, enter values for the following parameters:

Parameter Name	Description
appName	The name of the application you are exporting, as configured in End User Management Administration.
dir	The full path of the directory on the Business Service Management Gateway Server in which to save the exported file.
fileName	The name of the exported file. Note: The exported file is an xml file.
customerId	For HP Software-as-a-Service customers only , your customer ID number. If you are not an HP Software-as-a-Service customer, leave this parameter blank. Default value: 1

- 2 Click the **Invoke** button for the **exportRumLogicalApplication** operation.
- 3 An xml file of the Real User Monitor application configuration is created in the specified directory and with the specified name. The application is exported with its CI hierarchy and includes the following linked entities:
 - Configuration tiers (front- and back-end with full configuration)
 - Business transaction flows with all linked CIs
 - Transactions with or without Real User Monitor configuration
 - Logical Groups with all linked CIs

The following application properties are not exported with the application:

- Profile database name
- Real User Monitor Engines
- All entity IDs

Note: Do not edit the created xml file.

To import a Real User Monitor application configuration:

- 1** In the **importRumLogicalApplication** operation, enter values for the following parameters:

Parameter Name	Description
newAppName	The name you want to assign the application in the system to which you are importing it. If you leave this parameter blank, the original application name is assigned. Note: Application names must be unique in each system. You cannot import an application using the same name as an existing application in the system to which you are importing it.
profileDbName	The profile database for storing this application's Real User Monitor information in the system to which you are importing it. If the configured profile database does not exist, the default profile database is used.
dir	The full path of the directory on the Business Service Management Gateway Server in which the file you are importing is saved.

Parameter Name	Description
fileName	The name of the file you are importing.
customerId	For HP Software-as-a-Service customers only , your customer ID number. If you are not an HP Software-as-a-Service customer, leave this parameter blank. Default value: 1

2 Click the **Invoke** button for the **importRumLogicalApplication** operation.

To export all Real User Monitor end-user group configurations:

1 In the **exportAllRumEndUserGroups** operation, enter values for the following parameters:

Parameter Name	Description
dir	The full path of the directory on the Business Service Management Gateway Server in which to save the exported file.
fileName	The name of the exported file. Note: The exported file is an xml file.
customerId	For HP Software-as-a-Service customers only , your customer ID number. If you are not an HP Software-as-a-Service customer, leave this parameter blank. Default value: 1

2 Click the **Invoke** button for the **exportAllRumEndUserGroups** operation.

3 An xml file of all the Real User Monitor end-user group configurations is created in the specified directory and with the specified name.

Note:

- End-user groups that do not have a Real User Monitor configuration are not exported.
- End-user groups are exported with their CI collection hierarchy, so that if an end-user group with a Real User Monitor configuration is included in a CI collection, the CI collection is also exported.

To export all Real User Monitor end-user group configurations included in a CI collection:

- 1** In the `exportRumEndUserGroupsUnderLogicalGroup` operation, enter values for the following parameters:

Parameter Name	Description
logicalGroupName	The name of the CI collection whose end-user group configurations you want to export, as configured in End User Management Administration.
dir	The full path of the directory on the Business Service Management Gateway Server in which to save the exported file.
fileName	The name of the exported file. Note: The exported file is an xml file.
customerId	For HP Software-as-a-Service customers only , your customer ID number. If you are not an HP Software-as-a-Service customer, leave this parameter blank. Default value: 1

- 2 Click the **Invoke** button for the **exportRumEndUserGroupsUnderLogicalGroup** operation.
- 3 An xml file of the CI collection and all the Real User Monitor end-user group configurations it contains (including end-user group configurations contained in sub CI collections within the CI collection) is created in the specified directory and with the specified name.

Note: End-user groups that do not have a Real User Monitor configuration are not exported.

To import Real User Monitor end-user group configurations

- 1 In the **importRumEndUserGroups** operation, enter values for the following parameters:

Parameter Name	Description
dir	The full path of the directory on the Business Service Management Gateway Server in which the file you are importing is saved.
fileName	The name of the file you are importing.
customerId	For HP Software-as-a-Service customers only , your customer ID number. If you are not an HP Software-as-a-Service customer, leave this parameter blank. Default value: 1

- 2 Click the **Invoke** button for the **importRumEndUserGroups** operation.
-

Note:

- CI collection and end-user group names must be unique under their parent CI. This may necessitate changing them in the xml file before importing the file.
 - When you import an end-user group that is defined by session properties, you must have a Real User Monitor application in the receiving system for which the same session properties are configured, otherwise the import will fail.
-

Reference

Transaction Matching

When you configure a transaction, there are a number of settings that determine how a transaction is matched by Real User Monitor. For user interface details, see "Business Transaction Real User Monitor Configuration Page" on page 291.

Transaction Settings

The following table lists the settings that determine how a transaction is matched by Real User Monitor, and their options:

Setting	Description	Options	Default
Ignore page order	Configures Real User Monitor to ignore the order of all the pages included in a transaction, except for the first page, and to record a transaction provided that all of the included pages are accessed.	Selected. Ignores the page order, except for the first page, and matches a transaction if all the included pages are accessed.	Not selected
		Not selected. All the included pages must be accessed in the order configured for a transaction to be matched.	

Setting	Description	Options	Default
Include intermediate pages in measurements	Configures Real User Monitor to include all the pages that are accessed in a transaction between the first and last configured pages when calculating transaction measurements, whether or not they are configured as included pages.	Selected. Includes all the pages accessed in a transaction, between the first and last configured pages.	Not selected
		Not selected. Includes only the configured pages.	
With Descendants	Configures Real User Monitor to unify the frames of an included page, so that they are considered children of the page in which they appear. The parent page uses a calculated total of its children in the measurements included in the RUM Transaction Summary report.	Selected. Includes descendent pages in the transaction match and transaction measurements.	Not selected
		Not selected. Includes only the configured page without a breakdown of its parts.	

Setting	Description	Options	Default
Measure first/last page instance	Configures Real User Monitor to report data for either the first or last instance of a page in a transaction, if the page was included more than once sequentially in the transaction (that is, with no other included pages between occurrences). The same page can be included more than once in a transaction, either because it was accessed more than once, or due to a page refresh.	<p>First page. Uses the first instance of a configured page for transaction matching.</p> <p>Last page. Uses the last instance of a configured page, before the first instance of the next configured page, for transaction matching.</p>	First page

Examples of Transaction Matching

The following tables list an accessed page sequence and examples of configured transactions and the transaction match to the accessed page sequence:

Accessed Page Sequence

Accessed Page	Descendant of
P1	
P1	
P2	
P3	
P4	P2
P5	P2
P6	P1 (second instance)
P1	
P7	P6
P8	P6
P9	
P10	P8
P11	
P12	

Transaction Matches

Configured Page Sequence	Ignore page order	Include intermediate pages	Measure first/last page instance	Transaction Match (in bold)
Page-1 (with descendants)			First	P1 , P1, P2, P3, P4, P5, P6, P1, P7, P8, P9, P10, P11, P12
Page-1, Page-3, Page-2	✓		First	P1 , P1, P2 , P3 , P4, P5, P6, P1, P7, P8, P9, P10, P11, P12
Page-1, Page-2, Page-3			First	P1 , P1, P2 , P3 , P4, P5, P6, P1, P7, P8, P9, P10, P11, P12
Page-1 (with descendants), Page-3 (with descendants),	✓		First	P1 , P1, P2, P3 , P4, P5, P6, P1, P7, P8, P9, P10, P11, P12
Page-1 (with descendants), Page-3 (with descendants),	✓		Last	P1, P1 , P2, P3 , P4, P5, P6 , P1, P7 , P8 , P9, P10 , P11, P12
Page-1 (with descendants), Page-3 (with descendants)	✓	✓	First	P1 , P1 , P2 , P3 , P4 , P5 , P6 , P1 , P7 , P8 , P9 , P10 , P11, P12
Page-1, Page-1, Page-1			First	P1 , P1 , P2, P3, P4, P5, P6, P1 , P7, P8, P9, P10, P11, P12
Page-1, Page-1 (with descendants), Page-1			First	P1 , P1 , P2, P3, P4, P5, P6 , P1 , P7 , P8 , P9, P10 , P11, P12

Configured Page Sequence	Ignore page order	Include intermediate pages	Measure first/last page instance	Transaction Match (in bold)
Page-1 (with descendants)		✓	First	P1 , P1, P2, P3, P4, P5, P6, P1, P7, P8, P9, P10, P11, P12
Page-1 (with descendants)		✓	Last	P1, P1, P2, P3, P4, P5, P6, P1, P7, P8, P9, P10 , P11, P12
Page-1, Page-2, Page-3	✓	✓	First	P1, P1, P2, P3 , P4, P5, P6, P1, P7, P8, P9, P10, P11, P12

Real User Monitor Administration User Interface




This section includes (in alphabetical order):

- ▶ <Action> Dialog Box on page 278
- ▶ <Action> Size Event Dialog Box on page 281
- ▶ Add End User Group with Real User Monitor Configuration Dialog Box on page 283
- ▶ Business Transaction Real User Monitor Configuration Dialog Box on page 289
- ▶ Business Transaction Real User Monitor Configuration Page on page 291
- ▶ Create Transaction Per <Action> Dialog Box on page 299
- ▶ Description Builder on page 301
- ▶ Description/URL Parameter Dialog Box on page 304
- ▶ Edit Performance Event Dialog Box on page 306
- ▶ Edit SOAP Fault Event Dialog Box on page 308
- ▶ End User Group Page on page 310
- ▶ Error <Action> Event Dialog Box on page 311
- ▶ Host Alias Dialog Box on page 312
- ▶ HTTP/Protocol Error Event Dialog Box on page 314
- ▶ IP Range Dialog Box on page 317
- ▶ Location Aware Thresholds Dialog Box on page 318
- ▶ Parameter Extraction Dialog Box on page 320
- ▶ Real User Monitor Application <Actions> Page on page 321
- ▶ Real User Monitor Application Configuration Wizard on page 327
- ▶ Real User Monitor Application Data Collection Page on page 336
- ▶ Real User Monitor Application Events Page on page 350
- ▶ Real User Monitor Application General Page on page 356
- ▶ Real User Monitor Application Session Page on page 375

- Real User Monitor Location Latency Page on page 380
- Related Transactions and Events Dialog Box on page 381
- Search Area on page 383
- Select Engines Dialog Box on page 387
- Select Probes on Engine Dialog Box on page 389
- Sensitive Data Setting Dialog Box on page 390
- Session Identification Dialog Box on page 390
- Session <Actions> Event Dialog Box on page 391
- Session Property Dialog Box on page 393
- Session Reset Page Dialog Box on page 393
- Session Unavailable <Actions> Event Dialog Box on page 395
- Text Pattern Event Dialog Box on page 397
- URL Builder on page 403
- User Name Detection Dialog Box on page 407

<Action> Dialog Box

This dialog box enables you to configure an <action> to be stored in a Real User Monitor application's <action> repository. You assign <actions> from the <action> repository when you configure an application's transactions and events.

<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > <Actions> and in the <Folder content> area, click the New <Action>  or Edit <Action>  button. ▶ In the Business Transaction Real User Monitor Configuration dialog box, select an <action> in the Transaction Page Settings area, click the Edit <Action>  button.
<p>Important information</p>	<ul style="list-style-type: none"> ▶ The protocol used by an application determines the type of action (generic action, page, query, or operation) that you configure for the application. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type. ▶ Actions can only be configured for an existing application. ▶ A maximum of 2000 actions can be configured for each engine.

General Settings Area

User interface elements are described below:

UI Elements (A-Z)	Description
Auto discovered	Displays whether or not the action was automatically discovered by Real User Monitor.
Description	Enter the description of the <action>, which you can view in End User Management only. Syntax exceptions: Cannot exceed 500 characters.
Exclude <action> from measurements	Select this check box to configure Real User Monitor to exclude the <action's> measurements from Global Statistics, event, and Session Analyzer measurements in Real User Monitor reports. Note: If this check box is selected for an <action> that is included in a transaction, the transactions that include the action are not reported to Business Service Management.
Name	Enter the name you want to assign the <action>. Syntax exceptions: Cannot exceed 100 characters. Note: The name must be unique within an application's <action> repository.
Status	Select the relevant radio button to configure whether or not the action configuration is active. Default value: Active Note: A transaction that includes an inactive action will not be matched.

Threshold Settings Area

User interface elements are described below:

UI Elements (A-Z)	Description
<Action> time (seconds)	<p>The total time threshold for the <action>, in seconds. If the total time for an <action> falls within this threshold, the <action's> total time is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.</p> <p>Note: This element is called Page time for pages and Total time for all other action types.</p> <p>Default value: The <action> total time threshold you configured for the application in the Real User Monitor Application General page.</p>
Server time (seconds)	<p>The server time threshold for the <action>, in seconds. If the server time for an <action> falls within this threshold, the <action's> server time is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.</p> <p>Note: This threshold must be lower than the <Action> time threshold.</p> <p>Default value: The action server time threshold you configured for the application in the Real User Monitor Application General page.</p>

Description/URL Builder



This area enables you to configure an action's description or a page's URL.

For Description Builder user interface details, see "Description Builder" on page 301.



For URL Builder user interface details, see "URL Builder" on page 403.

<Action> Size Event Dialog Box

This dialog box enables you to configure an <action> size event for an application. An <action> size event is triggered when an <action's> size is either greater than or less than a defined number of kilobytes.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and in the Global and Selective Events area, click the New Event  button and select <Action> Size Event from the Shortcut menu. ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and select an existing <action> size event. Click the Edit Event  button.
Important information	<p>The protocol used by the application determines the type of action (generic action, page, query, or operation) for which you configure a size event. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type.</p>

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Add <Action> to Event. Click to open the application's <Action> Repository, where you can manage the <actions> included in the application and select the <actions> to be excluded from, or included in, the <action> size event, according to the event's scope. For user interface details, see "Real User Monitor Application <Actions> Page" on page 321.</p>
	<p>Remove <Action> from Event. Click to remove selected <actions> from the page size event configuration.</p>

UI Elements (A-Z)	Description
<Action> Name	The names of the <actions> that are either excluded from, or included in, the <action> size event, according to the event's scope.
Classification	Select the relevant radio button to configure whether the event is an error event or an information event. Default value: Error
Name	The name of the <action> size event, which you can view in End User Management only. Note: The name must be unique within the application. Syntax exceptions: Cannot exceed 100 characters.
Scope	Select the relevant radio button to configure whether the event is applied globally or selectively. A global event applies to all <actions> in the application, except for those specifically configured in the <action> size event. A selective event applies only to those <actions > configured in the <action> size event. Default value: Global
Status	Select the relevant radio button to configure whether or not the event configuration is active. Default value: Active
Trigger an event when the <action> size is	Select whether the event is triggered when the <action> size is less than (<), or greater than (>) a configured size and enter the size in kilobytes.
URL/Action	The page URLs or the action descriptions that are either excluded from, or included in, the <action> size event, according to the event's scope.

Add End User Group with Real User Monitor Configuration Dialog Box

This dialog box enables you to create and configure a new end-user group for which, when it accesses monitored applications, Real User Monitor collects data.

To access	Select Admin > End User Management > Monitors tab and in the view tree, right-click the root object, or an end-user group that is not configured for Real User Monitor, and select End User Group with RUM Configuration .
See also	"End-User Groups Overview" on page 258

General Settings Area

Important information	When you edit an existing end-user group's configuration in the End User Group page, this area is not displayed.
------------------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
Description	A description of the end-user group, which you can view in End User Management only. Syntax exceptions: Cannot exceed 260 characters.
Name	The name of the end-user group. Syntax exceptions: <ul style="list-style-type: none"> ▶ Cannot exceed 100 characters. ▶ Allowed characters are a-z, A-Z, 0-9, and <code>` ~ ! @ # \$ % ^ & * () _ - + { } ; <space></code>. Note: The name must be unique.

Monitoring Settings Area




User interface elements are described below:

UI Elements (A-Z)	Description
Exclude data of the group's end users	Select this check box to configure Real User Monitor to ignore all traffic for the end users included in the group. Default value: Not selected (Real User Monitor does send data to HP Business Service Management for the end users included in the group.)
Latency (milliseconds)	The average network latency threshold, in milliseconds, for each end user in the group. Default value: 800
Status	Select the relevant radio button to configure whether or not the end-user group configuration is active. Default value: Active




Identification Settings Area

Important information	<ul style="list-style-type: none"> ▶ When you edit an existing end-user group's configuration in the End User Group page, this area only includes the settings for the configured method of identifying end users (by user name, IP address, or session properties). You can edit the configured method's settings, but cannot change the identification method itself. ▶ An end-user group's IP range cannot include part of a different end-user group's IP range. It can include the complete IP range of a different end-user group and in such cases, an end user that matches more than one end-user group IP range is associated to the group with the shortest matching IP range. ▶ You cannot configure end-user groups that can potentially generate more than a total of 30,000 subgroups in your Business Service Management system. The number of potential subgroups for an end-user group is calculated from the IP range and resolution.
------------------------------	--

User interface elements are described below:

UI Elements	Description
Define end user group by IP ranges	
	<p>Add IP Range. Click to open the Add End User Group IP Range dialog box, where you configure the starting and ending IP addresses for a new IP range to include in the end-user group.</p> <p>Note: Currently, you can only configure IPv4 addresses.</p>
	<p>Edit IP Range. Click to open the Add End User Group IP Range dialog box, where you configure the starting and ending IP addresses for an existing IP range included in the end-user group.</p> <p>Note: Currently, you can only configure IPv4 addresses.</p>
	<p>Delete IP Range. Click to delete selected IP ranges from the end-user group.</p>
From IP	The starting IP address of the IP range (subgroup) of the end-user group.


UI Elements	Description
<p>IP resolution</p>	<p>Select one of the following methods by which the subgroup is displayed in the Real User Monitor reports:</p> <ul style="list-style-type: none"> ▶ As entered. The defined IP range is displayed in the Real User Monitor reports according to the way in which you enter it in this dialog box. ▶ According to RFC. The IP addresses in the range you defined are displayed in the Real User Monitor reports according to RFC class divisions (0.0.0.0 to 127.255.255.255 = Class A; 128.0.0.0 to 191.255.255.255 = Class B; 192.0.0.0 to 255.255.255.255 = Class C). ▶ Class A. The IP addresses in the range you defined are displayed in the Real User Monitor reports according to the Class A network IP addressing method. ▶ Class B. The IP addresses in the range you defined are displayed in the Real User Monitor reports according to the Class B network IP addressing method. ▶ Class C. The IP addresses in the range you defined are displayed in the Real User Monitor reports according to the Class C network IP addressing method. ▶ CIDR mask. The IP addresses in the range you defined are displayed in the Real User Monitor reports according to the mask (CIDR notations, 0 to 32) you define in the text box provided to the right of the selector. ▶ Auto discovery. The IP addresses in the range you defined are displayed in the Real User Monitor reports according to predefined subgroup ranges for Internet service providers (ISP). ▶ Single IP. The IP addresses in the range you defined are displayed in the Real User Monitor reports according to server host machines. <p>Note: Use this method when the client initiating a request is a server. For example, an application server initiating a request to a database server.</p>

UI Elements	Description
To IP	<p>The ending IP address of the IP range (subgroup) of the end-user group.</p> <p>Default value: The same range as the starting IP address, with an upper limit (in the last segment) of 255.</p>
Define end user group by user names	
<List of end-user names>	<p>The list of end-user names included in the end-user group.</p> <p>Note: Separate the names with a semicolon (;).</p>
Define end user group by session properties	
	<p>Add Session Properties. Click to open the Add Session Properties dialog box, where you select the session properties you want to assign to the end-user group.</p> <p>Note: In the Add Session Properties dialog box, session properties from all applications, that are not already assigned to the end-user group, are displayed, in the order in which they are configured in the application. For user interface details on configuring session properties for an application, see "Real User Monitor Application Session Page" on page 375.</p>
	<p>Configure Session Properties. Click to open the Configure Session Properties dialog box, where you configure the session property values to be matched for a user to be added to the end-user group.</p> <p>Note:</p> <ul style="list-style-type: none"> ➤ Separate values with a semi-colon (;). ➤ The asterisk (*) wildcard can be used. ➤ You cannot configure the same property with the same value in different end-user groups.
	<p>Delete Session Properties. Deletes selected session properties from the end-user group.</p>
Application	<p>The application for each session property configured for the end-user group.</p>

UI Elements	Description
Property	The name of each session property configured for the end-user group.
Values	The values to be matched for each session property configured for the end-user group.
Perform host name resolution	<p>Select this check box to instruct Real User Monitor to use internal methods (such as the DNS, the NIS, or other internal files) to resolve the host name of each IP address within the subgroup you are defining.</p> <p>Default value: Not selected</p>
Set end user group location	<p>Select this check box to assign a location to the end-user group, for reporting purposes. Click the location link to open the Select Location dialog box, where you manage and select locations. For user interface details, see "Location Manager User Interface" in <i>Platform Administration</i>.</p> <p>Note: If you do not assign a location to an end-user group, Real User Monitor tries to detect the location automatically for the client address.</p> <p>Tip: Assign a location to an end-user group that uses private IP addresses that are not publicly associated with a location.</p>

Business Transaction Real User Monitor Configuration Dialog Box

This dialog box enables you to create a new business transaction and its Real User Monitor configuration in End User Management Administration, or to add a Real User Monitor configuration to an existing business transaction (for example, to an existing business transaction that has only a Business Process Monitor configuration). It also enables you to edit an existing business transaction's Real User Monitor configuration.

<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab. In the view tree, right-click a Real User Monitor application and from the Shortcut menu select Add > Business Transaction with RUM Configuration. ▶ Select Admin > End User Management > Monitoring tab. In the view tree, right-click a business transaction flow for a Real User Monitor application and from the Shortcut menu select Add > Business Transaction with RUM Configuration. ▶ Select Admin > End User Management > Monitoring tab. In the view tree, right-click an existing transaction that is not yet configured for Real User Monitor and from the Shortcut menu, select Add > RUM Configuration. ▶ In the Related Transactions and Events Dialog Box, select a transaction and click the Edit Transaction  button.
-------------------------	---

Important information	<ul style="list-style-type: none">➤ For user interface details, see "Business Transaction Real User Monitor Configuration Page" on page 291.➤ Transactions can only be configured for an existing application.➤ If an application does not include a session ID, it is possible that two or more simultaneous transactions originating from a single end-user may be reported by Real User Monitor as a single transaction.➤ You can create transactions for an application directly from the application's <action> repository. For user interface details, see "Real User Monitor Application <Actions> Page" on page 321.
------------------------------	---

Business Transaction Real User Monitor Configuration Page

This page enables you to view and configure a business transaction's Real User Monitor configuration.

To access	Select Admin > End User Management > Monitoring tab. In the view tree, right-click a business transaction that is configured for Real User Monitor and in the Content pane, select the Real User Monitor tab.
Important information	<ul style="list-style-type: none"> ▶ The same user interface is used in the Business Transaction Real User Monitor Configuration dialog box. ▶ Transactions can only be configured for an existing application. ▶ If an application does not include a session ID, it is possible that two or more simultaneous transactions originating from a single end-user may be reported by Real User Monitor as a single transaction. ▶ The protocol used by the application for which you are configuring a transaction determines the type of action (generic action, page, query, or operation) on which you base the transaction configuration. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type.

General Settings Area

Important information	This area is visible only when you create a new business transaction in the Business Transaction Real User Monitor Configuration dialog box.
------------------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
Description	Enter the description of the transaction, which you can view in End User Management only. Syntax exceptions: Cannot exceed 600 characters.
Name	Enter the name you want to assign the transaction. Syntax exceptions: Cannot exceed 900 characters.

Monitoring Settings Area

Important information	The default values for all the threshold fields in this panel are the default transaction threshold values configured for the application. For user interface details, see "Real User Monitor Application General Page" on page 356.
------------------------------	--






User interface elements are described below:

UI Elements (A-Z)	Description
Status	Select the relevant radio button to configure whether or not the transaction is active. Default value: Active
Thresholds:	
Availability (%)	The default transaction availability percentage threshold.

UI Elements (A-Z)	Description
Dynamic thresholds	<p>Select this radio button to configure Real User Monitor to calculate the net and server time thresholds dynamically for each monitored hit of the transaction. The thresholds are calculated based on the relevant thresholds of all the <actions> that comprise the specific transaction hit.</p> <p>Tip: Using dynamic thresholds enables a realistic threshold to be used for transactions that include intermediate or optional <actions>. In such cases, the number of <actions> that will comprise a specific transaction hit cannot be determined in advance, so it is difficult to set a threshold manually.</p>
Location Aware Thresholds	<p>Click to open the Location Aware Thresholds dialog box, where you configure specific net and total time thresholds for the transaction, for specific locations. For user interface details, see "Location Aware Thresholds Dialog Box" on page 318.</p>
Manual thresholds	<p>Select this radio button to configure the net and server time thresholds manually for the transaction.</p>
Net time (seconds)	<p>The default net transaction time threshold for the pages included in the transaction, in seconds.</p> <p>Note: This element is enabled only when the Manual thresholds radio button is selected.</p>
Server time (seconds)	<p>The default server time threshold for the transaction, in seconds.</p> <p>Note: This element is enabled only when the Manual thresholds radio button is selected.</p>
Timeout (seconds)	<p>The default amount of time, in seconds, between consecutive <actions> in a transaction, after which Real User Monitor considers the transaction to have timed out.</p>
Total time (seconds)	<p>The default total transaction time threshold (download time + think time), in seconds.</p>

Transaction <Action> Settings

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Add <action> to transaction. Click to open the application's <action> repository, where you select <actions> to add to the transaction. For user interface details, see "Real User Monitor Application <Actions> Page" on page 321.</p> <p>Note: Transactions must include at least one <action>.</p>
	<p>Edit <action>. Click to open the <Action> dialog box, where you edit an existing <action's> settings for the transaction. For user interface details, see "<Action> Dialog Box" on page 278.</p>
	<p>Remove <action> from transaction. Click to delete selected <actions> from the transaction.</p>
	<p>Move up. Click to move an <action> higher in the transaction's <action> order.</p>
	<p>Move down. Click to move an <action> lower in the transaction's <action> order.</p>
<p><Action> Name</p>	<p>The <action> names included in the transaction.</p>

UI Elements (A-Z)	Description
<p>Ignore <action> order</p>	<p>Select this check box to configure Real User Monitor to ignore the order of all the included <actions > after the first <action>, and to record a transaction provided that all the included <actions > are accessed. Clear the check box to configure Real User Monitor to record a transaction only if the included <actions > are accessed in the order in which they are listed.</p> <p>Note: In an unordered transaction (that is, the check box is selected), if a configured <action> is included more than once in a transaction match, the properties of the first instance of the <action> (for example, whether or not to include descendent pages) are applied to all other instances of the <action> in the transaction match.</p> <p>Example: Configured <actions>: P1, P2, P3 Accessed <actions>: P1, P4, P3, P2, P5</p> <p>Transaction match if check box selected (unordered): The transaction is matched, as all the configured <actions> were accessed and the first configured <action> (that is, P1) was accessed first (that is, before the other configured <actions>).</p> <p>Transaction match if check box not selected (ordered): The transaction is not matched, as the configured <actions> were not matched in the configured order (that is, P3 was accessed before P2).</p>

UI Elements (A-Z)	Description
<p>Include intermediate <actions> in measurements</p>	<p>Select this check box to configure Real User Monitor to include all the <actions> (whether configured or not) between the first and last configured <actions> that are accessed in the transaction, when calculating transaction measurements. Clear the check box to configure Real User Monitor to include only the configured <actions> when calculating transaction measurements.</p> <p>Example:</p> <p>Configured <actions>: P1, P2, P3</p> <p>Accessed <actions>: P1, P2, P4, P5, P3, P6</p> <p>Transaction match if check box selected (include): P1, P2, P4, P5, P3, P6</p> <p>Transaction match if check box not selected (do not include): P1, P2, P4, P5, P3, P6</p>
<p>Optional</p>	<p>Select this check box to configure Real User Monitor to record a transaction whether or not the specific <action> is matched as part of the transaction. Clear the check box to make matching of the <action> compulsory for Real User Monitor to record a transaction.</p>

UI Elements (A-Z)	Description
With Descendants	<p>Select this check box to configure Real User Monitor to unify the frames of an included <action>, so that they are considered children of the <action> in which they appear. The parent <action> uses a calculated total of its children in the measurements included in the RUM Transaction Summary report. Clear the check box to configure Real User Monitor to include the <action> without a breakdown of its parts. For concept details, see "Frame Unification" on page 247.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Frame unification must also be enabled for the application in which the transaction is included. ▶ If With Descendants is selected, when the last <action> configured for a transaction is accessed, Real User Monitor waits for three minutes before timing out and recording the transaction, to allow for possible descendants of the last <action>. If the first configured <action> for the transaction is accessed during this time out period, a new transaction is started and the previous transaction is automatically closed and recorded. <p>Example:</p> <ul style="list-style-type: none"> ▶ Configured <action>: P1 (with descendants), P2, P3 ▶ Accessed <action>: P1, P4, P1, P5(descendant of P1(first instance)), P2, P3, P6(descendant of P1(first instance)), P2, P3, P7(descendant of P5) ▶ Transaction match for first <action> instance: P1, P4, P1, P5(a descendant of P1(first instance)), P2, P3, P6(a descendant of P1(first instance)), P2, P3, P7(a descendant of P5) ▶ Transaction match for last <action> instance: P1, P4, P1, P5(a descendant of P1(first instance)), P2, P3, P6(a descendant of P1(first instance)), P2, P3, P7(a descendant of P5) <p>For details on setting first or last <action> instance, see "Advanced Settings Area" on page 298.</p>

Advanced Settings Area


User interface elements are described below:

UI Elements (A-Z)	Description
<p>Measure first/last <action> instance</p>	<p>The same <action> can be included more than once in a transaction, either because it was accessed more than once, or due to an <action> refresh. Select the appropriate radio button to instruct Real User Monitor to report data for either the first or last instance of an <action> in a transaction.</p> <p>Default value: First <action> instance is reported.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ When last <action> instance is selected, the last instance of a configured <action> before the first instance of the next configured <action> is used. For example, if P1, P2, and P3 are the configured <actions> for a transaction and P1, P2, P2, P3, and P2 are the accessed <actions> in a session, the second occurrence of P2 is the matched <action> for last <action> instance. ▶ If last <action> instance is selected, when the last <action> configured for the transaction is accessed, Real User Monitor waits for three minutes before timing out and recording the transaction, to allow for a possible <action> refresh. If the first configured <action> for the transaction is accessed during this time out period, a new transaction is started and the previous transaction is automatically closed and recorded. <p>Example:</p> <ul style="list-style-type: none"> ▶ Configured <actions>: P1, P2, P3 ▶ Accessed <actions>: P1, P4, P1, P2, P3, P2, P3 ▶ Transaction match for first <action> instance: P1, P4, P1, P2, P3, P2, P3 ▶ Transaction match for last <action> instance: P1, P4, P1, P2, P3, P2, P3

UI Elements (A-Z)	Description
Report unavailable transaction if the user reaches <action>	<p>Select one of the configured transaction <actions> from the drop-down list to instruct Real User Monitor to report data for an unavailable transaction, only if the transaction stream includes the selected <action>.</p> <p>An unavailable transaction is a transaction that does not end properly due to a session reset, a transaction timeout, or because an error in one of the transaction's <actions> prevents it from completing.</p> <p>Default value: The first <action> you added to the transaction.</p>
User generated transaction	<p>Select this check box to configure the transaction as a user generated transaction. For user generated transactions, the time between pages is included in the user think time, otherwise it is included in the client time.</p> <p>Default value: Enabled</p>

Create Transaction Per <Action> Dialog Box

This dialog box enables you to create a single action transaction for each action selected in a Real User Monitor application's <action> repository.

To access	<p>Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > <Actions> and in the <Folder content> area, select one or more <actions> and click the Create Transaction Per Action  button.</p>
------------------	--




Important information	<ul style="list-style-type: none"> ▶ The transaction name is the same as the <action> name from which it is created. ▶ If multiple <actions> are selected, a separate transaction is created for each <action>.
See also	<ul style="list-style-type: none"> ▶ "Real User Monitor Application <Actions> Page" on page 321 ▶ "Business Transaction Real User Monitor Configuration Page" on page 291

User interface elements are described below:

UI Elements	Description
<CI tree>	<p>A hierarchical tree of the application CI and its children. Select the CI under which you want to create the transactions and click OK.</p> <p>Default value: The application CI is selected.</p> <p>Note: You can create transaction CIs under an application, CI collection, or business transaction flow. Other CIs in the tree are disabled.</p>

Description Builder

The Description Builder enables you to configure an action for a Real User Monitor application. An action comprises one or more server requests related to a single, logical user action. For example, in a database protocol, an action comprises all the server requests related to the same query.

<p>To access</p>	<p>Click the New Action  or Edit Action  button in one of the following:</p> <ul style="list-style-type: none"> ▶ Real User Monitor Application wizard > Monitoring Settings page. ▶ Real User Monitor Application General page > Application Location area. ▶ Real User Monitor Application General page > User Name Detection area. ▶ Real User Monitor Application <Actions> page > <Folder content> area. ▶ Error <Action> Event dialog box. ▶ Business Transaction Real User Monitor Configuration page > Transaction <Action> Settings area. (Accessed by clicking the Edit Action  button only.)
<p>Important information</p>	<ul style="list-style-type: none"> ▶ You use the Description Builder to configure generic actions, or query actions for database protocols. The actions for Web protocols are pages, which you configure using the URL Builder. For user interface details, see "URL Builder" on page 403. ▶ The protocol used by the application you are configuring determines the type of action (for example, generic action or query) you configure.
<p>See also</p>	<p>"URL Wildcards" on page 250</p>





User interface elements are described below:

UI Elements (A-Z)	Description
Advanced	<p>Select this radio button to enable the Advanced Criteria link. Click the link to open the Advanced Matching dialog box, where you can enter a regular expression to define an action description. In the Scan for (Regular Expression) box, enter the regular expression that represents the action description.</p> <p>You can test the regular expression in the Test Expression area. Enter test data and click Test. The results are displayed in the Results area.</p>
Description	<p>Select this radio button and enter the string that identifies the action. For example, if you are configuring a query action, enter the actual query string.</p>
Properties	<p>Select this radio button to configure specific properties that create a string for action matching. The properties available depend on the action type you are configuring, which is determined by the application's protocol.</p> <p>Condition.</p> <p>Schema. A specific schema name for a query action.</p> <p>Table name. A specific table name for a query action.</p> <p>Query type. A specific query type for a query action. For example, Select.</p> <p>Match other parameters. Select this check box to configure other parameters to include in the string for action matching. For user interface details, see "Parameter Settings" on page 303.</p>

Parameter Settings

The parameter settings area is enabled only when you select the **Properties** radio button. You must select the **Match other parameters** check box for the parameters you configure to be included in the string for action matching.



User interface elements are described below:

UI Elements (A-Z)	Description
	Add Parameter. Click to add a new row in the parameter table. Edit the fields by selecting the row and clicking the Edit Parameter  button, or click an individual cell in the table and edit it directly.
	Edit Parameter. Click to open the Action Parameter dialog box, where you edit an existing action parameter's settings. For user interface details, see "Description/URL Parameter Dialog Box" on page 304. Note: You can edit an individual cell directly in the parameter table by clicking it.
	Remove Parameter. Click to remove selected action parameters from the list.
Name	The name of an included parameter. Syntax exceptions: <ul style="list-style-type: none"> ▶ Parameter names must be unique in an action description. ▶ Allowed characters are a-z, A-Z, 0-9, and ; / : @ + \$, - _ . ~ ' () = % .

UI Elements (A-Z)	Description
Option	The option for an included parameter. Valid options are: <ul style="list-style-type: none"> ▶ =. Include only a specific parameter value. ▶ All. Include all values of the parameter.
Value	If you chose to include only a specific parameter value (by selecting = in the Option field), enter the specific value. <p>Syntax exceptions: Allowed characters are a-z, A-Z, 0-9, and ; / : @ + \$, - _ . ~ ' () = % *.</p> <p>Note: The asterisk wildcard (*) can be used in a parameter value.</p>

Description/URL Parameter Dialog Box

This dialog box enables you to configure a parameter to be added to, or removed from, an action's description or a URL, to be used for action matching by Real User Monitor.


To access	Use one of the following: <ul style="list-style-type: none"> ▶ In the Description or URL Builder, select a row in the list of parameters and click the Edit Parameter  button. ▶ Select Monitoring page > Search tab and search for actions or pages. In the search results area, select an action or page, click the Bulk Operations  button and select either Add Parameter to Description/URL or Remove Parameter from Description/URL.
Important information	When accessed from the Monitoring page Search tab, this dialog box is called the Add Parameter to Description/URL dialog box or Remove Parameter from Description/URL dialog box, as relevant.

User interface elements are described below:

UI Elements (A-Z)	Description
Encode	<p>Click to encode the parameter name or value using UTF-8 encoding.</p> <p>Note: Action matching is affected by the encoding of recorded and configured actions. For recorded and configured actions to match, they must have the same encoding.</p>
Name	<p>The name of an included parameter.</p> <p>Syntax exceptions:</p> <ul style="list-style-type: none"> ▶ Parameter names must be unique in a URL or action description. ▶ Allowed characters are a-z, A-Z, 0-9, and ; / : @ + \$, - _ . ~ ' () = % .
Option	<p>The option for an included parameter. Valid options are:</p> <ul style="list-style-type: none"> ▶ =. Include only a specific parameter value. ▶ All. Include all values of the parameter.
Remove all parameters by parameter name	<p>Select this check box to delete all the parameters for the selected entities that match the string in the Name element.</p> <p>Note: This element is only visible when you are removing a parameter as part of a bulk operation in the Monitoring page > Search tab.</p>
Value	<p>If you chose to include only a specific parameter value (by selecting = in the Option field), enter the specific value.</p> <p>Syntax exceptions: Allowed characters are a-z, A-Z, 0-9, and ; / : @ + \$, - _ . ~ ' () = % *.</p> <p>Note: The asterisk wildcard (*) can be used in a parameter value.</p>

Edit Performance Event Dialog Box

This dialog box enables you to edit the default performance event for a Real User Monitor application.

To access	Select Admin > End User Management > Monitoring tab and in the view tree, select a Web or SOAP application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and select the performance event. Click the Edit Event  button.
Important information	A default performance event is created for each Web or SOAP application. You cannot delete the performance event, nor can you create another performance event.


User interface elements are described below:

UI Elements (A-Z)	Description
Name	The event name. Default value: Performance event Note: This field is disabled and cannot be edited.
Scope	The scope of the event. A global event applies to all pages in the application and a selective event applies only to specific pages. Default value: Global Note: This field is disabled and cannot be edited.

UI Elements (A-Z)	Description
Status	Select the relevant radio button to configure whether or not the performance event is active. Default value: Active
Trigger event on	Select the relevant radio button to configure whether the event is triggered on page time or server time threshold breaches. Note: The following time thresholds are used: <ul style="list-style-type: none">▶ Page configuration page/server time threshold. For configured pages in the application.▶ Application configuration page/server time threshold. For unconfigured pages in the application.

Edit SOAP Fault Event Dialog Box

This dialog box enables you to edit a default SOAP Fault event for a SOAP application.

<p>To access</p>	<p>Select Admin > End User Management > Monitoring tab and in the view tree, select a SOAP application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and select an existing SOAP Fault event. Click the Edit Event  button.</p>
<p>Important information</p>	<ul style="list-style-type: none"> ▶ By default, the following SOAP fault events (which are the standard SOAP fault codes for SOAP 1.1 and 1.2) are added to SOAP applications: <ul style="list-style-type: none"> ▶ Must Understand ▶ Receiver Error ▶ Sender Error ▶ Unknown Data Encoding (only relevant for SOAP 1.2) ▶ Version Mismatch ▶ SOAP faults are similar to text pattern events in their behavior, but are always searched for in the SOAP fault section of a response, instead of in the entire response. For details on text pattern events, see "Text Pattern Event Dialog Box" on page 397.

User interface elements are described below:

UI Elements (A-Z)	Description
Classification	<p>Select the relevant radio button to configure whether the event is an error event or an information event.</p> <p>Default value: Information for all, except the Receiver Error fault for which the default is Error.</p>
Create snapshot for the event	<p>Select this check box to configure Real User Monitor to create a snapshot of the page on which the event occurs.</p> <p>Default value: Enabled</p> <p>Note: For snapshots to be reported by Real User Monitor, this check box must be selected, as well as the Collect snapshots on events check box in the application configuration (for at least one <action> back). For user interface details, see "Snapshot Collection Area" on page 341.</p>
Name	<p>The name of the SOAP Fault event.</p> <p>Note: You cannot edit this field.</p>
Scope	<p>The scope of the event—Global (for all pages) or Selective (for specific pages).</p> <p>Default value: Global</p> <p>Note: You cannot edit this field.</p>
Status	<p>Select the relevant radio button to configure whether or not the event configuration is active.</p> <p>Default value: Active</p>



End User Group Page

This page enables you to edit the configuration of an existing end-user group.

To access	Select Admin > End User Management > Monitoring tab and in the view tree, select an end-user group.
Important information	<p>The elements included in this page are the same as those included in the Add End User Group with Real User Monitor Configuration dialog box with the following exceptions:</p> <ul style="list-style-type: none"> ▶ The General Settings area is not displayed. ▶ The Identification Settings area only includes the configured method of identifying end users to include in the group (that is, by user names, IP addresses, or session properties). You can edit the configured settings (that is, change the user names, IP addresses, or session properties), but cannot change the identification method used. <p>For user interface details, see "Add End User Group with Real User Monitor Configuration Dialog Box" on page 283.</p>
See also	"End-User Groups Overview" on page 258

Error <Action> Event Dialog Box

This dialog box enables you to configure an error <action> event for an application. An error <action> event is triggered when a specified <action> in an application encounters an error.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and in the Global and Selective Events area, click the New Event  button and select Error <Action> Event from the Shortcut menu. ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and select an existing error <action> event. Click the Edit Event  button.
Important information	<p>The protocol used by the application determines the type of action (generic action, page, query, or operation) for which you configure an error event. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type.</p>



User interface elements are described below:

UI Elements (A-Z)	Description
Classification	<p>Select the relevant radio button to configure whether the event is an error event or an information event.</p> <p>Default value: Error</p>
Name	<p>The name of the error <action> event, which you can view in End User Management only.</p> <p>Note: The name must be unique within the application.</p> <p>Syntax exceptions: Cannot exceed 100 characters.</p>



UI Elements (A-Z)	Description
Status	Select the relevant radio button to configure whether or not the event configuration is active. Default value: Active
URL/Description Builder	Configure the <action>, which, if an error is encountered in it, triggers the event. For URL Builder user interface details, see "URL Builder" on page 403. For Description Builder user interface details, see "Description Builder" on page 301.

Host Alias Dialog Box

This dialog box enables you create and edit a host alias for a Real User Monitor application.

To access	Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Data Collection and in the Host Aliases area, click the New Host Alias  button or the Edit Host Alias  button.
See also	"Host Aliases Overview" on page 258



User interface elements are described below:

UI Elements	Description
	New Host. Click to add a new entry in the list of hosts.
	Delete Host. Click to delete a selected host from the list of hosts included in a host alias.

UI Elements	Description
Alias	Enter the name you want to assign the host alias. Syntax exceptions: <ul style="list-style-type: none">▶ Cannot exceed 260 characters.▶ Allowed characters are a-z, A-Z, 0-9, and _ -
Hosts	Enter the host part of the URL that you want to include in the host alias you are defining (for example, hp.com). Note: Each host entered must be unique.





HTTP/Protocol Error Event Dialog Box

This dialog box enables you to configure an http/protocol error event for an application.

<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and in the HTTP/Protocol Error Events area, click the New HTTP/Protocol Error Event  button. ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events, select an existing http/protocol error event and click the Edit HTTP/Protocol Error Event  button.
<p>Important information</p>	<ul style="list-style-type: none"> ▶ For http-based protocols, you configure HTTP error events and for non-http-based protocols, you configure protocol error events. Element labels change accordingly depending on the application's protocol. ▶ The protocol used by the application determines the type of action (generic action, page, query, or operation) on which you configure events. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type. ▶ By default, the most common http/protocol error codes are predefined under different error events, according to the application protocol.





User interface elements are described below:

UI Elements	Description
Create snapshot for the event	<p>Select this check box to enable a page snapshot for the event, if it occurs in an application.</p> <p>Default value: Disabled</p> <p>Note: For snapshots to be reported by Real User Monitor, this check box must be selected, as well as the Collect snapshots on events check box in the application configuration (for at least one <action> back. For user interface details, see "Snapshot Collection Area" on page 341.</p>
Name	<p>The name of the http/protocol error event.</p> <p>Example: You can create an http/protocol error event called Database errors and include the applicable error codes for it in the Included error codes area.</p>
Save session snapshots	<p>Select the Save session snapshots check box to enable snapshots to be made of all the <actions> from the beginning of a session, up to and including the <action> on which the http/protocol error event occurs.</p> <p>Default value: Disabled</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Saving all the pages from the beginning of a session enables more accurate frames unification, thus improving session replay, but may adversely affect Real User Monitor probe performance. ▶ For snapshots of all the pages from the beginning of a session to be saved by Real User Monitor this check box must be selected, as well as the Enable session snapshot on event check box in the application configuration. For user interface details, see "Snapshot Collection Area" on page 341.
Classification	<p>Select the relevant radio button to configure whether the event is an error event or an information event.</p> <p>Default value: Error</p>

UI Elements	Description
Status	Select the relevant radio button to configure whether or not the event configuration is active. Default value: Active
<Excluded <actions>>	
	Add <Action> to Event. Click to open the application's <Action> Repository , where you can manage the <actions> included in the application and select the <actions> to be excluded from the http/protocol error event. For user interface details, see "Real User Monitor Application <Actions> Page" on page 321.
	Remove <Action> from Event. Click to remove selected <actions> from the http/protocol error event configuration.
<Action> Name	The names of the <actions> that are excluded from the http/protocol error event.
URL/Action	The URLs of the pages, or the definitions of the <actions>, that are excluded from the http/protocol error event.
Included error codes	
	New HTTP/Protocol Error Code. Click to add a new line in the list of included error codes and enter a valid error code number in the new line. Note: Valid error codes are between 400–599.
	Delete HTTP/Protocol Error Codes. Click to remove selected error codes from the event.
Error Code	The error codes that are included in the event. Click an existing entry to enter or change the error code number. Note: Valid error codes are between 400–599.

IP Range Dialog Box

This dialog box enables you to configure a range of IP addresses of application servers associated with an application your are defining.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Real User Monitor Application wizard > Monitoring Settings page > Application Location pane and click the New IP Range  or Edit IP Range  button. ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > General and in the Application Location area, click the New IP Range  or Edit IP Range  button.
Important information	<ul style="list-style-type: none"> ▶ Configure application locations in such a way that <actions> cannot be associated with more than one application location (for example, configure both IP ranges and URLs/action descriptions for an application location). If an <action> is associated with more than one application location, erratic and incorrect monitoring results may be produced. ▶ You cannot configure the same IP address and port range for different front-end tier applications monitored by the same Real User Monitor Engines, or for different tiers within the same application, unless you differentiate them by using an <action> description/page URL.

User interface elements are described below:

UI Elements (A-Z)	Description
From IP	Enter the IP address for the start of the range of applications servers associated with the application you are defining.
IP type	Select the applicable radio button for the type of IP addresses you are using—IPv4 or IPv6.



UI Elements (A-Z)	Description
Port	Enter the port number used to communicate with the application servers included in the range. Default value: 80 if the SSL check box is cleared, or 443 if the SSL check box is selected.
SSL	Select the SSL check box if the application servers included in the range use SSL communications. Clear the check box if they do not. Default value: Disabled Note: If the default value for the port number is used, it changes between 80 and 443 when this check box is selected or cleared.
To IP	Enter the IP address for the end of the range of applications servers associated with the application you are defining.

Location Aware Thresholds Dialog Box

This dialog box enables you to configure net and total time thresholds for Real User Monitor transactions, for specific locations.

To access	Use one of the following: <ul style="list-style-type: none"> ▶ In the Business Transaction Real User Monitor Configuration page > Monitoring Settings area, click the Location Aware Thresholds button. ▶ In the Business Transaction Real User Monitor Configuration dialog box > Monitoring Settings area, click the Location Aware Thresholds button.
Important information	<ul style="list-style-type: none"> ▶ Location aware thresholds configured for a specific location for a transaction, override any location threshold offset configured for that location in the transaction's parent application. ▶ By default, the table is filtered to show those locations that are monitored by Real User Monitor (that is, those with a check mark in the Monitored by RUM column).



User interface elements are described below:

UI Elements (A-Z)	Description
	Edit thresholds for multiple locations. Click to open the Edit Location Thresholds dialog box, where you can configure the net and total time thresholds for multiple selected locations at one time.
	Restore location specific threshold values. Click to restore threshold values for the transaction in the selected locations, based on the general threshold values for the transaction and any location offsets configured for the selected locations. For user interface details on configuring location offsets, see "Location Offset Page" on page 57.
Location	The location name.
Monitored by RUM	<p>A check mark denotes that the location is monitored by Real User Monitor. A location is considered to be monitored by Real User Monitor if an IP range has been configured for the location, or if the location has been configured for an end-user group.</p> <p>For user interface details on configuring locations, see "Location Manager User Interface" in <i>Platform Administration</i>.</p> <p>For user interface details on configuring end-user groups, see "Add End User Group with Real User Monitor Configuration Dialog Box" on page 283.</p>
Net Time	<p>The transaction net time, in seconds, for the specific location.</p> <p>Note: You cannot set the net time for transactions that are configured to use dynamic thresholds. In such cases, the net time field displays a dash (-).</p>
Total Time	The transaction total time, in seconds, for the specific location.

Parameter Extraction Dialog Box





This dialog box enables you to configure a parameter to add to an <action> name, as well as from where to extract the data to be used as the parameter's value.

You can also use extracted parameters as regular parameters when configuring other application settings, such as user names and session properties, and can include an extracted parameter in an <action> name configuration file.

To access	Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > General and in the Parameter Extraction area, click the New Parameter Extraction  button or the Edit Parameter Extraction  button.
Important information	For user interface details, see "Search Area" on page 383.

Real User Monitor Application <Actions> Page


This page enables you to configure and manage a Real User Monitor application's <actions>. The configured <actions> are stored in an <action> repository for the specific application. (You assign <actions> when you configure events and transactions for the application.)






<p>To access</p>	<ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab. In the view tree select an application configured for Real User Monitor and in the Content pane, select Real User Monitor tab > <Actions>. ▶ To access the <Action> Repository dialog box in a new window, use one of the following: <ul style="list-style-type: none"> ▶ In the Business Transaction Real User Monitor Configuration dialog box, in the Transaction <Action> Settings area, click the Add <action> to transaction  button. ▶ In the HTTP/Protocol Error Event dialog box, click the Add <Action> to Event  button. ▶ In the <Action> Size Event dialog box, click the Add <Action> to Event  button. ▶ In the Text Pattern Event dialog box, click the Add <Action> to Event  button.
<p>Important information</p>	<ul style="list-style-type: none"> ▶ The protocol used by the application determines the type of action (generic action, page, query, or operation) included in the application configuration. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type. ▶ This page is not displayed for TCP applications. ▶ This user interface description is also applicable to the <Action> Repository dialog box which is accessed from other user interface pages and which opens in a new window.

Folders Area

<p>Important information</p>	<ul style="list-style-type: none"> ▶ The Folders area comprises two tabs—Browse and Search. The Browse tab displays a tree hierarchy of the folders in the <action> repository, and the buttons used to manage them. When you select a folder, its contents are displayed in the Folder Content pane. The Search tab enables you to search for <actions> in the <action> repository that match a given string. ▶ By default, the <action> repository contains a Root folder and an Auto discovered folder. The Auto discovered folder contains any <actions> that are automatically discovered and named by Real User Monitor. For details on configuring <action> names, see "Configuring Meaningful Page Names" in the <i>Real User Monitor Administration</i> PDF. ▶ When you run a search in the <action> repository, a folder called Search Results is added to the folder tree displayed in the Browse tab. The contents of the Search Results folder (that is, the <actions> found by the search) are displayed in the Folder Content pane. You cannot perform any actions (such as add, delete folder, or move) to the Search Results folder.
-------------------------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
Browse Tab	
	<p>New Folder. Click to add a new folder under a selected folder, and enter the new folder name.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Folder names must be unique within the same parent folder. ▶ You can drag and drop a folder into another folder.






UI Elements (A-Z)	Description
	<p>Rename Folder. Click to rename a selected folder.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Folder names must be unique within the same parent folder. ▶ You cannot rename the Root or Auto discovered folders.
	<p>Delete Folder. Click to delete a selected folder.</p> <p>Caution: Deleting a folder also deletes its content, including <actions> already assigned to events.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ You cannot delete a folder that contains <actions> already assigned to a transaction. ▶ You cannot delete the Root or Auto discovered folders.
	<p>Cut Folder. Click to cut a selected folder.</p> <p>Note: You cannot cut the Root or Auto discovered folders.</p>
	<p>Paste Folder. Click to paste a cut folder into a different parent folder.</p> <p>Note: This button is enabled only when you have cut, and not yet pasted, a folder.</p>
	<p>Refresh. Click to refresh the folder tree.</p>
<Folder tree>	<p>A hierarchical tree of the folders in the application's <action> repository.</p>
Search Tab	
<Action> Name	<p>Enter a string for which to search. Any <action> whose name includes the string is found by the search.</p> <p>Syntax exceptions: You cannot use the asterisk (*) wildcard in the search string.</p>



UI Elements (A-Z)	Description
Look in	Select the relevant radio button to search through the entire Action Repository or only in the selected folder.
Page/Operation URL	<p>Enter a page or SOAP operation URL for which to search. Any page or SOAP operation whose URL matches the string is found by the search.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This element is only visible for pages and SOAP operations. ▶ A match is made against a page or SOAP operation's full URL, so you must enter the full URL in this field. ▶ If you enter a string in the Name field as well as a URL, only pages or SOAP operations that match both the name and the URL are located by the search.

<Folder Content> Area

This area enables you to view and manage the <actions> contained within a folder.


User interface elements are described below:

UI Elements (A-Z)	Description
	<p>New <Action>. Click to open the New <Action> dialog box, where you configure a new <action> for the application. For user interface details, see "<Action> Dialog Box" on page 278.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ <Action> names must be unique within an application's <action> repository. ▶ <Action> descriptions/URLs must be unique within an application's <action> repository. ▶ You can drag and drop an <action> from one folder to another.
	<p>Edit <Action>. Click to open the Edit <Action> dialog box, where you configure a selected <action's> settings. For user interface details, see "<Action> Dialog Box" on page 278.</p>
	<p>Delete <Action>. Click to delete selected <actions>.</p> <p>Caution: Deleting an <action> already assigned to an event, removes the <action> from the event's settings.</p> <p>Note: You cannot delete an <action> that is already assigned to a transaction.</p>
	<p>Cut <Action>. Click to cut selected <actions> from the folder.</p>
	<p>Paste <Action>. Click to paste cut <actions> into a different folder.</p>

UI Elements (A-Z)	Description
	<p>Related Transactions and Events. Click to open the Related Transactions and Events dialog box, where you can view and edit the transactions and events in which a selected <action> is included. For user interface details, see "Related Transactions and Events Dialog Box" on page 381.</p> <p>Note: This button is enabled only for <actions> that are in use (that is, that are included in a transaction or an event).</p>
	<p>Create Transaction Per Action. Click to open the Create Transaction Per Action dialog box, where you create a transaction for each selected action. For user interface details, see "Create Transaction Per <Action> Dialog Box" on page 299.</p>
Active	A check mark displays whether or not the action is active.
Auto Discovered	A check mark displays whether or not the action was automatically discovered by Real User Monitor.
Description	<p>The action description.</p> <p>Note: This element is visible only for actions that are not pages or operations.</p>
In Use	<p>Denotes whether or not the <action> is included in any transaction or event.</p> <p>Tooltip: Shows if the <action> is used in a transaction, an event, or both.</p>
Name	The <action> name.
Parameters	Displays the configured parameters that are included in the page's URL or <action> description for matching.
URL	<p>The page's URL.</p> <p>Note: This element is visible for pages and operations only.</p>

Real User Monitor Application Configuration Wizard

This wizard enables you to create a new application and its Real User Monitor configuration in End User Management Administration, or to add a Real User Monitor configuration to an existing application (for example, to an existing Business Process Monitor application that does not yet have a Real User Monitor configuration).

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab. In the view tree, right-click the root object of the view and click Add > Application and its RUM Configuration. ▶ Select Admin > End User Management > Monitoring tab. In the view tree, right-click an existing application that is not configured for Real User Monitor and click Add > RUM Configuration. ▶ Select Admin > End User Management > Monitoring tab. In the view tree, select an existing application that is configured for Real User Monitor. In the Real User Monitor Application General page > Application Monitoring Tiers area, click the New Monitoring Tier  button.
Relevant tasks	"How to Set up Real User Monitors" on page 260
Wizard map	<p>This wizard contains:</p> <p>Application Properties Page > Monitoring Settings Page > Summary Page</p>

Application Properties Page

This wizard page enables you to configure the CI and Real User Monitor template properties for a new Real User Monitor application.

Important information	General information about this wizard is available here: "Real User Monitor Application Configuration Wizard" on page 327.
Wizard map	The Real User Monitor Application Configuration Wizard contains: Application Properties Page > Monitoring Settings Page > Summary Page

CI Properties Pane

User interface elements are described below:

UI Elements (A-Z)	Description
Description	Enter a description for the application CI. Syntax exceptions: Cannot exceed 600 characters.
Name	The application CI name. Note: <ul style="list-style-type: none"> ▶ When you create a new application, this field is mandatory. ▶ When you add a Real User Monitor configuration to an existing application, the existing application CI name is displayed and cannot be edited. Syntax exceptions: Cannot exceed 900 characters.
Type	Displays the CI type that is created for the application. Default value: Application

Real User Monitor Properties Pane

This area enables you to select the type of application to configure. A number of the application types (for example Siebel) have predefined values for the most common, recommended configuration settings, simplifying their creation.

User interface elements are described below:

UI Elements (A-Z)	Description
Description	The template description.
Protocol	The protocol used by the template.
Template Name	The template name.

Monitoring Settings Page

This wizard page enables you to configure the monitoring settings and application location for a Real User Monitor application.

Important information	General information about this wizard is available here: "Real User Monitor Application Configuration Wizard" on page 327.
Wizard map	The Real User Monitor Application Configuration Wizard contains: Application Properties Page > Monitoring Settings Page > Summary Page

Monitoring Settings Pane

User interface elements are described below:

UI Elements (A-Z)	Description
<p>Assign Application 360 license</p>	<p>Select this check box to assign a 360 license to the Real User Monitor application. Clear the check box to unassign a 360 license from the application.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This check box is not displayed if: <ul style="list-style-type: none"> ▶ You do not have change permissions for both Real User Monitor and Business Process Monitor configurations. ▶ You are configuring an additional tier for an application. ▶ If the application is already configured for Business Process Monitor with a 360 license assigned. ▶ If you assign a 360 license to a Real User Monitor application that is also configured for Business Process Monitor, the 360 license is also automatically assigned to the Business Process Monitor application. ▶ If you assign a 360 license to a Real User Monitor application, you do not need to assign other license types to individual probes.

UI Elements (A-Z)	Description
Engines	<p>Click Engines to open the Select Engines dialog box, where you select or clear the Real User Monitor engines that monitor the application. For user interface details, see "Select Engines Dialog Box" on page 387.</p> <p>Displays the Real User Monitor engines you select to monitor the application. Also displays whether all the probes linked to an engine, or specific (filtered) probes only monitor the application.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ When you create an additional monitoring tier for an existing application, the engines currently configured for the application's main tier are configured for the additional tier by default. You can change the engine settings for the additional tier. ▶ If you add an engine to an existing application's main tier, it is not added to any existing additional monitoring tiers of the application.
Profile database	<p>Select a profile database for storing this application's Real User Monitor information. The list includes all the profile databases defined for this Business Service Management installation.</p> <p>For details on configuring profile databases in Business Service Management, see "Database Administration" in <i>Platform Administration</i>.</p> <p>Default value:</p> <ul style="list-style-type: none"> ▶ For the main tier of an application, the default profile database configured for Business Service Management. ▶ For additional back-end tiers of an application, the profile database configured for the application's main tier. You cannot change this value.
Protocol	<p>Displays the protocol used by the template you selected in the Application Properties page.</p>
Status	<p>Select Active to enable monitoring for the application, or Inactive to disable monitoring.</p> <p>Default value: Active</p>




UI Elements (A-Z)	Description
Template name	The name of the template you selected in the Application Properties page.
Tier name	The name of the tier monitored by the application. Default value: The protocol name, which is determined by the template you select for the application. Note: The tier name must be unique within the application.




Application Location Pane

This area enables you to configure the application server IP ranges, and their ports, as well as the <actions> that define the application location.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ For applications using certain protocols, such as TCP, you can configure only IP ranges for the application location. In such cases, the URL/<Action> pane in this area is not displayed. ▶ The protocol used by the application determines the type of action (generic action, page, query, or operation) that identifies the application location. The name of the pane and other element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type. For pages and operations, the action type is denoted by the label URL. ▶ If you configure both application server IP ranges and <actions> for an application, Real User Monitor only matches traffic that goes to both a configured IP range and a configured <action>. ▶ Configure application locations in such a way that <actions> cannot be associated with more than one application location (for example, configure both IP ranges and URLs/action descriptions for an application location). If an <action> is associated with more than one application location, erratic and incorrect monitoring results may be produced. ▶ You cannot configure the same IP address and port range for different front-end tier applications monitored by the same Real User Monitor Engines, or for different tiers within the same application, unless you differentiate them by using an <action> description/page URL. ▶ You must configure at least one IP range for all non-HTTP applications.
-------------------------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
IP Range	 New IP Range. Click to open the IP Range dialog box, where you add details of new application servers you want to associate with the application you are defining. Repeat this procedure for each range of servers you want to add. For user interface details, see "IP Range Dialog Box" on page 317.
	 Edit IP Range. Click to open the IP Range dialog box, where you edit a selected IP range's settings. For user interface details, see "IP Range Dialog Box" on page 317.
	 Delete IP Range. Click to delete selected IP ranges from the list.
	IP Range. Displays the IP range of application servers associated with the application you are defining.
	Port. Displays the port number used to communicate with the application servers included in the range. Default value: The default port number according to the template you selected for the application.
	SSL. Displays whether or not the application servers included in the range use SSL communications.



UI Elements (A-Z)	Description
URL/<Action>	<p> New URL/<Action>. Click to open the URL/Description Builder, where you configure a URL or <action> that you want to associate with the application you are defining. The URL/<action> appears in the list of application URLs/<actions>. Repeat this procedure for each URL/<action> you want to add to the list.</p> <p>For details on the URL Builder user interface, see "URL Builder" on page 403.</p> <p>For details on the Description Builder user interface, see "Description Builder" on page 301.</p>
	<p> Edit URL/<Action>. Click to open the URL/Description Builder dialog box, where you edit a selected URL/<action>'s settings.</p> <p>For details on the URL Builder user interface, see "URL Builder" on page 403.</p> <p>For details on the Description Builder user interface, see "Description Builder" on page 301.</p>
	<p> Delete URL/<Action>. Click to delete selected URLs/<actions> from the list.</p>
	<p>URL/<Action>. Displays the configured URLs of the application servers associated with the application you are defining, or the configured <actions> that determine the application location.</p>

Summary Page

This wizard page displays the status of the application you created and indicates if there were any errors during creation. Click the **Close** button to exit from and close the wizard.

Important information	General information about this wizard is available here: "Real User Monitor Application Configuration Wizard" on page 327.
Wizard map	The Real User Monitor Application Configuration Wizard contains: Application Properties Page > Monitoring Settings Page > Summary Page

User interface elements are described below:

UI Elements (A-Z)	Description
Additional Details	Displays any additional information about the creation of the relevant CI.
Name	Displays the name of the application CI that was created.
Status	Displays an icon showing the status of the CI creation:  Successful  Failed

Real User Monitor Application Data Collection Page

This page enables you to view and configure a Real User Monitor application's data collection properties.

To access	Select Admin > End User Management > Monitoring tab. In the view tree select an application configured for Real User Monitor and in the Content pane, select Real User Monitor tab > Data Collection .
Important information	This page is not displayed for TCP applications.

General Area

Important information	The protocol used by the application determines the settings that are visible in this area.
------------------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
Enable automatic <action> classification	<p>Select this check box to enable automatic classification for the application's <actions>. Classifying actions automatically groups commonly repeated patterns under a one common description (for example, the same SQL query in which only a specific parameter value may vary in each request).</p> <p>Classifications are used to group actions in End User Management reports such as the Action Summary report. They are also used by Real User Monitor in Automatic Transaction Tracking (ATT). For details, see "Real User Monitor Automatic Transaction Tracking" in the <i>Real User Monitor Administration</i> PDF.</p> <p>Default value: Disabled</p>
Enable clickstream	<p>Select this check box to enable snapshots of the pages and related events included in the application to be recorded, or clear the check box to disable this feature.</p> <p>Default value: Disabled</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Disabling the application clickstream results in snapshots of the pages and events not being available for viewing in the RUM Session Analyzer report. ▶ This setting is applicable only for applications using http-based protocols (Web and SOAP).

UI Elements (A-Z)	Description
<p>Enable frame unification</p>	<p>Select this check box to configure Real User Monitor to enable the unification of frames for pages configured for frame unification that are included in a transaction for the application you are configuring. Clear the check box to configure Real User Monitor to record pages without a breakdown of their parts. For concept details, see "Frame Unification" on page 247.</p> <p>Default value: Disabled</p> <p>Note: This setting is visible for applications using http-based protocols (Web and SOAP), but is applicable for Web applications only.</p>
<p>Store all actions</p>	<p>Select this check box to configure Real User Monitor to store all action instances. Storing all action instances creates data for the Actions Summary report, Actions Raw Data report, and the session click stream. If the check box is cleared, these reports are not available for the specific application.</p> <p>Default value: Enabled</p> <p>Note: This setting is applicable only for applications using non-Web based protocols.</p>




Sensitive Data Area

This area enables you to configure settings for masking sensitive data in Real User Monitor.

Important information	<ul style="list-style-type: none">▶ If a security officer is configured in Business Service Management, this area is visible only for the user configured as the security officer. If no security office is configured, all users can view this area. For concept details, see "Security Officer" in <i>Platform Administration</i>.▶ The protocol used by the application for which you are configuring sensitive data settings determines the type of action (generic action, page, query, or operation) for which you configure parameters. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type.
------------------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
<p>HTTP/<Action> Parameters</p>	<p>Report all parameters. Select this radio button to report all parameters without any masking.</p>
	<p>Report all parameters except the following. Select this radio button and enter any parameters (such as password parameters) that you want to exclude from the page URLs or <action> names that appear in Real User Monitor reports. These parameter values are replaced with a series of asterisks (**).</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ You must select the radio button to be able to enter parameters. ▶ Use semicolons to separate the parameters you enter. <p>Syntax exceptions: The total length of all the parameters cannot exceed 1000 characters.</p>
	<p>Report only the following parameters. Select this radio button and enter the parameters that you want Real User Monitor to include in the page URLs or <action> names that appear in Real User Monitor reports. All other parameter values are replaced with a series of asterisks (**).</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ You must select the radio button to be able to enter parameters. ▶ Use semicolons to separate the parameters you enter. <p>Syntax exceptions: The total length of all the parameters cannot exceed 1000 characters.</p>

UI Elements (A-Z)	Description
Sensitive Data Settings	 New Sensitive Data Setting. Click to configure a new sensitive data setting for the application. The Sensitive Data Setting dialog box opens. For details, see "Sensitive Data Setting Dialog Box" on page 390.
	 Edit Sensitive Data Setting. Click to edit a selected sensitive data configuration. The Sensitive Data Setting dialog box opens. For details, see "Sensitive Data Setting Dialog Box" on page 390.
	 Delete Sensitive Data Settings. Click to delete selected sensitive data configurations.
	Active. Displays whether or not the sensitive data configuration is active.
	Content. The specific settings within the configured search area of the <action's> request or response, used to locate the data for masking.
	Search. The area of the <action's> request or response in which Real User Monitor searches for sensitive data. Default value: Content (Generic)

Snapshot Collection Area

This area enables you to configure when to save snapshots of <actions>.

Important information	<ul style="list-style-type: none"> ▶ The protocol used by the application you are configuring determines the type of action (generic action, page, query, or operation) for which you configure snapshot collection settings. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type. ▶ The elements that are visible and enabled are determined by the application template you selected.
------------------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
<p>Collect request snapshots</p>	<p>Select this check box to enable snapshots to be made of both requests and responses, or clear the check box to enable snapshots to be made of responses only.</p> <p>Default value: Disabled, except for SOAP applications for which it is Enabled.</p>
<p>Collect snapshots on events</p>	<p>Select this check box to enable snapshots to be made of <actions> on which events that have been configured for snapshots, occur. Clear the check box to disable snapshots of event <actions> in the application.</p> <p>If you select this check box, for session aware applications enter the number of pages back for which snapshots should be made when an event occurs, including the event <action> itself. Using any number greater than one may adversely affect Real User Monitor probe performance.</p> <p>Note: For snapshots to be reported by Real User Monitor, the Save session snapshots check box for text events or http global errors, or the Create snapshot for event check box for SOAP faults, must be enabled.</p> <p>Default value: Enabled for one page back</p>

UI Elements (A-Z)	Description
<p>Enable session snapshot on event</p>	<p>Select this check box to enable snapshots to be made of all the <actions> from the beginning of a session, up to and including the <action> on which an event, that has been configured for session snapshots, occurs.</p> <p>Saving all the <actions> from the beginning of a session enables more accurate frames unification, thus improving session replay, but may adversely affect Real User Monitor probe performance.</p> <p>Note: For snapshots of all the <actions> from the beginning of a session to be saved by Real User Monitor, both the Session snapshot on event check box for the application, and the Save session snapshots check box for the text event or http global error, or the Create snapshot for event check box for the SOAP fault, must be enabled.</p> <p>Default value: Disabled</p> <p>Note: This settings is visible only for session aware applications.</p>
<p>Resource caching</p>	<p>Select this check box to store the static resources (such as images and style sheets) included in a session's pages on the Real User Monitor probe machine.</p> <p>Retrieving resources from the Real User Monitor probe machine, instead of the original monitored application's site, makes viewing snapshots and replaying sessions more reliable as the resources are always available, and does not add any extra burden on the application's performance.</p> <p>Default value: Disabled</p> <p>Note: This setting is applicable only for applications using http-based protocols.</p>

Statistics Collection Area

This area enables you to configure the collection parameters for global reporting statistics.

Important information	The protocol used by the application determines the type of action (generic action, page, query, or operation) for which you configure statistics collection settings. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type.
See also	"RUM Global Statistics Report" on page 739

User interface elements are described below:

UI Elements (A-Z)	Description
<p>Collect <actions> with most errors</p>	<p>Select this check box and configure the maximum number of <actions> with most errors—that is, the <actions> on which the greatest number of errors occurred—you want Real User Monitor to collect during each five-minute period. You can define the minimum number of hits required for an <action's> data to be collected. To instruct Real User Monitor not to collect this information, clear the check box.</p> <p>Default values:</p> <ul style="list-style-type: none"> ➤ Enabled ➤ 20 <actions> ➤ Minimum one hit <p>Note: A maximum of 100 slowest <actions> can be collected. The minimum number of hits required cannot exceed 10,000.</p>
<p>Collect broken links</p>	<p>Select this check box and configure the maximum number of broken links you want Real User Monitor to collect during each five-minute period. To instruct Real User Monitor not to collect broken link data, clear the check box.</p> <p>Default value: Enabled for 20 broken links</p> <p>Note:</p> <ul style="list-style-type: none"> ➤ This setting is visible for applications using http-based protocols only. ➤ A maximum number of 200 broken links can be collected.

UI Elements (A-Z)	Description
<p>Collect most active end users</p>	<p>Select this check box and configure the maximum number of most active end users you want Real User Monitor to collect per hour. You can define whether activity is measured by the number of <action> hits, or the amount of bandwidth used. To instruct Real User Monitor not to collect this information, clear the check box.</p> <p>Default values:</p> <ul style="list-style-type: none"> ➤ Enabled ➤ 100 users ➤ Measured by number of <action> hits <p>Note:</p> <ul style="list-style-type: none"> ➤ This element is only available for the front-end tier of an application. ➤ A maximum number of 100 most active end-users can be collected.
<p>Collect most popular <actions></p>	<p>Select this check box and configure the maximum number of most popular <actions>—that is, the <actions> that received the highest number of end-user requests (hits)—you want Real User Monitor to collect per hour. To instruct Real User Monitor not to collect this information, clear the check box.</p> <p>Default value: Enabled for 20 <actions></p> <p>Note: A maximum number of 100 most popular <actions> can be collected.</p>

UI Elements (A-Z)	Description
Collect slowest <actions>	<p>Select this check box and configure the maximum number of slowest <actions>—that is, the <actions> that took the greatest amount of time to download—you want Real User Monitor to collect during each five-minute period. You can define the minimum number of hits required for an <action'> data to be collected. To instruct Real User Monitor not to collect this information, clear the check box.</p> <p>Default values:</p> <ul style="list-style-type: none"> ➤ Enabled ➤ 20 <actions> ➤ Minimum one hit <p>Note: A maximum of 100 slowest <actions> can be collected. The minimum number of hits required cannot exceed 10,000.</p>
Collect slowest end users	<p>Select this check box and configure the maximum number of slowest end users—that is, the end users whose average network latency was highest—you want Real User Monitor to collect during each five-minute period. You can define the minimum number of hits required for an end user's data to be collected. To instruct Real User Monitor not to collect slowest end-user data, clear the check box.</p> <p>Default values:</p> <ul style="list-style-type: none"> ➤ Enabled ➤ 20 end users ➤ Minimum one hit <p>Note:</p> <ul style="list-style-type: none"> ➤ This element is only available for the front-end tier of an application. ➤ A maximum of 100 slowest end users can be collected. The minimum number of hits required cannot exceed 10,000.

UI Elements (A-Z)	Description
<p>Collect slowest locations</p>	<p>Select this check box and configure the maximum number of slowest locations—that is, the locations whose average network latency was highest—you want Real User Monitor to collect during each five-minute period. You can define the minimum number of hits required for a location’s data to be collected. To instruct Real User Monitor not to collect slowest location data, clear the check box.</p> <p>Default values:</p> <ul style="list-style-type: none"> ➤ Enabled ➤ 20 locations ➤ Minimum one hit <p>Note:</p> <ul style="list-style-type: none"> ➤ This element is only available for the front-end tier of an application. ➤ A maximum of 100 slowest locations can be collected. The minimum number of hits required cannot exceed 10,000.




UI Elements (A-Z)	Description
Collect top locations	<p>Select this check box and configure the maximum number of top locations you want Real User Monitor to collect per hour. You can define whether activity is measured by the number of <action> hits, or the amount of bandwidth used. To instruct Real User Monitor not to collect this information, clear the check box.</p> <p>Default values:</p> <ul style="list-style-type: none"> ➤ Enabled ➤ 100 locations ➤ Measured by number of <action> hits <p>Note:</p> <ul style="list-style-type: none"> ➤ This element is only available for the front-end tier of an application. ➤ A maximum number of 100 top locations can be collected.
Parameters to include	<p>The parameters (such as session ID, or time stamp) that Real User Monitor should include as part of the <action> request, when assessing the <actions> that received the highest number of hits for inclusion in the RUM Global Statistics report's Most Popular <Actions> table.</p> <p>You can differentiate between similar <actions> (that is, <actions> with the same URI or name) by including specific parameters. For example, if no parameters are configured, two hits of a specific login <action> are considered as one <action> in the collected statistics data. However, if you configure the user parameter to be included, then if each hit of the login <action> was made by a different user, the two hits of the login <action> are considered as two different <actions> in the collected statistics.</p> <p>Note: Separate parameter names with a semicolon.</p>

Host Aliases Area

This area enables you configure and manage host aliases for an application.

Important information	This area is visible for Web and SOAP applications only.
See also	"Host Aliases Overview" on page 258

User interface elements are described below:

UI Elements (A-Z)	Description
	New Host Alias. Opens the Host Alias dialog box, where you configure new host aliases for the application.
	Edit Host Alias. Opens the Host Alias dialog box, where you edit an existing host alias for the application.
	Delete Host Alias. Deletes selected host aliases for the application.
Alias	The host alias name.
Hosts	The host machines included in the alias.

Real User Monitor Application Events Page



This page enables you to view and configure a Real User Monitor application's information, performance, error, and http/protocol events.




To access	Select Admin > End User Management > Monitoring tab. In the view tree select an application configured for Real User Monitor and in the Content pane, select Real User Monitor tab > Events .
Important information	This page is not displayed for TCP applications.




Global and Selective Events Area

Important information	<ul style="list-style-type: none">▶ The protocol used by the application determines the type of action (generic action, page, query, or operation) for which you configure events. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type.▶ A default performance event is created for each Web or SOAP application. You cannot create another performance event, nor can you delete the performance event, but you can edit its configuration.▶ For each SOAP application, five default SOAP Fault events are created. You cannot create new SOAP Fault events, nor can you delete the default SOAP Fault events, but you can edit their configuration.
------------------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>New Event. Click to create a new event and select the type of event you want to create from the Shortcut menu. The relevant <Event type> dialog box opens, where you configure the new event. You can create the following types of events:</p> <ul style="list-style-type: none"> ▶ Text pattern. For user interface details, see "Text Pattern Event Dialog Box" on page 397. ▶ Session unavailable <actions>. For user interface details, see "Session Unavailable <Actions> Event Dialog Box" on page 395. Note: You can configure session unavailable <actions> events only for session aware applications. ▶ Session <actions>. For user interface details, see "Session <Actions> Event Dialog Box" on page 391. Note: You can configure session <actions> events only for session aware applications. ▶ Error <action>. For user interface details, see "Error <Action> Event Dialog Box" on page 311. ▶ <Action> size. For user interface details, see "<Action> Size Event Dialog Box" on page 281.
	<p>Edit Event. Click to open the relevant <Event type> dialog box for a selected event, where you can edit the event's configuration. For user interface details, see the relevant <Event type> dialog box as listed in the New Event element in this table.</p> <p>For user interface details on editing SOAP events, see "Edit SOAP Fault Event Dialog Box" on page 308.</p> <p>For user interface details on editing the Performance event, see "Edit Performance Event Dialog Box" on page 306.</p>

UI Elements (A-Z)	Description
	<p>Duplicate Event. Click to duplicate a selected event within the same application. A new event with the same configuration as the original is created and is automatically given the same name as the original with the addition of a period followed by a sequential number. For example, if you duplicate an event called myevent, the new event is called myevent.1. If you then duplicate the event called myevent.1, the new event is called myevent.1.1 and so forth.</p> <p>Note: You cannot duplicate default SOAP events (for SOAP applications), or the default performance event (for Web and SOAP applications).</p>
	<p>Delete Event. Click to delete selected events from the application.</p> <p>Note: You cannot delete default SOAP events (for SOAP applications), or the default performance event (for Web and SOAP applications).</p>
	<p>Copy Event to Application Tier. Click to copy selected events to different Real User Monitor application tiers (either within the same application, or in different applications). A new window opens displaying the applications and tiers to which you can copy the selected events. In the new window, select the application tiers to which you want to copy the events and click OK. The events are copied to the new application tiers with their original name.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ You cannot copy default SOAP events (for SOAP applications), or the default performance event (for Web and SOAP applications). ▶ Event names must be unique within an application tier.
<Actions>	<p>The <actions> for which the event is applicable.</p> <p>Note: You can apply only text pattern and <action> size events to specific <actions>.</p>




UI Elements (A-Z)	Description
Active	Displays whether or not the event is active.
Classification	<p>The following icons denote whether the event is an error, information, or performance event:</p> <ul style="list-style-type: none"> ▶  Error event ▶  Information event ▶  Performance event
Event Name	The event name.
Event Type	The event type.
Scope	<p>Displays whether the event is a global event (that is, it applies to all <actions> in an application), or a selective event (that is, it applies to specific <actions> only).</p> <p>Note: You can apply only text pattern and <action> size events to specific <actions>.</p>

HTTP/Protocol Error Events Area

This area enables you to configure http/protocol errors to be recorded by Real User Monitor for reporting in Real User Monitor reports.

Important information	<ul style="list-style-type: none"> ▶ For http-based protocols (Web and SOAP), you configure HTTP error events and for non-http-based protocols, you configure protocol error events. Element labels change accordingly depending on the application's protocol. ▶ The protocol used by the application determines the type of action (generic action, page, query, or operation) for which you configure events. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type. ▶ By default, the most common http/protocol error codes are predefined under four error events—Bad user request, Request not found, Request refused, and Server error.
------------------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>New HTTP/Protocol Error Event. Click to open the HTTP/Protocol Error Event dialog box where you configure new error event settings. For user interface details, see "HTTP/Protocol Error Event Dialog Box" on page 314.</p>
	<p>Edit HTTP/Protocol Error Event. Click to open the HTTP/Protocol Error Event dialog box where you edit existing error event settings. For user interface details, see "HTTP/Protocol Error Event Dialog Box" on page 314.</p>
	<p>Delete HTTP/Protocol Error Event. Click to delete selected error events.</p>
<p>Classification</p>	<p>Select the relevant radio button to configure whether the event is an error event or an information event.</p> <p>Default value: Error</p>
<p>Error Codes</p>	<p>The error codes that are included in the error event.</p> <p>Note: Error codes for http error events are validated against a default range. There is no validation for protocol error events.</p>
<p>Event Name</p>	<p>The name of the http/protocol error event. For example, you can create a global error event called <i>Database errors</i> and include the applicable error codes for this.</p>
<p>Excluded <Actions></p>	<p>The <actions> for which the event is not applicable.</p>
<p>Status</p>	<p>Select the relevant radio button to configure whether or not the event configuration is active.</p> <p>Default value: Active</p>

Real User Monitor Application General Page

This page enables you to view and configure a Real User Monitor application's general properties.

To access	Select Admin > End User Management > Monitoring tab. In the view tree select an application configured for Real User Monitor and in the Content pane, select Real User Monitor tab > General .
------------------	---

Monitoring Settings Area

User interface elements are described below:

UI Elements (A-Z)	Description
Add 360 license	<p>Select this check box to assign a 360 license to the Real User Monitor application. Clear the check box to unassign a 360 license from the application.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This check box is not displayed if: <ul style="list-style-type: none"> ▶ You do not have change permissions for both Real User Monitor and Business Process Monitor configurations. ▶ You are configuring an additional tier for an application. ▶ If the application is already configured for Business Process Monitor with a 360 license assigned. ▶ If you assign a 360 license to a Real User Monitor application that is also configured for Business Process Monitor, the 360 license is also automatically assigned to the Business Process Monitor application. ▶ If you assign a 360 license to a Real User Monitor application, you do not need to assign other license types to individual probes.




UI Elements (A-Z)	Description
Downtime/Event Schedule	Click the Downtime/Event Schedule link to configure and manage downtime and event schedules for the application. The Downtime Management page opens in a new window. For user interface details, see "Downtime Management Page" in <i>Platform Administration</i> .
Engines	Click Engines to open the Select Engines dialog box, where you select or clear the Real User Monitor engines to monitor the application. For user interface details, see "Select Engines Dialog Box" on page 387. Displays the Real User Monitor engines you select to monitor the application. Also displays whether all the probes linked to an engine, or specific (filtered) probes only monitor the application.
Profile database	The profile database for storing this application's Real User Monitor information. This setting is defined when creating a new Real User Monitor configuration for an application and cannot be edited once it is set.
Protocol	The application's communication protocol. The protocol is assigned from the template you select when you create the Real User Monitor application.
Status	Select the relevant radio button to configure whether or not the application's Real User Monitor configuration is active.
Template name	The name of the template from which you created the application.
Tier name	The name of the tier monitored by the application.




Application Location Area

This area enables you to configure the application server IP ranges, and their ports, as well as the URLs or actions which determine the application location.

Important information	<ul style="list-style-type: none">▶ For applications using certain protocols, such as TCP, you can configure only IP ranges for the application location. In such cases, the URL/<Action> pane in this area is not displayed.▶ The protocol used by the application determines the type of action (generic action, page, query, or operation) that identifies the application location. The name of the pane and other element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type. For pages, the action type is denoted by the label URL.▶ If you configure both application server IP ranges and <actions> for an application, Real User Monitor only matches traffic that goes to both a configured IP range and a configured <action>.▶ Configure application locations in such a way that <actions> cannot be associated with more than one application location (for example, configure both IP ranges and URLs/action descriptions for an application location). If an <action> is associated with more than one application location, erratic and incorrect monitoring results may be produced.▶ You cannot configure the same IP address and port range for different front-end tier applications monitored by the same Real User Monitor Engines, or for different tiers within the same application, unless you differentiate them by using an <action> description/page URL.
------------------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
IP Range	 New IP Range. Click to open the IP Range dialog box, where you add details of new application servers you want to associate with the application you are defining. Repeat this procedure for each range of servers you want to add. For user interface details, see "IP Range Dialog Box" on page 317.
	 Edit IP Range. Click to open the IP Range dialog box, where you edit a selected IP range's settings. For user interface details, see "IP Range Dialog Box" on page 317.
	 Delete IP Range. Click to delete selected IP ranges from the list.
	IP Range. Displays the IP range of application servers associated with the application you are defining.
	Port. Displays the port number used to communicate with the application servers included in the range. Default value: The default port number according to the template you selected for the application.
	SSL. Displays whether or not the application servers included in the range use SSL communications.

UI Elements (A-Z)	Description
<p>URL/Filter</p>	<p> New URL/Filter. Click to open the URL/Description Builder, where you configure a URL or <action> that you want to associate with the application you are defining. The URL/<action> appears in the list of application URLs/Filters. Repeat this procedure for each URL/<action> you want to add to the list.</p> <p>For details on the URL Builder user interface, see "URL Builder" on page 403.</p> <p>For details on the Description Builder user interface, see "Description Builder" on page 301.</p>
	<p> Edit URL/Filter. Click to open the URL/Description Builder dialog box, where you edit a selected URL/<action>'s settings.</p> <p>For details on the URL Builder user interface, see "URL Builder" on page 403.</p> <p>For details on the Description Builder user interface, see "Description Builder" on page 301.</p>
	<p> Delete URL/Filter. Click to delete selected URLs/<actions> from the list.</p>
	<p>URL/Filter. Displays the configured URLs of the application servers associated with the application you are defining, or the configured <actions> that determine the application location.</p>

Application Default Thresholds Area

This area enables you to configure default thresholds for all the <actions>, transactions, and servers included in a Real User Monitor application.

<p>Important information</p>	<p>The protocol used by the application determines the type of action (generic action, page, query, or operation) for which you configure default thresholds. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type.</p>
-------------------------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
<p><Action> Thresholds</p>	<p>Page time. The total time threshold for the <action>, in seconds. If the total time for an <action> falls within this threshold, the <action's> total time is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.</p> <p>Note: This element is called Page time for pages and Total time for all other action types.</p>
	<p>Server time. The server time threshold for the <action>, in seconds. If the server time for an <action> falls within this threshold, the <action's > server time is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.</p> <p>Note: This threshold must be lower than the total time threshold.</p>
	<p>Availability. The <action> availability threshold, as a percentage. If the availability of an <action> falls within this threshold, the <action's> availability is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.</p>
<p>Server Thresholds</p>	<p>Availability. The server availability threshold, as a percentage. If the availability of a server falls within this threshold, the server's availability is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.</p>






UI Elements (A-Z)	Description
<p>Transaction Thresholds</p>	<p>Total time. The total transaction time (download time + think time) threshold, in seconds. If the total time of a transaction falls within this threshold, the transaction's total time is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.</p>
	<p>Net time. The net transaction time threshold, in seconds. If the net time of a transaction falls within this threshold, the transaction's net time is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.</p>
	<p>Server time. The server time threshold for the transaction, in seconds. If the server time for a transaction falls within this threshold, the transaction's server time is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.</p> <p>Note: This threshold must be lower than the total time and net time thresholds.</p>
	<p>Availability. The transaction availability threshold, as a percentage. If the availability of a transaction falls within this threshold, the transaction's availability is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.</p>
	<p>Timeout. The amount of time, in seconds, between consecutive <actions> in a transaction, after which Real User Monitor considers the transaction to have timed out.</p>

User Name Detection Area




This area enables you to configure where to search for a user name in the application you are defining, so that the data for the sessions associated with the application contain the names of the session users.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ This pane is displayed only for applications for which the login action is not predefined. ▶ The protocol used by the application you are configuring determines the type of action (generic action, page, query, or operation) for which you configure user name detection settings. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type. ▶ You can configure multiple settings in which to search for a user name. Real User Monitor uses the first user name located and once a user name is located, additional areas are not searched.
-------------------------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>New User Name Detection. Click to open the User Name Detection dialog box where you configure new user name detection search settings. For user interface details, see "User Name Detection Dialog Box" on page 407.</p>
	<p>Edit User Name Detection. Click to open the User Name Detection dialog box where you edit existing user name detection search settings. For user interface details, see "User Name Detection Dialog Box" on page 407.</p>
	<p>Delete User Name Detection. Click to delete selected user name detection search settings.</p>
	<p>Move Up. Click to move a user name detection search setting higher in the search order.</p>
	<p>Move Down. Click to move a user name detection search setting lower in the search order.</p>

UI Elements (A-Z)	Description
Active	Displays whether or not the user name detection search setting is active.
All <actions>	<p>Select the radio button to configure Real User Monitor to search for the user name in all the <actions> associated with the application.</p> <p>Note: For more efficient performance, it is recommended to configure specific login <actions> to be searched rather than configuring Real User Monitor to search all <actions>.</p>
Content	The specific settings within the configured search area of the <action's> request or response, used to locate the user name.
Correlate end user names and display aliases	<p>Select this check box to configure Real User Monitor to translate the user name it locates.</p> <p>Note: A name translation file called UserLoginNames.csv must be located in the <Real User Monitor engine root directory>\conf\resolver directory on the Real User Monitor engine machine. For concept details, see "User Name Translation" on page 257.</p> <p>Default value: Disabled</p>

UI Elements (A-Z)	Description
Login <actions>	<p>Select the radio button to configure Real User Monitor to search for the user name in specific login <actions> that you configure. Use the following elements to configure the login <actions> to search.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The following elements are enabled only when you select the Login <actions> radio button. ▶ For more efficient performance, it is recommended to configure specific login <actions> to be searched rather than configuring Real User Monitor to search all <actions>.
	<p> New Login URL/<Action>. Click to open the URL/Description Builder, where you configure new login <actions> in which to search for user names.</p> <p>For URL Builder user interface details, see "URL Builder" on page 403.</p> <p>For Description Builder user interface details, see "Description Builder" on page 301.</p>
	<p> Edit Login URL/<Action>. Click to open the URL/Description Builder, where you edit existing login <actions> in which to search for user names.</p> <p>For URL Builder user interface details, see "URL Builder" on page 403.</p> <p>For Description Builder user interface details, see "Description Builder" on page 301.</p>
	<p> Delete Login URL/<Action>. Click to delete selected login <actions>.</p>
	<p>Login Page URL/<Action>. The URLs of the configured login pages, or the configured <actions>, in which to search for user names.</p>

UI Elements (A-Z)	Description
Search	<p>The area of the <action's> request or response in which Real User Monitor searches for the user name.</p> <p>Default value: For applications using protocols that comprise actions that are not pages, the search area is limited to Content (Generic) only.</p>

Operation Detection Area

This area enables you to configure the detection method to use to locate the operation name in the XML request and response. The operation name is added to a page's URL as a parameter.

Important information	This area is applicable to SOAP applications only and is not displayed for other application types.
------------------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
Operation name detection method	<p>Select the detection method to use from the drop-down list. The following detection methods can be configured:</p> <ul style="list-style-type: none"> ➤ No operation name detection ➤ Automatic ➤ Request (RPC style) ➤ Request (Document literal wrapped style) ➤ Response (First tag in body) ➤ HTTP header (SOAPAction) <p>Note: If you select No Operation Name Detection, you can configure your own operation name to be added to a page's URL as a parameter. If you configure a parameter extraction key called RUM_OPERATION you see the operation name in page URLs in the Session Details report, as the RUM_OPERATION key is included in the predefined page names configuration file for SOAP applications (WS.XML). If you configure your own operation name using a different parameter extraction key name, to see the operation name in page URLs in the Session Details report you must configure a new page names configuration file that includes the key you configured.</p> <p>For details on configuring parameter extraction keys, see "Parameter Extraction Area" on page 368.</p> <p>For details on configuring page names, see "<Action> Discovery Configuration Area" on page 369.</p> <p>For details on creating page name configuration files, see the <i>Real User Monitor Administration</i> PDF.</p> <p>Default value: Automatic</p>




Parameter Extraction Area

This area enables you to configure parameters that are added to a page's URL or an <action's> description, and from where to extract the data to be used as the parameter values.

You can also use extracted parameters as regular parameters when configuring other application settings, such as user names and session properties, and can include an extracted parameter in an <action> name configuration file.

Important information	The protocol used by the application you are configuring determines the type of action (generic action, page, query, or operation) for which you configure parameter extraction settings. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type.
------------------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
	New Parameter Extraction. Click to open the Parameter Extraction dialog box where you configure new parameter extraction settings. For user interface details, see "Parameter Extraction Dialog Box" on page 320.
	Edit Parameter Extraction. Click to open the Parameter Extraction dialog box where you edit existing parameter extraction settings. For user interface details, see "Parameter Extraction Dialog Box" on page 320.
	Delete Parameter Extraction. Click to delete selected parameter extraction settings.
Active	Displays whether or not the parameter extraction setting is active.
Content	The specific settings within the configured search area of the <action's> request or response, used to locate the parameter value.

UI Elements (A-Z)	Description
Extract HTTP method	Select this check box to configure Real User Monitor to extract the http method name and add it to a page's URL as a parameter called http-method-name . Note: This setting is only available for applications using http-based protocols.
Name	The parameter extraction setting name.
Search	The area of the <action's> request or response in which Real User Monitor searches for the parameter value. Default value: For applications using protocols that comprise actions that are not pages, the search area is limited to Content (Generic) only.

<Action> Discovery Configuration Area

This area enables you to configure how names are assigned to <actions> that have not been configured in End User Management Administration. You can specify an XML file to be used by the application to assign meaningful names to <actions>, and for http-based protocols can also configure the application to use page titles as names. For details on assigning meaningful names to <actions> and configuring an XML file, see "Configuring Meaningful Page Names" in the *Real User Monitor Administration PDF*.

Important information	<ul style="list-style-type: none"> ▶ The protocol used by the application determines the type of action (generic action, page, query, or operation) to which you configure Real User Monitor to assign names. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type. ▶ If you configure an XML file to be used and also select the option to use page titles, the application first tries to assign a name to the page using the XML file and only if unsuccessful uses the page title.
------------------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
<p><Action> discovery configuration file</p>	<p>Select an existing file that is available for the application from the drop-down list, or select User defined from the drop-down list and enter a new file name in the adjacent field.</p> <p>Default value: None. For SOAP applications, the Web Services file (ws.xml) is automatically selected.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The full file name including the extension (.xml) must be entered. ▶ The files are located on the Real User Monitor engine machine in the <HPRUM>\conf\resolver\meaningful_pages directory.
<p>Use page/operation title for pages/operations without an assigned name</p>	<p>Select this check box to enable the application to use page/operation titles when assigning names to pages/operations.</p> <p>Note: This element is only visible for http-based applications (Web and SOAP).</p>

TCP Settings Area

This area enables you to configure the TCP settings for a Real User Monitor application.

<p>Important information</p>	<p>The available elements displayed in this area depend on the protocol of the application you are configuring.</p>
-------------------------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
Collect poor request data	Select this check box to configure Real User Monitor to collect data about TCP requests that are slow or that have network errors. This data is included in the TCP Poor Requests Summary report and the TCP Requests Analyzer report. For user interface details, see "TCP Poor Requests Summary Report" on page 932 and "TCP Requests Analyzer Report" on page 937.
Component server time threshold	Enter the threshold, in seconds, for the total server time of a component download. Default value: 2 seconds
Component time threshold	Enter the threshold, in seconds, for the total time of a component download. Default value: 8 seconds
Enable request capturing	Select this check box to configure Real User Monitor to take snapshots of TCP requests that have network errors. Note: <ul style="list-style-type: none"> ➤ This check box is enabled only if you select the Collect poor request data check box. ➤ Snapshots are stored in capture files in .pcap format. ➤ Snapshots are taken no more than once per minute.
Enable requests snippets	Select this check box to configure Real User Monitor to save a snippet of the request to an application in text format, for TCP requests that are slow or that have network errors. Note: This check box is enabled only if you select the Collect poor request data check box.
Enable TCP	Select this check box to configure Real User Monitor to collect TCP data for a Web or SOAP application.




UI Elements (A-Z)	Description
<p>Network error packets threshold for poor requests</p>	<p>Enter the threshold for the number of packets with network errors that a TCP request must exceed to be considered a poor request.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This field is enabled only if you select the Collect poor request data check box. ▶ The Packets with network errors threshold must also be breached for the request to be considered a poor request.
<p>Packets with client errors</p>	<p>Enter the threshold, in percent, for the allowed number of packets sent from the client that can have client errors.</p> <p>Default value: 2%</p>
<p>Packets with network errors</p>	<p>Enter the threshold, in percent, for the allowed number of packets with network errors, out of the total number of packets.</p> <p>Default value: 2%</p>
<p>Packets with server errors</p>	<p>Enter the threshold, in percent, for the allowed number of packets sent from the server that can have server errors.</p> <p>Default value: 2%</p>
<p>Server connection availability</p>	<p>Enter the threshold, in percent, for the number of connection attempts that must successfully connect to the server.</p> <p>Default value: 98%</p>

Application Monitoring Tiers Area

This area enables you to configure additional application tiers to be monitored by Real User Monitor.

Important information	<ul style="list-style-type: none">▶ This area is visible only when viewing the configuration of the main (front-end) tier of an application.▶ Additional monitoring tiers added to an application are considered as back-end tiers. When you select an application in the view tree, the configuration for the main (front-end) tier of the application is displayed.▶ Once you have added additional tiers for monitoring to an application, you configure the monitoring settings by editing the monitoring tier.▶ Not all Real User Monitor protocols support the monitoring of additional tiers. For example, you cannot add tiers for monitoring to an application initially configured for a database tier. In such instances, the Application Monitoring Tiers area is not visible.▶ You cannot add additional tiers for monitoring to a tier that is configured as an additional tier itself.▶ You cannot configure transactions or location aware thresholds, nor use the global search and replace feature, for additional (back-end) tiers.
------------------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>New Monitoring Tier. Click to open the Real User Monitor Application Configuration wizard, where you configure the new tier to add to the application. For user interface details, see "Real User Monitor Application Configuration Wizard" on page 327.</p>
	<p>Edit Monitoring Tier. Click to open the relevant Real User Monitor configuration pages in a new window, where you configure the monitoring settings for the tier. For user interface details, see the relevant page.</p>
	<p>Delete Monitoring Tier. Click to delete selected tiers from the application.</p>
Active	<p>Displays whether or not the application tier is active. That is, whether or not the tier is monitored.</p>
Protocol	<p>The protocol used by the template.</p>
Tier Name	<p>The tier name.</p>
Template Name	<p>The name of the template on which the tier's configuration is based.</p>

Real User Monitor Application Session Page

This page enables you to configure where to search for the session ID of the application you are defining, as well as the parameters that cause a session to be closed (and reported to Real User Monitor) and a new session to be started. It also enables you to configure session properties to be tagged by Real User Monitor.






To access	Select Admin > End User Management > Monitoring tab. In the view tree select an application configured for Real User Monitor and in the Content pane, select Real User Monitor tab > Session .
Important information	This page is displayed only for session aware applications.

Session Identification Area

This area enables you to configure where to search for the session ID of the application you are defining. If no session ID is configured, Real User Monitor uses the client's IP address and port number by default.

Important information	<ul style="list-style-type: none"> ▶ This pane is visible only for applications created from the http (Web or SOAP) protocols. ▶ You can configure multiple settings to search for a session ID. Real User Monitor uses the first session ID located and once a session ID is located, additional areas are not searched.
------------------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
	New Session Identification. Click to open the Session Identification dialog box where you configure new session ID search settings. For user interface details, see "Session Identification Dialog Box" on page 390.
	Edit Session Identification. Click to open the Session Identification dialog box where you edit existing session ID search settings. For user interface details, see "Session Identification Dialog Box" on page 390.
	Delete Session Identification. Click to delete selected session ID search settings.
	Move Up. Click to move a session ID search setting higher in the search order.
	Move Down. Click to move a session ID search setting lower in the search order.
Active	Displays whether or not the session ID search setting is active.
Content	The specific settings within the configured search area of the page's request or response, used to locate the session ID.
Search	The area of the <action's> request or response in which Real User Monitor searches for the Session ID.




Session Reset Area

This area enables you to configure the parameters that cause a session to be reported to Real User Monitor and a new session to be started. You can configure the number of minutes that a session can be open before it is closed and a new session started and can also configure a specific URL that when accessed, causes the previous session to be closed and a new session started.

For example, in a call center, such as directory enquiries for a telephone company, a default session for an operator may be from the log-in at the beginning of a shift to the log-out at the end of a shift. However, you may wish to report a separate session for each inquiry handled by the operator, so you can configure a session reset URL as the URL of the page that begins each new inquiry. Whenever that page is accessed, the previous session is closed and reported and a new session is opened.

Important information	For applications using non-http-based protocols, only the Reset session on timeout element is visible.
------------------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
	New Session Reset URL. Click to open the Session Reset Page dialog box where you configure new session reset URLs. For user interface details, see "Session Reset Page Dialog Box" on page 393.
	Edit Session Reset URL. Click to open the Session Reset Page dialog box where you edit existing session reset URLs. For user interface details, see "Session Reset Page Dialog Box" on page 393.
	Delete Session Reset URL. Click to delete selected session reset URLs.
Behavior	Shows for each configured URL in the list, whether it should be included as the first page of a new session, or the last page of an old session on reset.






UI Elements (A-Z)	Description
Reset session on timeout of ... minutes	The number of minutes that a session can be open before it is reported to Real User Monitor and a new session is started. Note: You cannot configure a value of less than five minutes.
URL	The configured session reset URLs.

Session Properties Area

This area enables you to configure session properties to be tagged by Real User Monitor. The tags can be used to filter sessions included in the RUM Session Analyzer report and to view the tagged properties for a session when viewing the session details. You can also create end-user groups based on session properties.

Important information	<ul style="list-style-type: none"> ➤ A maximum of five session properties can be configured for an application. ➤ The string extracted as the session property value cannot exceed 50 characters. ➤ There are five static place holders for session properties in the profile database, whether you actually define session properties or not. If you change the definition of an existing session property, the values for the previous definition still exist and appear as values for the new definition. It is recommended not to delete, or change the order of, configured session properties.
See also	<ul style="list-style-type: none"> ➤ Add End User Group with Real User Monitor Configuration Dialog Box ➤ "RUM Session Analyzer Report" on page 896

User interface elements are described below:

UI Elements (A-Z)	Description
	New Session Property. Click to open the Session Property dialog box where you configure new session properties. For user interface details, see "Session Property Dialog Box" on page 393.
	Edit Session Property. Click to open the Session Property dialog box where you edit existing session properties. For user interface details, see "Session Property Dialog Box" on page 393.
	Delete Session Properties. Click to delete selected session properties.
	Move up. Click to move a selected session property higher in the application's session property order. Note: The order of the session properties is used to determine to which end-user group a user is added, if the user matches more than one end-user group based on session properties. For concept details, see "End-User Groups Overview" on page 258.
	Move down. Click to move a selected session property lower in the application's session property order. Note: The order of the session properties is used to determine to which end-user group a user is added, if the user matches more than one end-user group based on session properties. For concept details, see "End-User Groups Overview" on page 258.
Active	Displays whether or not the session property setting is active.
Content	The specific settings within the configured search area of the <action's> request or response, used to locate the required string.

UI Elements (A-Z)	Description
Name	The session property name.
Search	The area of the <action's> request or response in which Real User Monitor searches for the string to be extracted. Default value: For applications using protocols that comprise actions that are not pages, the search area is limited to Content (Generic) only.

Real User Monitor Location Latency Page

This page enables you to configure a latency setting, in seconds, for Real User Monitor, for a specific location. Real User Monitor adds the configured latency to all the configured threshold settings that are relevant to all the monitored traffic for that location.


To access	Select Admin > End User Management > Monitoring tab and in the View tree, select a location CI.
------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
Configure specific latency	Select this radio button to configure a specific latency for the location and enter the latency in seconds.
Inherit latency from parent	Select this radio button to configure Real User Monitor to use the latency set for the selected location's parent location. Note: If the selected location does not have a parent location, or if no latency is configured for the parent location, the selected location is not configured with any latency.


Related Transactions and Events Dialog Box

This dialog box enables you to view and edit the transactions and events in which a selected <action> from a Real User Monitor application's <action> repository is included.

To access	Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > <Actions> and in the <Folder content> area, select an <action> that is in use and click the Related Transactions and Events  button.
Important information	<ul style="list-style-type: none"> ▶ The protocol used by the application determines the type of action (generic action, page, query, or operation) included in the application. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type. ▶ <Actions> can only be included in text pattern and page size events.
See also	<ul style="list-style-type: none"> ▶ "Real User Monitor Application <Actions> Page" on page 321 ▶ "Real User Monitor Application Events Page" on page 350

Related Transactions Area


User interface elements are described below:

UI Elements (A-Z)	Description
	Edit Transaction. Click to open the Business Transaction Real User Monitor Configuration dialog box, where you configure the selected transaction's settings. For user interface details, see "Business Transaction Real User Monitor Configuration Dialog Box" on page 289.

UI Elements (A-Z)	Description
# of <Actions>	The total number of <actions> included in the transaction.
Transaction Name	The transaction name.

Related Events Area

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Edit Event. Click to open the relevant <Event type> dialog box, where you configure the selected event's settings. For user interface details, see:</p> <ul style="list-style-type: none"> ➤ "Text Pattern Event Dialog Box" on page 397 ➤ "<Action> Size Event Dialog Box" on page 281
Event Name	The event name.
Global/Selective	The scope of the event. A global event applies to all <actions> in the application, except for those specifically configured in the event. A selective event applies only to those <actions> configured in the event.
Type	The event type.

Search Area

This area enables you to configure the settings for searching and extracting content from Real User Monitor application requests and responses, for use in various application settings.

To access	<p>This area is included in the following:</p> <ul style="list-style-type: none"> ➤ "Parameter Extraction Dialog Box" on page 320 ➤ "Sensitive Data Setting Dialog Box" on page 390 ➤ "Session Identification Dialog Box" on page 390 ➤ "Session Property Dialog Box" on page 393 ➤ "User Name Detection Dialog Box" on page 407
Important information	<p>The availability of elements in this area, as well as the valid options for the elements, depends on the type of application you are configuring and the dialog box in which the area is included.</p>

User interface elements are described below:




UI Elements (A-Z)	Description
<p>Extract text</p>	<p>All content. Select the radio button to configure Real User Monitor to extract all the search area content.</p> <p>Note: This element is not available when Content (XML) or Content (Generic) is selected in the Search in element.</p>
	<p>Between... and... Select the radio button to enable you to configure the strings between which the data you want to extract is located. Enter the strings in the Between and and text boxes.</p> <p>Note: This element is not available when Content (XML) is selected in the Search in element.</p>
	<p>Advanced. Select this radio button to enable the Advanced Criteria link. Click the link to open the Advanced Finding and Retrieving dialog box, where you can enter the regular expression for extracting text. In the Scan for (Regular Expression) box, enter the regular expression that represents the string within which you want Real User Monitor to locate text. In the Retrieve box, enter the phrase representing the objects to be extracted.</p> <p>You can test the regular expression and retrieve code you configure in the Test Expression area. Enter test data and click Test. The results, including the retrieved value, are displayed.</p> <p>Note: When you select Content (XML) in the Search in element, you configure an XPath instead of a regular expression.</p>
	<p>Tag search. An XML tag containing an attribute to be used as the value.</p> <p>Note: This option is only available when Content (XML) is selected in the Search in element.</p>
	<p>Attribute. A specific attribute in the configured XML tag, to be used as the value.</p> <p>Note: This option is only available when Content (XML) is selected in the Search in element.</p>

UI Elements (A-Z)	Description
Parameter name	<p>The parameter name.</p> <p>Note: This element is available only when configuring a parameter extraction setting.</p>
Property name	<p>The session property name.</p> <p>Note: This element is available only when configuring a session property.</p>
Scope	<p>Where to look for the search area configured in the Search in element—in the request, response, or both.</p> <p>Default value:</p> <ul style="list-style-type: none"> ➤ For Get/Post Parameters - Request ➤ For Content (HTML) - Response ➤ For Cookie - Request and Response ➤ For Content (Generic) when configuring sensitive data settings - Request and Response <p>For these default values, the field is disabled for editing.</p> <p>Note: If you configure both request and response in this element, Real User Monitor looks for the search area first of all in the request and if not found, then looks in the response.</p>





UI Elements (A-Z)	Description
<p>Search in</p>	<p>The area of the request or response (as configured in the Scope element) in which Real User Monitor searches for text to use in the configuration setting. Valid options are:</p>
	<p>HTTP Header. Configure a specific header name.</p>
	<p>Get/Post Parameters. Configure a specific parameter name.</p>
	<p>Content (HTML). Configure a specific tag and attribute name.</p>
	<p>Content (XML). Search the entire XML content.</p>
	<p>Content (Generic). Search the entire content. Note: This is the default option for sensitive data settings and cannot be changed.</p>
	<p>Cookie. Search the entire cookie. Note: This is the default option for session identification settings and cannot be changed.</p>
<p>Status</p>	<p>Select the relevant radio button to make the configuration active or inactive. Default value: Active</p>

Select Engines Dialog Box

This dialog box enables you to select the Real User Monitor engines and probes that you want to monitor an application.

<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Real User Monitor Application Configuration wizard > Monitoring Settings page > Engines link ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > General and in the Monitoring Settings area, click the Engines link. ▶ Select Admin > End User Management > Monitoring tab and in the view tree area, select the Search tab. Run a search for applications and in the Search Results pane, select the applications you want to update, click the Bulk Operations  button and select Add an Engine or Probe or Remove an Engine or Probe from the Shortcut menu. ▶ Select Admin > End User Management > Settings tab > Data Collectors > Real User Monitor Engines. Select engines from the list and click the Search Applications  button. In the Search Results dialog box, select the applications you want to update, click the Bulk Operations  button and select Add an Engine or Probe or Remove an Engine or Probe from the Shortcut menu.
<p>Important information</p>	<p>When you access this dialog box as part of a bulk operation, the dialog box name is either Add an Engine or Probe or Remove an Engine or Probe, depending on the bulk operation selected.</p>

User interface elements are described below:

UI Elements (A-Z)	Description
	Move to Selected Engines. Click to move selected engines from the Available Engines pane to the Selected Engines pane.
	Move all to Selected Engines. Click to move all engines from the Available Engines pane to the Selected Engines pane.
	Move to Available Engines. Click to move selected engines from the Selected Engines pane to the Available Engines pane.
	Move all to Available Engines. Click to move all engines from the Selected Engines pane to the Available Engines pane.
Available Engines	Engine. The Real User Monitor engine name.
	Host Name. The name of the host machine on which the Real User Monitor engine is installed.
	IP. The IP address of the host machine on which the Real User Monitor engine is installed.
	Pages per Second. The average number of pages per second monitored by the Real User Monitor engine. This gives you an indication of the engine's load.
Selected Engines	Engine. The Real User Monitor engine name.
	Probes. Displays whether all (All) the probes associated with the engine, or only selected (Filtered) probes monitor the application. Click All or Filtered to open the Select Probes on Engine dialog box, where you select which probes associated with the engine you want to monitor the application. For user interface details, see "Select Probes on Engine Dialog Box" on page 389. Default value: All

Select Probes on Engine Dialog Box

This dialog box enables you to select the probes of a Real User Monitor engine to monitor an application.



To access	In the Select Engines dialog box, click the All or Filtered link.
------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
Megabits per Second	Displays the average amount of traffic monitored by the probe. This gives you an indication of the probe's load. Note: This field is enabled only if you select the Select specific probes option.
Probe	Displays the probe name. Note: This field is enabled only if you select the Select specific probes option.
Select all probes (including future probes)	Select this option to configure all the probes of a Real User Monitor engine to monitor the application you are defining. Any probe added to the engine in the future will automatically monitor the application.
Select specific probes	Select this option to select specific probes of a Real User Monitor engine to monitor the application you are defining.
Selected	Select this check box to select a specific probe to monitor the application you are defining. Note: This field is enabled only if you select the Select specific probes option.
Status	Displays the status of the probe (that is, whether the probe is enabled for monitoring or not). Note: This field is enabled only if you select the Select specific probes option.



Sensitive Data Setting Dialog Box

This dialog box enables you to configure sensitive data to be removed from <action> content that is shown in snapshots by Real User Monitor.

To access	Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Data Collection and in the Sensitive Data area, click the New Sensitive Data Setting  button or the Edit Sensitive Data Setting  button.
Important information	For user interface details, see "Search Area" on page 383.



Session Identification Dialog Box

This dialog box enables you to create and edit session ID search settings for a Real User Monitor application.

To access	Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Session and in the Session Identification area, click the New Session Identification  button or the Edit Session Identification  button.
Important information	For user interface details, see "Search Area" on page 383.

Session <Actions> Event Dialog Box

This dialog box enables you to configure a session <actions> event for an application. A session <actions> event is triggered when a session in an application includes a defined number of <actions>.



<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and in the Global and Selective Events area, click the New Event  button and select Session <Actions> Event from the Shortcut menu. ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and select an existing session <actions> event. Click the Edit Event  button.
<p>Important information</p>	<ul style="list-style-type: none"> ▶ The protocol used by the application determines the type of action (generic action, page, query, or operation) for which you configure a session event. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type. ▶ You can configure session actions events only for session aware applications.

User interface elements are described below:

UI Elements (A-Z)	Description
Classification	Select the relevant radio button to configure whether the event is an error event or an information event. Default value: Error
Name	The name of the session <actions> event, which you can view in End User Management only. Note: The name must be unique within the application. Syntax exceptions: Cannot exceed 100 characters.
Scope	The scope of the event—Global (for all pages) or Selective (for specific pages). Default value: Global Note: You cannot edit this field.
Status	Select the relevant radio button to configure whether or not the event configuration is active. Default value: Active
Trigger an event when the number of <actions> in the session reaches	The number of <actions> which, when reached in a session, triggers the event.



Session Property Dialog Box

This dialog box enables you to configure and edit an application session property to be tagged by Real User Monitor. You use the tags to filter sessions included in the RUM Session Analyzer report and to view the tagged properties for a session when viewing the session details.

To access	Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Session and in the Session Properties area, click the New Session Property  button or the Edit Session Property  button.
Important information	<ul style="list-style-type: none"> ▶ For user interface details, see "Search Area" on page 383. ▶ A maximum of five session properties can be configured for an application. ▶ The string extracted as the session property value cannot exceed 50 characters.
See also	"RUM Session Analyzer Report" on page 896

Session Reset Page Dialog Box

This dialog box enables you to configure a URL that acts as session delimiters. That is, a URL that when accessed, closes a current session (which is reported to Real User Monitor) and opens a new session.



To access	Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Session and in the Session Reset area, click the New Session Reset URL  button or the Edit Session Reset URL  button.
------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
<URL Builder>	Configure the session delimiter URL. For user interface details, see "URL Builder" on page 403.
End session with the following URL	<p>Select this radio button to include the configured URL as the last page of the old session on reset.</p> <p>Note: By default, the URL is included as the first page of the new session on reset.</p> <p>Default value: Not selected</p>
Start session with the following URL	<p>Select this radio button to include the configured URL as the first page of the new session on reset.</p> <p>Default value: Selected</p>

Session Unavailable <Actions> Event Dialog Box

This dialog box enables you to configure a session unavailable <actions> event for an application. A session unavailable <action> event is triggered when a session in an application includes a defined number of unavailable <actions>.



<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and in the Global and Selective Events area, click the New Event  button and select Session Unavailable <Actions> Event from the Shortcut menu. ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and select an existing session unavailable <actions> event. Click the Edit Event  button.
<p>Important information</p>	<ul style="list-style-type: none"> ▶ The protocol used by the application determines the type of action (generic action, page, query, or operation) for which you configure a session unavailable event. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type. ▶ You can configure session unavailable actions events only for session aware applications.

User interface elements are described below:

UI Elements (A-Z)	Description
Classification	Select the relevant radio button to configure whether the event is an error event or an information event. Default value: Error
Name	The name of the session unavailable <action> event, which you can view in End User Management only. Note: The name must be unique within the application. Syntax exceptions: Cannot exceed 100 characters.
Scope	The scope of the event—Global (for all pages) or Selective (for specific pages). Default value: Global Note: You cannot edit this field.
Status	Select the relevant radio button to configure whether or not the event configuration is active. Default value: Active
Trigger an event when the number of unavailable <actions> in the session reaches	The number of unavailable <actions> which, when reached in a session, triggers the event.



Text Pattern Event Dialog Box

This dialog box enables you to configure a text pattern event for an application. A text pattern event is triggered when an <action> includes, or fails to include, a defined string of characters.

<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and in the Global and Selective Events area, click the New Event  button and select Text Pattern Event from the Shortcut menu. ▶ Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > Events and select an existing text pattern event. Click the Edit Event  button.
<p>Important information</p>	<p>The protocol used by the application determines the type of action (generic action, page, query, or operation) for which you configure a text pattern event. Element labels (denoted by <action> in the user interface descriptions), change accordingly to reflect the applicable action type.</p>

General Settings Area

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Add <Action> to Event. Click to open the application's <Action> Repository, where you can manage the <actions> included in the application and select the <actions> to be excluded from, or included in, the text pattern event, according to the event's scope. For user interface details, see "Real User Monitor Application <Actions> Page" on page 321.</p>
	<p>Remove <Action> from Event. Click to remove selected <actions> from the text pattern event configuration.</p>
<p><Action> Name</p>	<p>The names of the <actions> that are either excluded from, or included in, the text pattern event, according to the event's scope.</p>
<p>Classification</p>	<p>Select the relevant radio button to configure whether the event is an error event or an information event.</p> <p>Default value: Error</p>
<p>Create snapshot for the event</p>	<p>Select this check box to create a snapshot of the <action> on which the event occurs.</p> <p>Note:</p> <ul style="list-style-type: none"> ➤ For snapshots to be reported by Real User Monitor, this check box must be selected, as well as the Collect snapshots on events check box in the application configuration (for at least one <action> back). For user interface details, see "Snapshot Collection Area" on page 341. ➤ This element is not enabled for all application types and its availability is determined by the application template you selected for the application. <p>Default value: Not selected</p>

UI Elements (A-Z)	Description
Name	<p>The name of the text pattern event, which you can view in End User Management only.</p> <p>Note: The name must be unique within the application.</p> <p>Syntax exceptions: Cannot exceed 100 characters.</p>
Save session snapshots	<p>Select this check box to enable snapshots to be made of all the <actions> from the beginning of a session, up to and including the <action> on which the text pattern event occurs.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This setting is applicable for Web applications only. ▶ Saving all the <actions> from the beginning of a session enables more accurate frames unification, thus improving session replay, but may adversely affect Real User Monitor probe performance. ▶ For snapshots of all the <actions> from the beginning of a session to be saved by Real User Monitor, this check box must be selected, as well as the Enable session snapshot on event check box in the application configuration. For user interface details, see "Real User Monitor Application Data Collection Page" on page 336 and expand Snapshot Collection. <p>Default value: Not selected</p>
Scope	<p>Select the relevant radio button to configure whether the event is applied globally or selectively. A global event applies to all <actions> in the application, except for those specifically configured in the text pattern event. A selective event applies only to those <actions> configured in the text pattern event.</p> <p>Default value: Global</p>
Status	<p>Select the relevant radio button to configure whether or not the event configuration is active.</p> <p>Default value: Active</p>
URL/Action	<p>The URLs of the pages, or the defined actions, that are either excluded from, or included in, the text pattern event, according to the event's scope.</p>

Search Pattern Settings Area

User interface elements are described below:




UI Elements (A-Z)	Description
Scope	<p>Where to look for the search area configured in the Search in element—in the <action's> request, response, or both.</p> <p>Default value:</p> <ul style="list-style-type: none"> ▶ For Get/Post Parameters - Request ▶ For Content (HTML) - Response <p>For these default values, the field is disabled for editing.</p>
Search in	<p>The area of the request or response (as configured in the Scope element) in which Real User Monitor searches for the configured text pattern. Valid options are:</p> <p>HTTP Header. Configure a specific header name.</p> <p>Get/Post Parameters. Configure a specific parameter name.</p> <p>Content (HTML). Configure a specific tag and attribute name.</p> <p>Content (XML). Search the entire XML content.</p> <p>Content (Generic). Search the entire content.</p> <p>Note: When you are configuring a text pattern event based on actions that are not pages, this is the default value which you cannot change.</p>

UI Elements (A-Z)	Description
Trigger an event for <actions>	
Advanced	<p>Select this radio button to enable the Advanced Criteria link. Click the link to open the Advanced Finding and Retrieving dialog box, where you can enter a regular expression to search for a specific text pattern. In the Scan for (Regular Expression) box, enter the regular expression that represents the string within which you want Real User Monitor to locate the text pattern. In the Retrieve box, enter the phrase representing the objects within the string in which to locate the text pattern.</p> <p>You can test the regular expression and retrieve code you configure in the Test Expression area. Enter test data and click Test. The results, including the retrieved value, are displayed.</p>
Containing	Select this radio button to trigger the event when the configured text pattern is located in the <action>.
Extract the text to be displayed as the event description	<p>Select this check box to configure string delimiters, between which the text to display as the event description in Real User Monitor reports is extracted. Enter the starting and ending delimiter expressions.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This check box is enabled only when you select the Containing radio button (that is, the event is triggered when the configured text pattern is located on the page) and The string radio button. ▶ This string is used for the event description only and does not affect the event text pattern matching. ▶ The delimiter fields are enabled only when this check box is selected.
Not containing	Select this radio button to trigger the event when the configured text pattern is not located in the <action>.
The string	Select this radio button and enter a specific string as the text pattern for event matching.

UI Elements (A-Z)	Description
<p>Trigger an event for <actions> when Content (XML) is configured as the search area:</p>	
<p>Advanced</p>	<p>Select this radio button to enable the Advanced Criteria link. Click the link to open the Advanced Finding and Retrieving dialog box, where you can enter an XPath for a specific text pattern.</p> <p>You can test the XPath you configure in the Test area. Enter test data and click Test. The results are displayed in the Results area.</p>
<p>Extract the content of tag</p>	<p>Select this check box to extract the content of a specific tag and attribute to use as the event description in Real User Monitor reports. Enter the specific tag and attribute name.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This check box is enabled only when you select the Tag radio button (that is, the event is triggered when the configured value is located in a specific attribute and tag). ▶ This string is used for the event description only and does not affect the event text pattern matching.
<p>Tag</p>	<p>Select this radio button to trigger the event when a configured value is found in a specific tag and attribute. Enter the specific tag and attribute name and the value to match.</p>

URL Builder

The URL Builder enables you to configure a URL using its composite parts when configuring Real User Monitor applications.

<p>To access</p>	<p>Click the New URL  or Edit URL  button in one of the following:</p> <ul style="list-style-type: none"> ▶ Real User Monitor Application wizard > Monitoring Settings page. ▶ Real User Monitor Application General page > Application Location area. ▶ Real User Monitor Application General page > User Name Detection area. ▶ Real User Monitor Application Session page > Session Reset area. ▶ Real User Monitor Application Pages page > <Folder content> area. ▶ Error Page Event dialog box. ▶ Business Transaction Real User Monitor Configuration page > Transaction Page Settings area. (Accessed by clicking the Edit Page  button only.)
<p>Important information</p>	<p>You use the URL Builder to configure pages for http-based applications. To configure actions for applications based on other protocols, you use the Description Builder. For user interface details, see "Description Builder" on page 301.</p>
<p>See also</p>	<ul style="list-style-type: none"> ▶ "Using the URL Builder" on page 249 ▶ "URL Wildcards" on page 250

User interface elements are described below:

UI Elements (A-Z)	Description
Host	<p>Enter the URL host, which is the name of the machine on which the file, or resource, that you wish to access via the URL resides.</p> <p>Syntax exceptions: The host name can be up to 260 characters long and contain alphanumeric characters as well as the following: _ / ~ ' () - . *.</p> <p>Note: The asterisk wildcard (*) can be used in a host value.</p>
Parameters	<p>Select one of the following parameter options:</p> <ul style="list-style-type: none"> ➤ None. This option does not define any parameters. ➤ None or more. This option specifies that either no parameters, or any combination of parameters are valid. ➤ Only the parameters listed below. This option allows you to specify specific parameters and values that must be matched. ➤ The parameters listed below as well as other parameters. This option allows you to specify specific parameters and values that must be matched, but also accepts any other additional parameters and values. ➤ At least one parameter. This option indicates that the URL must contain at least one parameter, but it does not matter what the parameter name, or the value, is. <p>Note: If you select Only the parameters listed below, or The parameters listed below as well as other parameters, you must configure specific parameters. For user interface details, see "Parameter Settings" on page 406.</p> <p>Syntax exceptions: The total length of all the parameters cannot exceed 1000 characters.</p>




UI Elements (A-Z)	Description
Port	<p>Use default port. Select this option to use the default port to connect to the URL host machine. The default port number is 80 for the http protocol or 443 for the https protocol.</p> <p>Note: This option is disabled if you select HTTP or HTTPS as the protocol and the appropriate default port is used automatically.</p>
	<p>Use custom port. Select this option to configure a custom port number to connect to the URL host machine and enter a port number between 0 and 65535.</p> <p>The asterisk wildcard character can be used when you configure a page URL. For example, if you enter 44* as the URL port, any port that begins with 44 can be correlated with the configured URL.</p> <p>Note: This option is disabled if you select HTTP or HTTPS as the protocol and the appropriate default port is used automatically.</p> <p>Syntax exceptions: You cannot use the asterisk wildcard character when you configure an application URL.</p>
Protocol	<p>Select the URL protocol used to fetch the URL. Available options are:</p> <ul style="list-style-type: none"> ▶ http. The standard protocol for regular communications. ▶ https. The protocol used when the URL is accessed using Secure Sockets Layer (SSL). ▶ http or https. Either option is valid. If you select this option, you cannot configure a port and the appropriate default port is used automatically.


UI Elements (A-Z)	Description
URL	<p>Enter the URL you want to configure. You can enter a URL by typing it in the URL box directly, or by copying a URL from an external source and pasting it in the URL box. When you enter a URL, it is broken down into its composite parts, which are displayed under the URL.</p> <p>You can use wildcards when defining a URL. For details, see "URL Wildcards" on page 250.</p>
URL path	<p>Enter the URL path to the file, or resource, that you wish to access via the URL.</p> <p>The asterisk wildcard character can be used. For example, if you enter cgi*search.cgi as the URL path, any path that begins with cgi and ends with search.cgi can be correlated with the configured URL.</p> <p>Syntax exceptions: The URL path can be up to 1000 characters long and contain alphanumeric characters as well as the following: / - _ . ! ~ ' () % * ; ; @ & = + \$, .</p>

Parameter Settings

The parameter settings area is visible only when you select the **Only parameters listed below** or **The parameters listed below as well as other parameters** option in the Parameters element of the URL Builder.



User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Add Parameter. Click to add a new row in the parameter table. Edit the fields by selecting the row and clicking the Edit Parameter  button, or click an individual cell in the table and edit it directly.</p> <p>Note: Parameter names must be unique in a URL.</p>
	<p>Edit Parameter. Click to open the URL Parameter dialog box, where you can edit an existing URL parameter. For user interface details, see "Description/URL Parameter Dialog Box" on page 304.</p>

UI Elements (A-Z)	Description
	Remove Parameter. Click to remove selected URL parameters from the list.
Name	The name of an included parameter. Syntax exceptions: Allowed characters are a-z, A-Z, 0-9, and ; / : @ + \$, - _ . ~ ' () = % .
Option	The option for an included parameter. Valid options are: <ul style="list-style-type: none"> ▶ =. Include only a specific parameter value. ▶ All. Include all values of the parameter.
Value	If you chose to include only a specific parameter value (by selecting = in the Option field), enter the specific value. Syntax exceptions: Allowed characters are a-z, A-Z, 0-9, and ; / : @ + \$, - _ . ~ ' () = % *. Note: The asterisk wildcard (*) can be used in a parameter value.

User Name Detection Dialog Box

This dialog box enables you to configure where Real User Monitor searches for a user name in an application.

To access	Select Admin > End User Management > Monitoring tab and in the view tree, select an application that is configured for Real User Monitor. In the Content pane, select Real User Monitor tab > General and in the User Name Detection area, click the New User Name Detection  button or the Edit User Name Detection  button.
Important information	For user interface details, see "Search Area" on page 383.

4

Script Repository

This chapter includes:

Concepts

- ▶ Script Repository Overview on page 410
- ▶ Uploading Scripts to the Script Repository on page 411
- ▶ Script Verification for HP Software-as-a-Service Customers on page 412

Tasks

- ▶ How to Upload Scripts on page 413
- ▶ How to Work with Scripts on page 414

Reference

- ▶ Script Verification Checks on page 417
- ▶ Script Repository User Interface on page 419

Concepts

Script Repository Overview

The Script Repository is the central storage in which all your organization's Business Process Monitor scripts are added and stored. The repository enables you to organize your scripts into logical groups and to view and manage the properties of those scripts. The repository also enables version control and version updates.

The Script Repository enables you to:

- ▶ Create and manage user-defined folders for organizing your scripts.
- ▶ Upload scripts to a repository folder for use when creating monitors.
- ▶ Manage the scripts that have been uploaded to the repository.
- ▶ Control the versions of the scripts with check in and check out functionality, including downloading script content onto your local system for editing.

To generate business process data, you must create Business Process Transactions Flows to run scripts that include those processes you want monitored. When you add a transaction monitor to a flow in End User Management Administration, you can add only those scripts that have been stored in the Script Repository. For details on creating business transaction flows, see "Business Transaction Flow Configuration Wizard" on page 190.

To access the Script Repository, select **Admin > End User Management > Script Repository**. For user interface details, see "Script Repository Page" on page 430.

Uploading Scripts to the Script Repository

To create scripts for use in HP Business Service Management, you must record Business Process Monitor scripts using the HP Virtual User Generator recording tool. For details, see "VuGen Recording Tips" on page 109.

Once these scripts are recorded and saved as .zip files, you upload them to the Script Repository. They must be uploaded into an existing folder in the Script Repository.

Note: When zipping a script in HP Virtual User Generator for upload to the Script Repository, it is recommended that you zip only the script's run-time files.

You create the Business Transactions Flows in End User Management Administration to collect performance data on the transactions within the scripts. For details on creating Business Process Transactions Flows, see "Business Transaction Flow Configuration Wizard" on page 190.

Script Verification for HP Software-as-a-Service Customers

Note: This section applies to HP Software-as-a-Service customers only.

When you upload a script to the script repository, HP Business Service Management runs a verification process to verify that the script executes properly when it is run as part of a business transaction flow. You can add a script to a business transaction flow only if it has been successfully verified (that is, its verification status is **Verified** or **Verified without sandbox**). You can add only scripts with a status of **Verified** to run on public POPs (that is, data collectors managed by HP Software-as-a-Service for multiple customers). You can add scripts with a status of **Verified** or **Verified without sandbox** to run on your private POPs (that is, to data collections that are run privately for your company).

The script verification status (Failed, Not yet verified, Verified, or Verified without sandbox) is displayed in the **Script Versions** and **Version Properties** dialog boxes, and also in the **Folder Content** pane.

For details on the checks made during the verification process, see "Script Verification Checks" on page 417.

Tasks

How to Upload Scripts

This task describes how to upload scripts to the Script Repository.

This task includes the following steps:

- "Create Scripts" on page 413
- "Create Script Repository Folders" on page 413
- "Upload scripts to the Script Repository" on page 413
- "Grant Permissions" on page 413
- "Results" on page 414

1 Create Scripts

Use HP Virtual User Generator (VuGen) to record scripts. For details on working with VuGen, refer to the *HP Virtual User Generator User's Guide*.

2 Create Script Repository Folders

Create a hierarchy of folders within the Script Repository in which to organize scripts. For user interface details on creating and managing folders, see "Folders Pane" on page 425.

3 Upload scripts to the Script Repository

Upload scripts to the Script Repository folders. For user interface details, see "Add Script Dialog Box" on page 419.

4 Grant Permissions

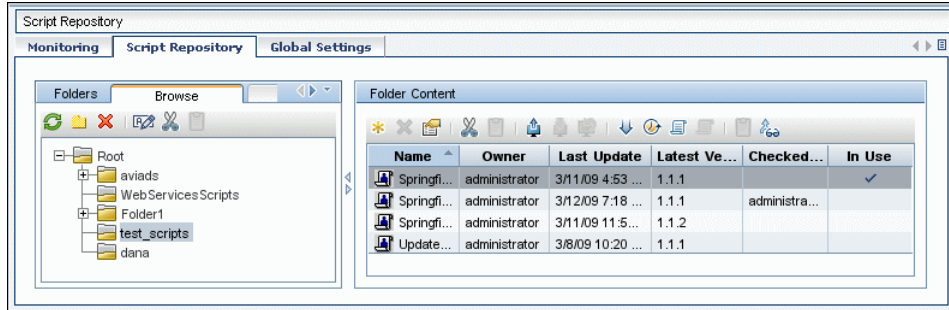
Grant permissions so that users can view and manage scripts and folders in the Script Repository. For concept details, see "Permissions Overview" in *Platform Administration*.

5 Results

The various scripts you upload to the Script Repository are displayed in the Folder Content pane.

For user interface details, see "Folder Content Pane" on page 421.

Example:



How to Work with Scripts

This task describes how to work with scripts in the Script Repository. For user interface details for the various steps in this task, see "Folder Content Pane" on page 421.

This task includes the following steps:

- "Prerequisites" on page 415
- "Check out a version" on page 415
- "Download a script" on page 415
- "Edit a script" on page 415
- "Check in a script" on page 415
- "Undo a checkout" on page 415
- "Results" on page 415
- "Search Script Assignments" on page 416

1 Prerequisites

You must upload a script to the Script Repository. For task details, see "How to Upload Scripts" on page 413.

2 Check out a version

You can check out a version of a script to lock it, so that no other user makes changes to this version of the script while you are editing it. For details on script versions and managing them, see "Script Versions Dialog Box" on page 432.

3 Download a script

You download a script to edit it. It is good practice to check out the script before downloading it to lock it, thereby ensuring that another user simultaneously edits the same script.

4 Edit a script

Once you have checked out a script, you can edit it using HP Virtual User Generator (VuGen). For details of working with VuGen, refer to the *HP Virtual User Generator User's Guide*.

5 Check in a script

You check the script back into the Script Repository once you have finished editing it and saving the .zip file in your file system.

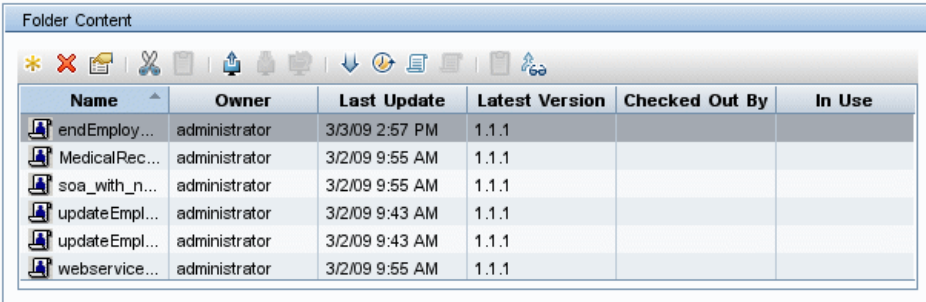
6 Undo a checkout

You can undo a checkout to prevent the Script Repository from creating a new version.

7 Results

Your scripts appear in the Folder Content pane on the right side of the page.

Example:



Name	Owner	Last Update	Latest Version	Checked Out By	In Use
endEmploy...	administrator	3/3/09 2:57 PM	1.1.1		
MedicalRec...	administrator	3/2/09 9:55 AM	1.1.1		
soa_with_n...	administrator	3/2/09 9:55 AM	1.1.1		
updateEmpl...	administrator	3/2/09 9:43 AM	1.1.1		
updateEmpl...	administrator	3/2/09 9:43 AM	1.1.1		
webservice...	administrator	3/2/09 9:55 AM	1.1.1		

8 Search Script Assignments

You can search for the business transaction flows in which selected scripts are used and perform various actions on the search results. For user interface details, see "Search Results Dialog Box" on page 435.

Reference

Script Verification Checks

The following table describes the various checks made when verifying a script:

Running Verifications	Rule	Actual Result
Disallowed function calls: system;lr_load_dll	Do not use the function calls that are listed.	Lists the actual function calls used in the script.
Download size must be less than 3000000 bytes	The maximum size of the download.	Indicates the actual download size.
Execution must be less than 300 seconds	The maximum execution time of the script.	Indicates the actual execution time of the script.
Expected protocol: QTWeb; NCA; WinSock; Sap_web; SapGui; Siebel_Web; http; SOAP; PS8; PS8WebJS; WinSockWeb; Oracle_NCA; OracleWebJS; WebJS; WinSockWeb; Tulip; Citrix_ICA; OracleWebJS; General-vbs; General-Js SMTP; POP3; IMAP; Oracle; ODBC; FTP; EJB-Testing; MLDAP; Rmi-Java; Java_protocols	Only use the listed protocol types.	Indicates the actual protocol type used in the script.
Extra files with the following extensions are allowed: ini;h;tst	Only use extra files with the listed extensions.	Lists the actual extensions used in the script.
Failed transactions are disallowed	Do not use failed transactions.	Indicates whether there were failed transactions in the script.

Running Verifications	Rule	Actual Result
Maximum number of dynamic transactions allowed:0	Do not use more dynamic transactions than the allowed maximum number.	Indicates the number of dynamic transactions in the script. Dynamic transactions are the transactions that are not defined in the USR file; meaning their name has been generated dynamically (for example: Transaction + i == Transaction 1,Transaction 2, and so forth).
Maximum number of iterations allowed:1	Do not use more iterations than the allowed maximum number.	Indicates the number of time each action in a script is run. Every script is composed of actions (.c code files) which can be run more than once during one running of the script (a feature used mainly in LoadRunner and not in HP Business Service Management). This iteration number must be limited so that duplicate transactions are not reported.
Maximum number of transaction instances allowed:1	Do not use more transaction instances than the allowed maximum number.	Indicates the number of transaction instances in the script.
Maximum number of transactions allowed:100	Do not use more transaction than the allowed maximum number.	Indicates the number of transactions in the script.
Total size must be less than 600000 bytes	The maximum total size of the script.	Indicates the actual total size of the script.


Script Repository User Interface

This section includes (in alphabetical order)

- Add Script Dialog Box on page 419
- Check In Dialog Box on page 420
- Folder Content Pane on page 421
- Folders Pane on page 425
- Script Operations Dialog Box on page 428
- Script Parameters Dialog Box on page 429
- Script Properties Dialog Box on page 429
- Script Repository Page on page 430
- Script Transactions Dialog Box on page 431
- Script Verification Report on page 432
- Script Versions Dialog Box on page 432
- Search Results Dialog Box on page 435
- Update Version Wizard on page 437
- Version Properties Dialog Box on page 439

Add Script Dialog Box

This dialog box enables you to upload a script and add it to a selected folder.


To access	Select Admin > End User Management > Script Repository tab and in the Folder Content pane click the Add Script  button.
Important information	<ul style="list-style-type: none"> ➤ Select the folder from the Folder pane in which you want to upload and add a script. ➤ You can also upload a script by dragging and dropping a script .zip file directly into the Folder Content pane.
Relevant tasks	"How to Upload Scripts" on page 413

User interface elements are described below:

UI Elements (A–Z)	Description
Content	The path of the .zip file containing the script. Click Browse to locate and select the .zip file in your file system.
Description	Optionally, add a description for the script. The description appears in the Script Properties.
Name	The name of the content or .zip file specified in the Content field. Note: This field is displayed automatically when you complete the Content field. You cannot edit this field manually.
Type	Choose the type of script you want to add to the Script Repository from the drop-down Type list. Note: <ul style="list-style-type: none"> ▶ If you select AUTO-DETECT, the script type is determined during the upload. ▶ Currently, the following types are supported in HP Business Service Management: AUTO-DETECT, VUGEN SCRIPT, and QTP SCRIPT.

Check In Dialog Box

This dialog box enables you to check in a script, thereby creating a new version of the script.

To access	Select Admin > End User Management > Script Repository tab, and in the Folder Contents pane click the Check In  button.
Relevant tasks	"How to Work with Scripts" on page 414

User interface elements are described below:







UI Elements (A–Z)	Description
Content	The path of the .zip file containing the script. <ul style="list-style-type: none"> ▶ Click the Browse button to locate the .zip file containing the script in your file system. ▶ Click the Open button to enter the path and click OK.
Description	Optionally, add a description for the script. The description appears in the Script Properties.
Name	The name of the content or .zip file specified in the Content field. You cannot fill this field in manually.






Folder Content Pane





This pane displays, in table format, the scripts that have been uploaded to the folder selected in the folder tree and enables you to perform various actions to manage them.



To access	Select Admin > End User Management > Script Repository
Relevant tasks	<ul style="list-style-type: none"> ▶ "How to Upload Scripts" on page 413 ▶ "How to Work with Scripts" on page 414
See also	"Script Repository Overview" on page 410

User interface elements are described below:

UI Elements (A–Z)	Description
	<p>Add Script. Click to open the Add Script dialog box and select a script to upload. For details, see "Add Script Dialog Box" on page 419.</p> <p>Note: You can also upload a script by dragging and dropping a script .zip file directly into the Folder Content pane.</p>
	<p>Delete Script. Click to delete selected scripts.</p>
	<p>Script Properties. Click to open the Script Properties dialog box, enabling you to view the properties of a selected script and add a description. For user interface details, see "Script Properties Dialog Box" on page 429.</p>
	<p>Cut Script. Click to cut a selected script from the folder.</p>
	<p>Paste Script. Click to paste the previously cut script into another folder.</p> <p>Note:</p> <ul style="list-style-type: none"> ➤ You cannot paste a script to the same location from which it was cut. ➤ A script's name must be unique within a folder.
	<p>Check Out. Click to check out a selected script for editing.</p> <p>Note:</p> <ul style="list-style-type: none"> ➤ Checking out a script ensures that no other user makes changes to this version while you are editing it. ➤ Once a script is checked out, only the user who checked it out can edit it, check it in, delete it, or create a new version. ➤ When a script is checked out, it can still be added as a transaction monitor while working in End User Management Administration.


UI Elements (A–Z)	Description
	<p>Check In. Click to open the Check In dialog box and create a new version of the selected script. For details, see "Check In Dialog Box" on page 420.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This button is enabled only for scripts that have been checked out. ▶ When you check in a script, the Script Repository automatically creates a new version number for it. For example, if you checked out version number 1.1.1, the Script Repository creates version number 1.1.2 as a result of checking the script back into the Script Repository. The previous version is still accessible and its script can be added to transaction monitors in End User Management Administration, but the latest version becomes the default version.
	<p>Undo Check Out Script. Click to undo a previous check out for a selected script.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This button is enabled only for scripts that have been checked out. ▶ Undoing a checkout prevents the Script Repository from creating a new version. ▶ If you have made modifications to a script that you do not want saved, undo the checkout to restore the unedited version.
	<p>Download Script. Click to download scripts for editing.</p> <p>Note: It is good practice to check out a script before downloading it to ensure that another user is not simultaneously editing it.</p>
	<p>Script Versions. Click to open the <script> Versions dialog box where you can view a selected script's version history. For user interface details, see "Script Versions Dialog Box" on page 432.</p>
	<p>Script Transactions. Click to view the order and names of the transactions in a selected script, in a new window.</p>

UI Elements (A–Z)	Description
	<p>Script Operations. Click to view the operations monitored by a selected script, in a new window.</p> <p>Note: This button is enabled only for Web service scripts.</p>
	<p>Script Parameters. Click to open the Script Parameters dialog box, which enables you to view the parameters used in the selected script, and their values. For user interface details, see "Script Parameters Dialog Box" on page 429.</p> <p>Note: This button is enabled only when a single script is selected.</p>
	<p>Go To Folder. Click to navigate to a selected script found in a search. The Script Repository folder containing the script is selected in the tree hierarchy in the Folders pane, and all the scripts in that folder are displayed in the Folder Contents pane. For details on the Folders pane user interface, see "Folders Pane" on page 425.</p> <p>Note: This button is enabled only for scripts found in a search.</p>
	<p>Search Script Assignment. Click to locate the applications in which a selected script is in use. The results are displayed in the Search Results dialog box. For user interface details, see "Search Results Dialog Box" on page 435.</p> <p>Note: This button is enabled only for scripts currently in use.</p>
<p>Checked Out By</p>	<p>The user to whom the script is currently checked out.</p> <p>Note: If a script is not checked out, this column is blank.</p>
<p>In Use</p>	<p>Displays a check mark when the script is in use by any application.</p>
<p>Last Update</p>	<p>The date when a script was last checked into the repository.</p> <p>Note: If the script has never been checked out, the date the script was first uploaded is displayed.</p>

UI Elements (A–Z)	Description
Latest Version	The latest version number of a script. Note: Older versions are still accessible but the latest becomes the default version.
Name	The name given to a script when it was uploaded. An icon denotes the type of script. <ul style="list-style-type: none"> ▶  Denotes a HP Virtual User Generator (VuGen) script. ▶  Denotes a QuickTest Professional script. Tooltip: Displays the full name of a script which is truncated when longer than the width of its column in the table.
Owner	The user who uploaded the script.
Verified	The verification status of the latest script version. Note: This column is only visible for HP Software-as-a-Service customers.

Folders Pane

This pane enables you to view and manage the Script Repository folders. You can also search the folders for scripts whose name contains a specified string.

To access	Select Admin > End User Management > Script Repository
Important information	<ul style="list-style-type: none"> ▶ The Folders pane displays the title Search Results (instead of Folder Content) when it displays the contents of the Search Results folder. ▶ You can hide and view the Folders pane and Folder Content pane by clicking the appropriate icon  between them.
Relevant tasks	"How to Upload Scripts" on page 413
See also	"Script Repository Overview" on page 410

This section also includes:



- "Browse Tab" on page 426
- "Search Tab" on page 427





Browse Tab

This tab displays a tree hierarchy of the folders in the Script Repository, and the buttons used to manage them. When you select a folder, its contents are displayed in the **Folder Content** pane. For user interface details, see "Folder Content Pane" on page 421.

To access	Select Admin > End User Management > Script Repository > Folders pane > Browse tab.
Important information	You perform actions on the folders in the tree by selecting a folder and clicking an action button in the tool bar, or by right-clicking a folder in the tree and selecting an option from the Shortcut menu that opens.


User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A–Z)	Description
	<p>Refresh. Click to refresh the displayed folder tree.</p> <p>Tip: Refresh the tree to load the folder data that may have been modified by other users.</p> <p>Note: The tree refreshes automatically when you perform any of the folder operations, so it is unnecessary to refresh it manually after such operations.</p>
	<p>Create New Folder. Click to create a new folder under a selected folder in the tree. The Create New Folder dialog box opens, where you enter the new folder name.</p> <p>Note:</p> <ul style="list-style-type: none"> ➤ A folder's name must be unique within its parent folder. ➤ You can create up to ten levels of sub folders.


UI Elements (A–Z)	Description
	Delete Folder. Click to delete a selected folder and its contents. Note: You cannot delete a folder that contains scripts that are in use.
	Rename Folder. Click to rename a selected folder, and enter the new name for the folder in the Rename Folder dialog box.
	Cut. Click to cut the selected folder from its place in the tree hierarchy.
	Paste. Click to paste a previously cut folder to a new location in the tree hierarchy. Note: You cannot paste a folder into the same folder from which it was cut.
<Folder tree hierarchy>	Displays the folders that are included in the Script Repository in a hierarchical tree.

Search Tab

This tab enables you to search for a script in the Script Repository.


To access	Select Admin > End User Management > Script Repository > Folders pane > Search tab.
Important information	<ul style="list-style-type: none"> ▶ A folder called Search Results is added to the folder tree displayed in the Browse tab. For user interface details, see "Browse Tab" on page 426. The contents of the Search Results folder (that is, the scripts found by the search) are displayed in the Search Results pane. For user interface details, see "Folder Content Pane" on page 421. ▶ To display the folder and its contents of a found script, select the script and click the Go To Folder  button in the Search Results pane. The relevant folder is highlighted in the tree hierarchy in the Browse tab. For user interface details, see "Browse Tab" on page 426.

User interface elements are described below:

UI Elements (A-Z)	Description
	Browse. Click to open the Browse Tree dialog box where you select the folder in which to search for a script. Note: This option is disabled if you choose to search the entire Script Repository.
Look In	Select the relevant radio button to search through the entire Script Repository or to select a specific folder in which to search.
Script Name	Enter a string for which to search. Any script whose name includes the string is found by the search.

Script Operations Dialog Box

This dialog box displays the operations included in a selected Web service script.



To access	Click the Script Operations  button in one of the following: <ul style="list-style-type: none"> ➤ Folder Content pane ➤ Script Versions dialog box
------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
Namespace	The namespace that includes the Webservice.
Operation Name	The operation name.
Webservice Name	The Webservice that includes the operation.

Script Parameters Dialog Box

This dialog box enables you to view the parameter names and values included in a selected script in the Script Repository.

To access	<ul style="list-style-type: none"> ▶ Click the Script Parameters  button in the Folder Content pane. ▶ Click the Version Parameters  button in the Script Versions dialog box.
See also	"Script Parameter Management Overview" on page 96

User interface elements are described below:

UI Elements (A-Z)	Description
Name	The parameter name.
Sensitive	A check mark denotes that the parameter contains sensitive data (for example, a password).
Value	<p>The parameter value.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ For parameters marked sensitive, the value is not displayed and a row of black squares is displayed instead. ▶ For parameters containing multiple values, the value is not displayed and the message [Multiple Values] is displayed instead.

Script Properties Dialog Box

This dialog box displays the basic properties of a selected script and enables you to enter a free text description for the script.

To access	Click the Script Properties  button for a selected script in the Folder Content pane.
------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
Creation date	The date the script was originally uploaded to the script repository.
Description	Enter a free text description for the script.
Latest version	The latest version number of the script.
Modification date	The date that the script was last modified.
Name	The name of the script.
Owner	The owner who originally uploaded the script to the repository.
Type	The type of script—HP Virtual User Generator (VuGen) or QuickTest Professional.

Script Repository Page

This page displays the Business Process Monitor scripts stored in the Script Repository, and the folders that contain the scripts.


To access	Select Admin > End User Management > Script Repository
See also	"Script Repository Overview" on page 410

User interface elements are described below:

UI Elements (A-Z)	Description
Folders	This pane contains the following tabs: <ul style="list-style-type: none"> ► Browse. Enables you to view and manage the Script Repository folders. ► Search. Enables you to search for specific scripts in the repository. For user interface details, see "Folders Pane" on page 425.
Folder Content	This pane enables you to view and manage the uploaded scripts in the repository folders. For user interface details, see "Folder Content Pane" on page 421.

Script Transactions Dialog Box

This dialog box displays the transactions included in a selected script.


To access	Click the Script Transactions  button in the: <ul style="list-style-type: none"> ► Folder Content pane ► Script Versions dialog box
------------------	---

User interface elements are described below:

UI Elements (A-Z)	Description
Name	The transaction name.
Transaction Order	The order of the transaction within the script.

Script Verification Report

This reports displays the different checks made when verifying a script version, and the values and status for each step. This enables you to troubleshoot scripts that are not successfully verified.


To access	Click the Script Verification Report  button in the Script Versions dialog box.
Important information	This report is only available to HP Software-as-a-Service customers.
See also	"Script Verification Checks" on page 417

User interface elements are described below:








UI Elements (A-Z)	Description
Actual Value	The actual value used during verification.
Criteria	The name of the verification check.
Description	Additional information relating to the verification check.
Expected Value	The value expected during verification.
Status	The status of the verification check—Passed, Warning, Failed.


Script Versions Dialog Box

This dialog box lists the versions of a selected script and enables you to perform various actions to manage them.

To access	Click the Script Versions  button in the Folder Content pane.
Relevant tasks	"How to Work with Scripts" on page 414


User interface elements are described below:

UI Elements (A–Z)	Description
	Version Properties. Click to open the Versions Properties dialog box, where you can view general information about the script version and change its verification status. For user interface details, see "Version Properties Dialog Box" on page 439.
	Script Transactions. Click to open the Script Transactions dialog box, which enables you to view the order and names of the transactions in a selected script version. For user interface details, see "Script Transactions Dialog Box" on page 431.
	Script Operations. Click to open the Script Operations dialog box, which enables you to view the operations monitored by a script version. For user interface details, see "Script Operations Dialog Box" on page 428. Note: Enabled only for Web service scripts.
	Version Parameters. Click to open the Script Parameters dialog box, which enables you to view the parameters used in the selected script version, and their values. For user interface details, see "Script Parameters Dialog Box" on page 429.
	Restore an Older Version. Click to restore a selected previous version of a script. The selected previous version is copied and assigned a new version number, making it the current version.
	Download Script. Click to download a specific version of the script for editing. Note: It is good practice to check out a script before downloading it to ensure that another user is not simultaneously editing the same script.
	Delete Version. Click to delete the selected version of a script.




UI Elements (A–Z)	Description
	<p>Script Verification Report. Click to display a report with details of the verification of the script version. For user interface details, see "Script Verification Report" on page 432.</p> <p>For details on script verification, see "Script Verification for HP Software-as-a-Service Customers" on page 412.</p> <p>Note:</p> <ul style="list-style-type: none"> ➤ This button is only visible for HP Software-as-a-Service customers. ➤ The Sandbox Verification report is only available for scripts that have been verified (with or without errors). For scripts that have not yet been verified, no report is available.
In Use	Displays a check mark when a script is in use by any application.
Last Update	The date and time when a script was last checked into the Script Repository. If the script has never been checked in, this is the date it was uploaded.
Modified By	The user who created or last checked in the script version.
Verified	<p>Displays the verification status of the script version, which can be:</p> <ul style="list-style-type: none"> ➤ Failed ➤ Not yet verified ➤ Verified ➤ Verified without sandbox <p>For details on script verification, see "Script Verification for HP Software-as-a-Service Customers" on page 412.</p> <p>Note: This field is only visible for HP Software-as-a-Service customers.</p>
Version	The version number given to the script when it was last checked into the Script Repository.





Search Results Dialog Box

This dialog box lists the applications in which a selected script is currently used, and enables you to perform various actions to manage them.

To access	Select Admin > End User Management > Script Repository tab and in the Folders pane, select a folder. In the Folder Content pane, select the scripts for whose usage you want to search and click the Search Script Assignment  button.
Important information	You can only search for scripts that are in use.




User interface elements are described below:

UI Elements (A-Z)	Description
	Export to Excel. Click to export selected scripts to an Excel file.
	Open Global Replace Wizard. Click to open the Global Replace wizard where you can search and replace configuration settings and properties for selected scripts. For user interface details, see "Global Replace Wizard" on page 51.
	Edit Script Settings. Click to open the Edit Script Settings dialog box, where you can edit a selected script's properties. For user interface details, see "Edit Script Settings Dialog Box" on page 209. Note: This button is enabled only when a single script is selected.

UI Elements (A-Z)	Description
	<p>Bulk Operations. Click to open a Shortcut menu with the following options:</p> <ul style="list-style-type: none"> ▶  Add BPM Data Collectors. Select this option to open the Add Data Collectors wizard, where you add and configure data collectors to run the business transaction flow in which the selected script is included. For user interface details, see "Add Data Collectors Wizard" on page 124. ▶  Remove BPM Data Collectors. Select this option to open the Remove Data Collectors wizard, where you remove data collectors from the business transaction flow in which the selected script is included. For user interface details, see "Remove Data Collectors Wizard" on page 220. ▶  Update Version. Select this option to open the Update Version wizard, where you update the versions used for selected scripts. For user interface details, see "Update Version Wizard" on page 437.
Application	The name of the application containing the business transaction flow in which the script is included.
Business Tx Flow Name	The name of the business transaction flow in which the script is included.
Data Collectors	A list of the data collectors assigned to run the script.
Name	The name of the script.
Transactions	A list of transactions included in the script.
Version	The version number of the script used.

Update Version Wizard

This wizard enables you to change the versions of scripts used in business transaction flows.

<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Script Repository tab. In the Folder Content pane, select scripts that are in use and click the Script Search Assignment  button. In the Search Results dialog box, select the scripts whose versions you want to change, click the Bulk Operations  button and in the Shortcut menu select Update Version. ▶ Select Admin > End User Management > Monitoring tab > Search tab. Search for script monitors and in the Search Results pane, select the scripts whose versions you want to change, click the Bulk Operations  button and in the Shortcut menu select Update Version.
<p>Important information</p>	<p>If the updated version of a script contains new transactions (that is, transactions that were not included in the previous version), you must manually change the transaction thresholds as required. For details on changing transaction thresholds, see "Edit Thresholds Dialog Box" on page 217.</p>
<p>Wizard map</p>	<p>This wizard contains:</p> <p>Select Version to Update Page > Update Version Results Page</p>

Select Version to Update Page

This wizard page enables you to select the version of a script to use in a business transaction flow.

Important information	General information about this wizard is available here "Update Version Wizard" on page 437.
Wizard map	The Update Version Wizard contains: Select Version to Update Page > Update Version Results Page

User interface elements are described below:



UI Elements (A-Z)	Description
BTF Name	The name of the business transaction flow in which the selected script is included.
Current Version	The version of the script currently used in the business transaction flow.
Script Name	The selected script name.
Update to Version	Select the new version of the script to use in the business transaction flow. Default value: The latest version number.

Update Version Results Page

This wizard page enables you to view the scripts whose versions were updated, the status of the update, and any new transactions included in the new version of a script.

Important information	General information about this wizard is available here "Update Version Wizard" on page 437.
Wizard map	The Update Version Wizard contains: Select Version to Update Page > Update Version Results Page

User interface elements are described below:

UI Elements (A-Z)	Description
Added Transaction Names	The names of new transactions in the script. That is, transactions included in the new version of the script that were not included in the previous version.
BTF Name	The name of the business transaction flow in which the selected script is included.
Current Version	The updated version of the script currently used in the business transaction flow.
Script Name	The selected script name.
Status	An icon indicates the success or failure of the update: <ul style="list-style-type: none"> ➤  Update successful ➤  Update failed

Version Properties Dialog Box

This dialog box displays general information about a specific version of a selected script and enables you to change its verification status

To access	Click the Version Properties  button in the Script Versions dialog box.
------------------	--

User interface elements are described below:

UI Elements (A-Z)	Description
Modification date	The date that the version was last modified.
Modified by	The user name who made the last modification to the version.

UI Elements (A-Z)	Description
Verified	<p>The verification status of the script version. The current verification status is displayed. Select a different status to change it. For details on script verification, see "Script Verification for HP Software-as-a-Service Customers" on page 412.</p> <p>Note: This field is only visible for HP Software-as-a-Service customers.</p>
Version comment	<p>A free text comment about the version. The comment is displayed in this dialog box only.</p>
Version label	<p>The version number.</p>

5

Settings

This chapter includes:

Concepts

- ▶ Settings Overview on page 442
- ▶ Removing a Data Collector on page 443
- ▶ End User Management Licenses Overview on page 444
- ▶ HP BAC Anywhere Overview on page 448

Tasks

- ▶ How to Install and Assign Business Process Monitor Licenses on page 449
- ▶ How to Install and Assign Real User Monitor Licenses on page 450

Reference

- ▶ Settings User Interface on page 451

Concepts

Settings Overview

HP Business Service Management End User Management includes installable components that provide data collection capabilities—Business Process Monitor and Real User Monitor. Once a data collector is installed and successfully connects to Business Service Management, it is registered in Business Service Management’s management database. The **Settings** tab in End User Management Administration enables you to manage and maintain the data collectors registered in your system. To access the Settings tab, select **Admin > End User Management > Settings**.

You use the Settings tab to:

- ▶ View a detailed list of all the End User Management data collectors registered in your system.
- ▶ Remove a data collector from the list of registered data collectors in End User Management Administration.
- ▶ View and edit a data collector’s current properties.
- ▶ Find and modify the business transaction flows or applications monitored by a data collector.
- ▶ Link to the administration site of a data collector.
- ▶ Manage custom attributes for Business Process Monitors.
- ▶ Export Business Process Monitor data collector information.
- ▶ Change the location of a Business Process Monitor.
- ▶ View and edit system default settings.
- ▶ Assign licenses for monitoring applications.

The Settings tab user interface includes the following tabs:

- ▶ **Business Process Monitor Settings.** Enables you to manage the Business Process Monitors registered in your system. For user interface details, see "Business Process Monitor Settings Tab" on page 461.
- ▶ **Real User Monitor Settings.** Enables you to manage the Real User Monitors registered in your system. For user interface details, see "Real User Monitor Settings Tab" on page 467.

For details on installing Business Process Monitor, refer to the *Business Process Monitor Administration* PDF.

For details on installing Real User Monitor, refer to the *Real User Monitor Administration* PDF.

Note to HP Software-as-a-Service customers: HP Operations administers these pages and the interface is hidden from view, except for the user accessing with superuser permissions.

Removing a Data Collector

If a specific Business Process Monitor or Real User Monitor data collector becomes obsolete, you can use the **Settings** tab to remove it from the management database. Data collectors that can be removed are marked as such in the **Removable** column on the relevant data collector settings page. For user interface details, see "BPM Agents Page" on page 452 and "RUM Engines Page" on page 470.

Removing a Business Process Monitor or Real User Monitor in End User Management Administration deletes it only from the management database and not from the profile database. This means that a removed data collector does not appear in the list of registered data collectors in End User Management Administration, but any data already collected by the data collector and stored in Business Service Management's profile database still appears in different areas of Business Service Management (for example, in reports).

End User Management Licenses Overview

To be able to monitor applications, you must have valid licenses for Business Process Monitor and Real User Monitor. There are different types of licenses that you can use. You install the licenses in Platform Administration and once installed, you assign them to applications or Real User Monitor Probes in End User Management Administration. For details on installing licenses, see "Licenses" in *Platform Administration*.

This section also includes:

- ▶ "Business Process Monitor Licenses" on page 444
- ▶ "Real User Monitor Licenses" on page 446
- ▶ "APM 360 with SLM License" on page 447

Business Process Monitor Licenses

You must have a valid license to run Business Process Monitor transactions and scripts for an application. The following are the types of licenses that you can install for Business Process Monitor:

- ▶ **Transaction Unlimited Location.** One usage of the license enables you to run one transaction from any number of locations (that is, the transaction can be assigned to run on any number of different Business Process Monitors).
- ▶ **BPM Advanced with SLM.** This is similar to the **Transaction Unlimited Location** license, but also enables unlimited use of the application in Service Level Management.

- ▶ **Transaction Single Location.** One usage of the license enables you to run one transaction from only one location (that is, on only one Business Process Monitor).
- ▶ **BPM Target.** One usage of the license enables you to run one script or single URL from only one location (that is, on only one Business Process Monitor).
- ▶ **APM 360 with SLM License.** One usage of the license enables you to run unlimited transactions from any location for one application. For concept details, see "APM 360 with SLM License" on page 447.

Once licenses are installed in Business Service Management, you assign and manage them in End User Management Administration. When you configure a new application for Business Process Monitor in End User Management Administration, you assign a license type to it, which applies to all the application's transactions or scripts (depending on the type of license). For example, if you assign a Transaction Unlimited Location license to an application that contains twelve transactions, each of those transactions can be run on an unlimited number of Business Process Monitors and twelve usages of the license are deducted from the available license capacity. If a Business Process Monitor license is not valid (for example, if there is no remaining capacity or it has expired) you cannot assign it in End User Management Administration.

Note: License usage is not deducted from license capacity for an application or business transaction flow that is inactive or that has no assigned data collectors for running transactions.

You can change the assignment when you edit an application's Business Process Monitor configuration (for user interface details, see "Business Process Monitor Properties Pane" on page 149), or in the **Settings** tab in End User Management Administration (for user interface details, see "BPM License Page" on page 458).

Real User Monitor Licenses

You must have a valid license to enable Real User Monitor Probes to monitor applications. The following are the types of licenses that you can install for Real User Monitor:

- ▶ **RUM SPI for Applications.** Enables a probe to monitor applications for all protocols.
- ▶ **RUM Advanced with SLM.** This is similar to the **RUM SPI for Applications** license, but also enables unlimited use of the application in Service Level Management.
- ▶ **RUM Probe.** Enables a probe to monitor applications for TCP protocols (request-response and streaming). It does not enable the probe to monitor http (Web or SOAP) or other protocols.
- ▶ **APM 360 with SLM License.** Unlike the other Real User Monitor licenses, the APM 360 with SLM license is assigned to applications and not to probes. One usage of the license enables you to monitor a specific application from any number of Real User Monitor Engines and Probes. For concept details, see "APM 360 with SLM License" on page 447.

Once licenses are installed in Business Service Management, you assign and manage them in End User Management Administration. When a Real User Monitor Probe is registered in Business Service Management (either when the engine to which it is associated is registered, or when a new probe is added to an already registered engine), Business Service Management automatically assigns the highest available license to the probe (that is, **RUM Advanced with SLM**, **RUM SPI for Applications**, or **RUM Probe**, in that order). If no type of license is available, the probe is assigned **None** as the license type and is unable to monitor applications. You can change the type of license assigned to a probe. For user interface details, see "RUM License Page" on page 472. If a Real User Monitor license is not valid (for example, if there is no remaining capacity or it has expired) Real User Monitor will not run the relevant probes, or monitor the relevant applications.

APM 360 with SLM License

The APM 360 with SLM license is an application license. That is, you assign it to a specific application CI and it enables you to run unlimited Business Process Monitor transactions from any location for the application, to monitor the application from any number of Real User Monitor Engines and Probes, and unlimited use of the application in Service Level Management. You manage the assignment of APM 360 with SLM licenses to Application CIs in End User Management Administration. To assign an APM 360 with SLM license to an application CI, you must have change permissions for both Business Process Monitor and Real User Monitor configurations. For details on assigning permissions, see "User Management" in *Platform Administration*.

If an application is configured for both Business Process Monitor and Real User Monitor, the following conditions and limitations apply:

- ▶ When you assign an APM 360 with SLM license to one of the configurations, it is automatically assigned to the other configuration. For example, if you assign an APM 360 with SLM license to the Business Process Monitor configuration, it is automatically assigned to the Real User Monitor configuration as well.
- ▶ When you remove an APM 360 with SLM license from an application's Business Process Monitor configuration, it is also removed from the application's Real User Monitor configuration.
- ▶ If an application is configured for both Business Process Monitor and Real User Monitor, you cannot remove an APM 360 with SLM license from an application's Real User Monitor configuration as it cannot be removed from the Business Process Monitor configuration without your assigning a different type of Business Process Monitor license in its place.

HP BAC Anywhere Overview

HP BAC Anywhere is a Web-based service that enables you to leverage data collector services, provided by HP Software-as-a-Service (HP SaaS), to gain visibility of your applications and infrastructure over the Internet and firewall. Based on Business Process Monitor technology, HP BAC Anywhere proactively monitors enterprise applications in real time, identifying performance problems before users experience them. HP SaaS maintains these host machines in key geographic locations, leveraging the extensive network infrastructure of significant ISPs around the world to provide numerous Points of Presence (POPs). After opening an HP BAC Anywhere account, you subscribe to the POPs you require. These POPs are then available for your use, enabling you to monitor sites from various remote locations, emulating the end-user experience. The collected data is sent to your HP Business Service Management platform, where you can assess site performance from different client perspectives and locations, using the HP Business Service Management applications to view and analyze the data. To sign up for this service, visit the HP BAC Anywhere Website (<https://portal.saas.hp.com/BACAnywhere>).

Tasks

How to Install and Assign Business Process Monitor Licenses

This task describes the working order for installing Business Process Monitor licenses and assigning them to applications.

This task includes the following steps:

- "Install the licenses" on page 449
- "Assign licenses to Business Process Monitor applications" on page 449
- "Change the license assigned to a Business Process Monitor application - optional" on page 449

1 Install the licenses

In Platform Administration, install the Business Process Monitor licenses in Business Service Management. For user interface details, see "License Manager Page" in *Platform Administration*.

2 Assign licenses to Business Process Monitor applications

In End User Management Administration, assign a license to each Business Process Monitor application. For user interface details, see "Business Process Monitor Properties Pane" on page 149.

3 Change the license assigned to a Business Process Monitor application - optional

If required, you can change the license assigned to a specific application. For user interface details, see "BPM License Page" on page 458 and "Business Process Monitor Application Properties Page" on page 179.

How to Install and Assign Real User Monitor Licenses

This task describes the working order for installing Real User Monitor licenses and assigning them to Real User Monitor Probes.

This task includes the following steps:

- "Install the licenses" on page 450
- "Install Real User Monitor Probes" on page 450
- "Change the license assigned to a Real User Monitor probe - optional" on page 450

1 Install the licenses

In Platform Administration, install the Real User Monitor licenses in Business Service Management. For user interface details, see "License Manager Page" in *Platform Administration*.

2 Install Real User Monitor Probes

Install Real User Monitor Engines and Probes. For details, see the *Real User Monitor Administration* PDF. When you install a Real User Monitor Engine and Probe, they are automatically registered in Business Service Management and assigned a Real User Monitor license. For concept details, see "Real User Monitor Licenses" on page 446.

3 Change the license assigned to a Real User Monitor probe - optional

If required, you can change the license assigned to a specific probe. For user interface details, see "RUM License Page" on page 472.

Reference

Settings User Interface

This section describes:




- ▶ BPM Agents Page on page 452
- ▶ BPM Default Settings Page on page 455
- ▶ BPM License Page on page 458
- ▶ Business Process Monitor Settings Tab on page 461
- ▶ Edit Business Process Monitor Properties Dialog Box on page 462
- ▶ Edit Real User Monitor Engine Properties Dialog Box on page 463
- ▶ Manage Custom Attributes Dialog Box on page 465
- ▶ Real User Monitor Settings Tab on page 467
- ▶ RUM Default Settings Page on page 468
- ▶ RUM Engines Page on page 470
- ▶ RUM License Page on page 472
- ▶ Search Results Dialog Box on page 474






BPM Agents Page

This page displays the Business Process Monitor data collectors registered in HP Business Service Management and enables you to carry out various management tasks for them.

To access	Select Admin > End User Management > Settings > Business Process Monitor Settings > BPM Agents
Important information	A Business Process Monitor instance is identified by the combination of the Host Name and Location Name. Both the Host Name and Location Name are defined by the user when setting up a Business Process Monitor instance. For details, see "Business Process Monitor Host Page" in the <i>Business Process Monitor Administration</i> PDF.
See also	"Settings Overview" on page 442

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A–Z)	Description
	Refresh. Click to refresh the list of registered Business Process Monitors.
	Edit Business Process Monitor Agent Properties. Click to open the Edit Business Process Monitor Properties dialog box, where you view and edit the properties of the selected Business Process Monitor. For user interface details, see "Edit Business Process Monitor Properties Dialog Box" on page 462. Note: If you select multiple Business Process Monitors, the dialog box is called Edit Multiple Business Process Monitor Agent Properties and you can only edit custom attributes.
	Remove Business Process Monitor Agent from List. Click to remove selected Business Process Monitors from the list. Note: This button is enabled only when the selected data collectors are removable.

UI Elements (A–Z)	Description
	<p>Export Business Process Monitor Agent Information for the Redirect Tool. Click to export property data from the selected Business Process Monitors to a text file, for the redirect tool. For details on redirecting Business Process Monitors, see "Redirecting Business Process Monitor Instances" in the <i>HP Business Service Management Deployment Guide</i> PDF.</p>
	<p>Search for Monitored Business Transaction Flows. Click to search for the business transaction flows assigned to run on selected Business Process Monitors. The results are displayed in the Search Results dialog box. For user interface details, see "Search Results Dialog Box" on page 474.</p>
	<p>Open Business Process Monitor Agent Console. Click to open the Business Process Monitor's console, enabling you to perform administrative tasks on the data collector directly from this page. For details on working in the Business Process Monitor console, refer to the <i>Business Process Monitor Administration</i> PDF.</p>
	<p>Select a different location from Location Manager. Click to open the Change Agent Location dialog box, where you manage and select locations. For user interface details, see "Location Manager Page" in <i>Platform Administration</i>.</p> <p>Note: The location change is also registered in the Business Process Monitor, so that all its tasks run with the assigned location.</p>
	<p>BAC Anywhere. Click to go to the HP BAC Anywhere Website. For concept details, see "HP BAC Anywhere Overview" on page 448.</p>
<p><Custom attributes></p>	<p>The custom attribute value. Up to five custom attributes can be configured for Business Process Monitors and there is a column for each configured custom attribute. For details on configuring custom attributes, see "Manage Custom Attributes Dialog Box" on page 465.</p>

UI Elements (A–Z)	Description
Host Name	The name of the host machine on which the selected data collector is installed.
IP Address	The IP address of the host machine.
Last Ping Time	The last time the Business Process Monitor pinged the Business Service Management Management database.
Location	<p>The location of the host machine on which the data collector is installed.</p> <p>Note: If you delete a location CI (in Location Manager) that is configured for a Business Process Monitor, the Business Process Monitor configuration is invalid until you configure a new location for it.</p>
Manage custom attributes	Click the link to open the Manage Custom Attributes dialog box, where you add, edit, or remove custom attributes. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.
Private POP	<p>A check mark denotes that the Business Process Monitor is run privately for your company (a private POP).</p> <p>Note: This element is visible only for HP Software-as-a-Service customers.</p>
Removable	Displays a check mark when the data collector instance is removable. A data collector is removable when it has not been pinged for the last 24 hours.
Transactions	The number of transactions assigned to run on the Business Process Monitor.
Version	The version number of the data collector software.
WebTraces	The number of WebTraces assigned to run on the Business Process Monitor.

BPM Default Settings Page

This page enables you to view and change the default system settings for Business Process Monitor transaction thresholds and transaction breakdown. The system default settings are automatically assigned to transactions when you configure new Business Process Monitor applications and business transaction flows.

To access	Select Admin > End User Management > Settings > Business Process Monitor Settings > BPM Default Settings
------------------	---

Default Transaction Thresholds Area

User interface elements are described below:

UI Elements (A-Z)	Description
Availability	Enter the default availability threshold percentage for transactions. Default value: 90%
Critical	Enter the response time threshold above which a transaction's status is Critical. Default value: 12 seconds
Ignore Outlier Values	Select this check box to instruct HP Business Service Management to ignore outlier transactions (and not include the data in Service Health or in reports). Default value: Not selected
Minor	Displays the response time thresholds between which a transaction's status is Minor. Default value: 8–12 seconds Note: The Minor transaction threshold is automatically set to the range between the OK and Critical thresholds that you configure.

UI Elements (A-Z)	Description
OK	<p>Enter the response time threshold below which a transaction's status is OK.</p> <p>Default value: 8 seconds</p>
Outlier	<p>Enter the response time threshold above which a transaction is considered to be an Outlier. Outliers are transactions whose response time exceeds a defined time range. You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports.</p> <p>Default value: 45 seconds</p> <p>Note: By selecting or clearing the Ignore outlier data for reports check box, you can specify whether outlier transactions are treated as failed transactions or ignored completely in reports. If you selected to ignore outlier values, any transaction that takes longer than this value to complete is ignored in Service Health and in reports. If you did not select to ignore outlier values and if the transaction response time is greater than this value, its status is Failed.</p>

Default Transaction Breakdown Area

User interface elements are described below:

UI Elements (A-Z)	Description
Enable breakdown	<p>Select the Enable breakdown check box to generate transaction breakdown data when running the selected Web or TCP monitor. For details on the transaction breakdown reports, see "Understanding Transaction Breakdown in Reports" on page 635.</p> <p>Default value: Selected</p>
Enable Diagnostics /TV breakdown	<p>Select Enable Diagnostics/TV breakdown to see J2EE and .Net data. This data is available in HP Diagnostics and Transaction Management reports only if you have valid HP Diagnostics and Transaction Management licenses. For details, see the <i>HP Diagnostics Installation and Configuration Guide</i> and the <i>HP TransactionVision Deployment Guide</i> PDF.</p> <p>Default value: Not selected</p>
Enable Siebel breakdown	<p>Select the Enable Siebel breakdown check box to see Siebel Application Response Measurement (SARM) data in Application Management for Siebel.</p> <p>Default value: Not selected</p>
Enable SOA breakdown	<p>Select the Enable SOA breakdown check box to see SOA data in Application Management for SOA.</p> <p>For details on incorporating SOA data from HP Business Process Monitor in Application Management for SOA, see "Enrich the SOA Model From Scripts" on in <i>Solutions and Integrations</i>.</p> <p>For details on enabling SOA breakdown in HP Business Process Monitor, see "Enabling SOA Transaction Breakdown" on page 94.</p> <p>Default value: Selected</p>

UI Elements (A-Z)	Description
Perform component breakdown	<p>Select the Perform component breakdown check box to save complete component (page components for Web based protocols and TCP components (requests) for non-Web based protocols) breakdown data for a sampling of transaction instances. By default, HP Business Service Management saves component breakdown data to the database once per every four transaction instances.</p> <p>Default value: Selected</p> <p>Note: You can only select this check box if you have enabled breakdown.</p>
Report additional error information	<p>Select the Report additional error information check box to include date, time, location, and error messages for failed transactions in applicable End User Management reports. If this option is disabled, HP Business Service Management reports only average error times. Disabling this option decreases the amount of data that is sent from the Business Process Monitors running the transaction breakdown to the Gateway Server and profile database.</p> <p>Default value: Selected</p> <p>Note: You can only select this check box if you have enabled breakdown.</p>

BPM License Page

This page enables you to view Business Process Monitor licensing information and to assign licenses to specific applications.

To access	Select Admin > End User Management > Settings > Business Process Monitor Settings > BPM License
------------------	--


Relevant tasks	"How to Install and Assign Business Process Monitor Licenses" on page 449
See also	<ul style="list-style-type: none"> ➤ "Licenses" in <i>Platform Administration</i> ➤ "End User Management Licenses Overview" on page 444

BPM Application Licensing Area

Note to HP Software-as-a-Service customers: This area is not displayed.

This area enables you view the licenses that are assigned to Business Process Monitor applications and to change the assignments. You assign a license to an application when you initially define the application's Business Process Monitor configuration.

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>Edit Application License. Click to open the Edit Application License dialog box, where you assign a specific license type to selected applications.</p> <p>Note: If you do not have change permissions for both Business Process Monitor and Real User Monitor configurations for all the selected applications, then:</p> <ul style="list-style-type: none"> ➤ even if you have a valid APM 360 with SLM license it does not appear as an option. ➤ if an APM 360 with SLM license is already assigned to one of the selected applications, the Edit Application License button is disabled.
Application Active	A check mark indicates that the application's status is set to active.
Application Name	The application name.

UI Elements (A-Z)	Description
License Name	The name of the license assigned to the application. Click this field to open a list of licenses that you can assign to the application.
License Usage	The number of licenses used by the application. This number is determined by a combination of the license and the number of transactions, locations, or assigned data collectors for the application.

BPM License Information Area

This area displays general data about the Business Process Monitor licenses installed in Business Service Management.

User interface elements are described below:

UI Elements (A-Z)	Description
Capacity	The amount of licensed capacity. Note: Evaluation licenses have unlimited capacity.
Description	A description of the license.
Expiration Date	The license's fixed expiration date. Note: This date is displayed only for time-based licenses.
Name	The name of the license key.

UI Elements (A-Z)	Description
Type	<p>There are three types of licenses:</p> <ul style="list-style-type: none"> ▶ Evaluation: A license with a fixed trial period of up to 60 days and with unlimited capacity. This type of license is available only until a Time Based or Permanent license is purchased. Once purchased, the trial period immediately terminates. Note: An Evaluation License cannot be renewed. ▶ Time Based: A license which has a time-based expiration date. ▶ Permanent: A license which does not expire.
Used Capacity	If the license is capacity based, the amount of capacity used.

Business Process Monitor Settings Tab

The Business Process Monitor Settings tab enables you to view and manage the Business Process Monitor data collectors registered in your Business Service Management system.

To access	Select Admin > End User Monitor > Settings > Business Process Monitor Settings
See also	"Settings Overview" on page 442


The Business Process Monitor Settings tab includes the following pages:

- ▶ **BPM Agents.** Enables you to view the Business Process Monitor data collectors registered in HP Business Service Management and perform various management tasks. For user interface details, see "BPM Agents Page" on page 452.
- ▶ **BPM License.** Enables you to view and assign Business Process Monitor licenses. For user interface details, see "BPM License Page" on page 458

- **BPM Default Settings.** Enables you to view and change the default system settings for Business Process Monitor transaction thresholds and transaction breakdown. For user interface details, see "BPM Default Settings Page" on page 455

Edit Business Process Monitor Properties Dialog Box

This dialog box displays a selected Business Process Monitor's properties.

To access	Select Admin > End User Management > Settings > Business Process Monitor Settings > BPM Agents . Select a Business Process Monitor and click the Edit Business Process Monitor Properties  button.
See also	"Settings Overview" on page 442


User interface elements are described below:

UI Elements (A–Z)	Description
Business Transaction Flows Monitored by This Business Process Monitor	Displays the business transaction flows monitored by the selected Business Process Monitor, including the application name, the business transaction flow name, and the monitors assigned to run the business transaction flow.

UI Elements (A–Z)	Description
Custom Attributes	<p>Displays the custom attributes that you defined for Business Process Monitors in the Manage Custom Attributes dialog box and enables you to edit their values. For user interface details, see "Manage Custom Attributes Dialog Box" on page 465.</p> <p>Note: This area is displayed only if you have configured custom attributes.</p>
General Information	<p>Displays general information about the selected Business Process Monitor instance. The general information includes most of the fields displayed in the Business Process Monitor page, in addition to the URL for accessing the Business Process Monitor's console, which you can edit. For details on the Business Process Monitor page user interface, see "BPM Agents Page" on page 452.</p>

Edit Real User Monitor Engine Properties Dialog Box

This dialog box displays a selected Real User Monitor engine's properties.

To access	<p>Select Admin > End User Management > Settings > Real User Monitor Settings > RUM Engines. Select a Real User Monitor engine and click the Edit Real User Monitor Engine Properties  button.</p>
See also	<p>"Settings Overview" on page 442</p>

User interface elements are described below:

UI Elements (A–Z)	Description
Applications Monitored by This Engine	Displays the applications monitored by the selected Real User Monitor engine, including the application name, the application type, and the probes configured to monitor the application.
Connection Settings	<p>► Override Default Connection Settings. Select this check box to override the following fields, that configure how Business Service Management connects to the Real User Monitor engine's Web console. (By default, the Real User Monitor engine's host name and port 8180 are used for the connection):</p> <ul style="list-style-type: none"> ► URL. The URL of the Real User Monitor engine host machine. ► User name. The user name to log in to the Real User Monitor Web service. ► Password. The password for the user. ► Retype password. The confirmation of the password. <p>► Retrieve snapshots directly from the Real User Monitor engine. Select this check box to enable the Real User Monitor Snapshot applet to retrieve snapshots directly from the Real User Monitor engine, instead of through the Business Service Management Gateway Server. For details on this concept, see "Determining How the Real User Monitor Snapshot Applet Retrieves Snapshots" on page 764.</p> <p>Default value: Not selected</p> <p>► Alternative URL for session replay. To configure Business Service Management to retrieve snapshots from a different host machine than the Real User Monitor engine, enter the URL of the alternate host machine here.</p> <p>Note: This field is enabled only when you select the Retrieve snapshots directly from the Real User Monitor engine check box.</p>

UI Elements (A–Z)	Description
Engine Probes	<p>Displays the Real User Monitor probes connected to the engine and for each one shows the following information:</p> <ul style="list-style-type: none"> ▶ Probe name. The Real User Monitor probe name. ▶ Active. Whether or not the Real User Monitor probe is active. ▶ Host name. The name of the host machine on which the Real User Monitor probe is installed. ▶ Megabits per Second. The average amount of traffic monitored by the Real User Monitor probe, in megabits per second.
General Information	<p>Displays general information about the Real User Monitor engine. The general information includes most of the fields displayed in the Real User Monitor Engines page, in addition to the following:</p> <ul style="list-style-type: none"> ▶ Operating system type. The operating system installed on the host machine of the Real User Monitor engine. ▶ Build number. The build number of the Real User Monitor software. ▶ Pages per second. The average number of pages per second monitored by the Real User Monitor engine. <p>For details on the Real User Monitor Engines page user interface, see "RUM Engines Page" on page 470.</p>

Manage Custom Attributes Dialog Box



This dialog box enables you to create custom attributes for Business Process Monitor data collectors.

You configure the custom attribute values for a data collector in the Business Process Monitor Properties dialog box. For user interface details, see "Edit Business Process Monitor Properties Dialog Box" on page 462.

You use the custom attributes to filter the data collectors displayed in the Business Process Monitor Data Collectors page, or when assigning data collectors in Business Process Monitor related wizards.

To access	Select Admin > End User Management > Settings > Business Process Monitor Settings > BPM Agents > Manage custom attributes link
Important information	<ul style="list-style-type: none"> ➤ To edit a field for a custom attribute, click the field and enter the required data. ➤ You can create a maximum of five custom attributes.

User interface elements are described below:

UI Elements (A-Z)	Description
	<p>New Custom Attribute. Click to add a new custom attribute.</p> <p>Note: You can create a maximum of five custom attributes. If five attributes are already configured, this button is disabled.</p>
	<p>Delete Custom Attribute. Click to remove selected custom attributes.</p> <p>Note: Select a single custom attribute by clicking a row in the list, or use the Shift or CTRL key to select several custom attributes.</p>
Property Name	The name of the custom attribute.

UI Elements (A-Z)	Description
Property Type	<p>The type of the custom attribute. The available options are:</p> <ul style="list-style-type: none"> ▶ Free text. Enables you to assign a free text value to the parameter for a data collector. ▶ Values list. Enables you to configure a list of predefined values that can be assigned to the parameter for a data collector.
Valid Values	<p>The predefined list of values which can be assigned to the parameter. Enter values separated by a semi colon (;).</p> <p>Note: This field is enabled only if you configure Values list as the property type.</p>

Real User Monitor Settings Tab

The Real User Monitor Settings tab enables you to view and manage the Real User Monitor data collectors registered in your Business Service Management system.

To access	Select Admin > End User Monitor > Settings > Real User Monitor Settings
See also	"Settings Overview" on page 442

The Real User Monitor Settings tab includes the following pages:

- ▶ **RUM Engines.** Enables you to view the Real User Monitor Engines registered in HP Business Service Management and perform various management tasks. For user interface details, see "RUM Engines Page" on page 470.
- ▶ **RUM License.** Enables you to view and assign Real User Monitor licenses. For user interface details, see "RUM License Page" on page 472.
- ▶ **RUM Default Settings.** Enables you to view and change the default system settings for Real User Monitor applications. For user interface details, see "RUM Default Settings Page" on page 468.

RUM Default Settings Page

This page enables you to view and change the default system settings for Real User Monitor applications. The default settings are automatically assigned to an application's <actions>, transactions, and servers. It also enables you to define default location latency and to configure automatic location discovery by Real User Monitor.

To access	Select Admin > End User Management > Settings > Real User Monitor Settings > RUM Default Settings
-----------	--

Application Default Thresholds Area

User interface elements are described below:

UI Elements	Description
Transaction Thresholds	
Total time	The total transaction time (download time + think time) threshold, in seconds. If the total time of a transaction falls within this threshold, the transaction's total time is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.
Net time	The net transaction time threshold, in seconds. If the net time of a transaction falls within this threshold, the transaction's net time is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.
Server time	The server time threshold for the transaction, in seconds. If the server time for a transaction falls within this threshold, the transaction's server time is displayed in green in the Real User Monitor reports, otherwise it is displayed in red. Note: This threshold must be lower than the total time and net time thresholds.

UI Elements	Description
Availability	The transaction availability threshold, as a percentage. If the availability of a transaction falls within this threshold, the transaction's availability is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.
Timeout	The amount of time, in seconds, between consecutive <actions> in a transaction, after which Real User Monitor considers the transaction to have timed out.
Action Thresholds	
Total time	The total time threshold for the <action>, in seconds. If the total time for an <action> falls within this threshold, the <action's> total time is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.
Server time	The server time threshold for the <action>, in seconds. If the server time for an <action> falls within this threshold, the <action's > server time is displayed in green in the Real User Monitor reports, otherwise it is displayed in red. Note: This threshold must be lower than the total time threshold.
Availability	The <action> availability threshold, as a percentage. If the availability of an <action> falls within this threshold, the <action's> availability is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.
Server Thresholds	
Availability	The server availability threshold, as a percentage. If the availability of a server falls within this threshold, the server's availability is displayed in green in the Real User Monitor reports, otherwise it is displayed in red.

Location Default Settings Area

User interface elements are described below:






UI Elements (A-Z)	Description
Enable location discovery	Select this check box to enable automatic location discovery by Real User Monitor. When enabled, Real User Monitor reports discovered end-user IP addresses for which there is no configured location to the Location Manager. For details on the Location Manager, see "Location Manager" in <i>Platform Administration</i> . Default value: Selected
Location latency	The default location latency, in seconds. Real User Monitor adds the configured latency to all the configured threshold settings that are relevant to all the monitored traffic for a location.

RUM Engines Page

This page displays the Real User Monitor engines registered in HP Business Service Management.

To access	Select Admin > End User Management > Settings > Real User Monitor Settings > RUM Engines
See also	"Settings Overview" on page 442

User interface elements are described below:

UI Elements (A–Z)	Description
	Refresh. Click to refresh the list of Real User Monitor engines.
	Edit Real User Monitor Engine Properties. Click to open the Edit Real User Monitor Engine Properties dialog box, where you view and edit Real User Monitor engine properties. For user interface details, see "Edit Real User Monitor Engine Properties Dialog Box" on page 463.
	Remove Real User Monitor Engine from List. Click to remove selected Real User Monitor engines from the list. Note: This button is enabled only when the selected Real User Monitor engines are removable.
	Search for Monitored Applications. Click to search for applications monitored by selected Real User Monitor engines. The results are displayed in the Search Results dialog box. For user interface details, see "Search Results Dialog Box" on page 474.
	Open Real User Monitor Engine's Web Console. Click to open the Real User Monitor engine's console, enabling you to perform administrative tasks on it directly from this page. For details on working in the Real User Monitor console, refer to the <i>Real User Monitor Administration</i> PDF.
Engine Name	The name of the Real User Monitor engine.
Host Name	The name of the host machine on which the selected Real User Monitor engine is installed.
In Use	Displays a check mark when the Real User Monitor engine is configured to monitor an application.
IP Address	The IP address of the host machine on which the Real User Monitor engine is installed.
Last Ping Time	The last time the Real User Monitor engine pinged the Business Service Management Management database.

UI Elements (A–Z)	Description
Removable	Displays a check mark when the engine is removable. An engine is removable when it has not been pinged for the last 24 hours.
Version	The version number of the Real User Monitor software.

RUM License Page


This page enables you to view Real User Monitor licensing information and to assign licenses to specific probes.

To access	Select Admin > End User Management > Settings > Real User Monitor Settings > RUM License
Relevant tasks	"How to Install and Assign Real User Monitor Licenses" on page 450
See also	<ul style="list-style-type: none"> ▶ "Licenses" in <i>Platform Administration</i> ▶ "End User Management Licenses Overview" on page 444

RUM Probes Licensing Area

This area enables you view the licenses that are assigned to Real User Monitor Probes and to change the assignments. Probes are automatically assigned a license when they are registered in Business Service Management.

User interface elements are described below:

UI Elements (A-Z)	Description
	Edit Probe License. Click to open the Edit Probe License dialog box, where you assign a specific license type to selected probes.
Engine Name	The name of the Real User Monitor Engine to which the probe is connected.

UI Elements (A-Z)	Description
Host Name	The name of the host machine on which the Real User Monitor Probe is installed.
In Use	A check mark indicates that the Real User Monitor Probe is in use. That is, it monitors at least one configured application.
License	The type of the license assigned to the probe. Click this field to open a list of licenses that you can assign to the probe.
Probe Name	The configured name of the Real User Monitor Probe.

RUM Applications With Assigned 360 License Area

This area lists the Real User Monitor applications to which an APM 360 with SLM license is assigned.

Note: This area is displayed only if you have a valid APM 360 with SLM license.

RUM License Information Area

This area displays general data about the Real User Monitor licenses installed in Business Service Management.



User interface elements are described below:

UI Elements (A-Z)	Description
Capacity	The amount of licensed capacity. Note: Evaluation licenses have unlimited capacity.
Description	A description of the license.
Expiration Date	The license's fixed expiration date. Note: This date is displayed only for time-based licenses.

UI Elements (A-Z)	Description
Name	The name of the license key.
Type	<p>There are three types of licenses:</p> <ul style="list-style-type: none"> ▶ Evaluation: A license with a fixed trial period of up to 60 days and with unlimited capacity. This type of license is available only until a Time Based or Permanent license is purchased. Once purchased, the trial period immediately terminates. Note: An Evaluation License cannot be renewed. ▶ Time Based: A license which has a time-based expiration date. ▶ Permanent: A license which does not expire.
Used Capacity	If the license is capacity based, the amount of capacity used.

Search Results Dialog Box

This dialog box lists the business transaction flows configured to run on a selected Business Process Monitor, or the applications monitored by a selected Real User Monitor engine, and enables you to perform various actions to manage them.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Admin > End User Management > Settings > Business Process Monitor Settings > BPM Agents. Select a data collector from the list and click the Search for Monitored Business Transaction Flows  button. ▶ Select Admin > End User Management > Settings > Real User Monitor Settings > RUM Engines. Select an engine from the list and click the Search for Monitored Applications  button.
Important information	For user interface details, see "Monitoring Page Search and Replace Tab" on page 67.

6

Administer EUM Alerts

This chapter includes:

Concepts

- ▶ EUM Alerts Administration Overview on page 476
- ▶ Alerts Dependency on page 477
- ▶ Downtime on page 481

Tasks

- ▶ How to Create EUM Alert Schemes on page 482
- ▶ How to Create EUM Alert Schemes – Use-Case Scenario on page 484
- ▶ How to Configure the Alert MIBs on page 486
- ▶ How to Configure SMTP Mails on page 487
- ▶ How to Define Alerts Dependency on page 488

Reference

- ▶ SNMP-Specific Codes on page 491
- ▶ Alerts MIB Varbinds on page 491
- ▶ EUM Alerts Administration User Interface on page 499

Troubleshooting and Limitations on page 591

Concepts

EUM Alerts Administration Overview

The EUM alerts are triggered by the occurrence of predefined conditions. The EUM alerts can be sent to recipients using a notification template. It can also execute files, open URLs, or open events in the Event System.

For a detailed introduction to alerts, see "Alerts Overview" in *Platform Administration*.

In the EUM alert administration, you can create and manage one or more alert schemes for a CI, using the Alert Wizard. In each alert scheme, you define a unique set of alert properties. For user interface details, see "Alert Wizard" on page 515.

You can define dependencies between alerts. Dependencies help reduce the amount of alert traffic sent to recipients and provide additional advantages. For concept details, see "Alerts Dependency" on page 477.

You can create and manage notification templates. For details, see "How to Configure EUM Alerts Notification Templates" in *Platform Administration*.

You can monitor the triggered alerts using the Alerts Count Over Time, Alerts Count Summary, and Alerts Log reports available in **Applications > End User Management > Alerts**. For task details, see "How to View and Understand EUM Alert Reports" on page 1013.

You can customize alerts. For details, see "How to Customize Alerts" in *Platform Administration*.

When an alert is triggered, it sends a predefined notification (with email, SMS, or Pager) to a predefined recipient, or triggers a predefined action (execute file, URL, or SMNP trap). Whenever a notification is sent, information related to the notification is logged into the profile database. You can view the log in the Alert report. For details, see "Audit Log" on page 592.

If you have the Event Management Foundation license, an event is automatically forwarded to Operations Management, when an EUM alert is triggered in BSM.

If BSM integrates with HP Operations Manager, an event is automatically forwarded to HP Operations Manager (OM), when an EUM alert is triggered in BSM. For details, see "HP Operations Manager" in *Solutions and Integrations*.

If BSM integrates with HP Service Manager, an incident is automatically forwarded to HP Service Manager when an EUM alert is triggered in BSM. For details, see "How to Integrate HP Service Manager with Business Service Management Components" in *Solutions and Integrations*.

Alerts Dependency

You can specify that you want alerts that were previously defined for a specific CI to be dependent of the alert you are currently defining for the specific CI, thus making the current alert the dominant alert. If required, you can enable cross-CI dependency, which allows you to define alerts assigned to other CIs as dependent alerts of an alert assigned to a different CI.

When an alert defined as dependent is triggered, Business Service Management suppresses all actions configured for the alert if the following conditions are both fulfilled:

- ▶ Its dominant alert was previously triggered.
- ▶ If the conditions that triggered the dominant alert remain true at the time the dependent alert is triggered.

You can also define a time limit for each alert you designate as dependent. When a time limit is defined, the actions of the dependent alert are suppressed as long as the conditions that triggered the dominant alert remain true—but only until the time limit expires. Business Service Management begins running the clock on the time limit from the moment the dominant alert is triggered.

This section also includes the following topics:

- "Benefits of Alerts Dependency" on page 478
- "Guidelines and Tips for Configuring Alert Dependencies" on page 479

Benefits of Alerts Dependency

Defining dependent alerts allows you to:

- **Reduce the amount of alert traffic sent.**
- **Define alert dependencies that match transaction dependencies.**

For example, if you have a transaction that checks the login to your application, and a transaction that checks a search in the application after login, you can subordinate the alert that notifies you about poor search performance to the alert that notifies you about failure to log in your application. In this case, only the dominant alert is necessary to alert staff to a problem.

- **Nest alerts according to severity.**

For example, you can make alerts with the **Minor** severity subordinate to alerts with the **Critical** severity.

- **Define alert dependencies that match alert trigger criteria.**

For example, if you define an alert to be triggered if the response time is greater than 15 seconds, and another alert for response time greater than 30 seconds, if the response time was 35 seconds, without dominant or dependent alert definition, Business Service Management would send two alerts. By making the response time greater than 15 seconds alert dependent of the response time greater than 30 seconds alert, only the dominant alert is sent if the response time was greater than 30 seconds. The dependent alert is sent if the response time was between 15 and 30 seconds.

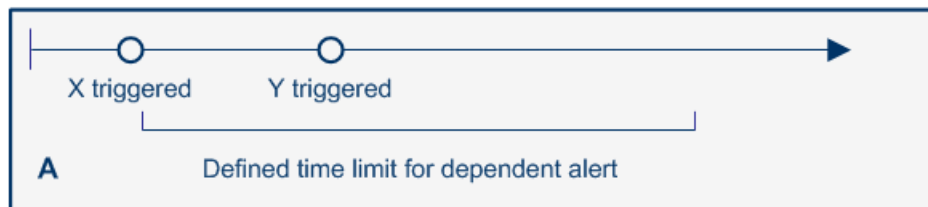
Guidelines and Tips for Configuring Alert Dependencies

- ▶ Dependent alerts are always logged to the Alerts Log.
- ▶ Follow-up alerts are sent only if the original alert was sent, regardless of whether the alert is dominant or dependent. Thus, if a dependent alert is suppressed, its follow-up alert is not sent. If the dominant follow-up alert is sent, it does not influence the dependent alerts any more (until another dominant alert is triggered). For details on defining follow-up alerts, see "Notification Template Properties Dialog Box" in *Platform Administration*.
- ▶ Alert loops are not supported. That is, if you have a series of dependencies, the dependency path cannot loop back on itself. For example, if Alert A is dependent of Alert B, Alert B is dependent of Alert C and Alert D, and Alert C is dependent of Alert E, you cannot define Alerts B, C, D, or E to be dependent of Alert A.
- ▶ When you have more than one level of dependencies (C is dependent of B which is dependent of A), and the top level (A) alert is triggered, then the dependent (B and C) alerts are not triggered.

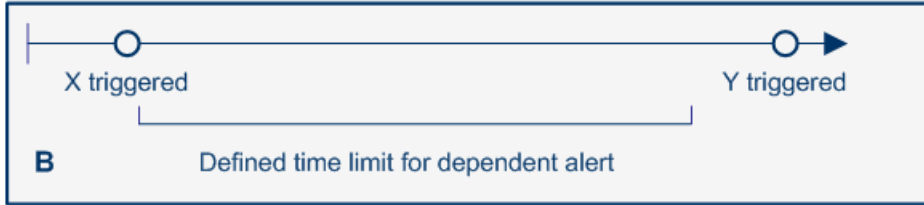
Example of Alerts Dependency

Consider the following examples, in which alert Y is defined as being dependent of alert X.

Example A. Business Service Management suppressed alert Y's defined actions because alert X, the dominant alert, occurred before alert Y. Further, alert Y occurred during the dependency defined time limit, and while the conditions that triggered alert X remained true.

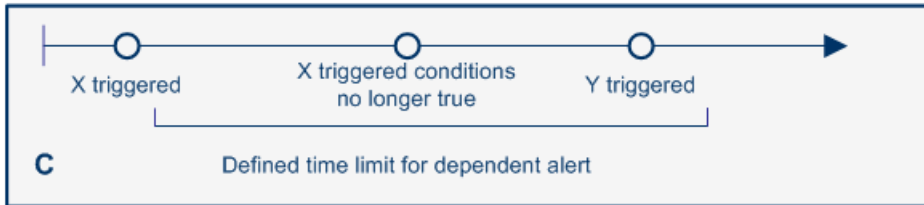


Example B. Business Service Management did not suppress alert Y's defined actions because—even though alert X, the dominant alert, occurred before alert Y—alert Y occurred after the dependency defined time limit expired.



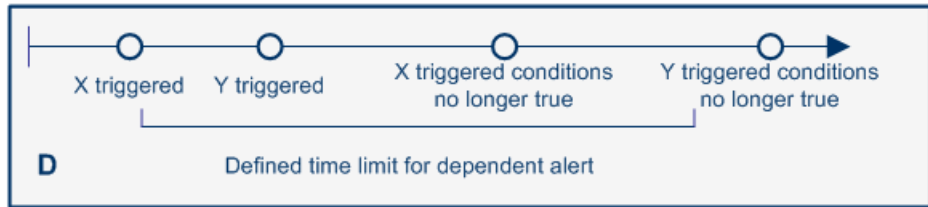
Example C. Business Service Management:

- ▶ Alert Y actions are not suppressed, if alert X had a follow-up alert, because the follow up alert cancelled the dependency.
- ▶ Alert Y actions are suppressed, if alert X does not have a follow-up alert, because alert Y occurs during the dependency time period.



Example D. Business Service Management:

- Alert Y actions are suppressed because alert X, the dominant alert, occurred before alert Y, the dependent alert, occurred during the dependency defined time limit.
- If alert X has a follow-up alert, it is triggered when alert X trigger conditions are no longer true.
- If alert Y has follow-up alert, the follow-up alert for alert Y is not sent when its trigger conditions are no longer true, because the original alert Y was suppressed.



Downtime

When the CI is in downtime, the triggering of attached EUM alerts depends on the downtime definition.

For concept details, see "Alerts and Downtime" in *Platform Administration*.

For task details, see "How to Set Up an Alert Delivery System" in *Platform Administration*.

Tasks

How to Create EUM Alert Schemes

To create an alert scheme using the Alert Wizard, perform the following steps:


This task includes the following steps:

- "Prerequisite" on page 482
- "Select a CI in the view and create a new alert" on page 482
- "Configure the event template – optional" on page 483
- "Set an SNMP trap" on page 483
- "Customize the alert features – optional" on page 483
- "Results" on page 483

1 Prerequisite

Perform the steps described in "How to Set Up an Alert Delivery System" in *Platform Administration*.

2 Select a CI in the view and create a new alert

Click **Admin > End User Management > Monitoring**, select the view and the CI in the left pane, click the **Alerts** tab, and click the **Press to create new alert**  button to open a list of alert types. Select one of the listed types of alerts to open the Alert Wizard where you can configure the alert scheme.

After you have finished creating the alert scheme, it is added to the Alerts table.

To generate events, when the alert is triggered, select the **Generate Event** option in the **Actions** tab in the Alert Wizard.

For more information about alert schemes, see "EUM Alerts Administration Overview" on page 476.

For details on creating an alert scheme, see "Alert Wizard" on page 515.

3 Configure the event template – optional

The Event Template maps an event triggering condition (for example, the triggering condition of an SLA alert scheme) to an event attributes. You can modify the Event Template default or you can configure a new template that maps an alert's attributes to the corresponding event attributes.

For task details, see "How to Configure the Event Template" on page 595.

4 Set an SNMP trap

You must set an SNMP trap if you enabled alerts through SNMP traps in your alert schemes. For details, see "How to Configure the Alert MIBs" on page 486.

5 Customize the alert features – optional

You can customize some alert features. For details, see "How to Customize Alerts" in *Platform Administration*.

6 Results

When an alert is triggered, the recipient may receive an email, a pager message, or an SMS message depending on the recipient's settings.

You can manage the defined alert schemes: clone, edit, delete, enable or disable and perform searches. For details, see "Alerts Page" on page 507.

You can view a list of the alerts that were triggered and the details of each alert in the EUM alert reports. For details, see "How to View and Understand EUM Alert Reports" on page 1013.

The alerts triggered by the trigger criteria specified in the Alert Wizard are logged in the Alerts Log. For details, see "Alerts Log Report" on page 1023.

How to Create EUM Alert Schemes – Use-Case Scenario

This section provides an example of how to create EUM alert schemes.

Note: For a task related to this scenario, see "How to Create EUM Alert Schemes" on page 482.

This task includes the following steps:

- ▶ "Background" on page 484
- ▶ "Create the alert" on page 484
- ▶ "Search and duplicate an alert (change the CI)" on page 485
- ▶ "Disable multiple alerts" on page 485

1 Background

The user would like to create a Major BPM Transactions alert related to the **book_sell_application**. The alert should be triggered if one transaction fails. It should send an email to John Ronald and send a clear alert once a transaction succeeds. The alert uses static thresholds.

2 Create the alert


Create the alert using the following steps:

- a** The user selects **Admin > End User Management > Alerts** tab, and then selects **New > BPM Transaction Alert**. The Alert Wizard opens.
- b** The user enters the name of the alert, selects **Major** in the Severity box, and clicks the **Select CI** link. He adds a note in the User Message box: "**Send alert to specified recipients (Specify setting)**". The tree of views opens.
- c** The user selects **book_sell_application**.
- d** In the **Trigger Condition** tab, the user selects **Transactions fail**. The user clicks the link that is available in the **Trigger Condition** section in the **Definition Details** area and selects the **even once** option.

- e** In the **Filters** tab, the user selects **Transactions**.
The user clicks the link that is available in the **Filter** section in the **Definition Details** area and selects the relevant transactions.
- f** In the **Actions** tab, the user selects **Send to specified recipient**. The user clicks the link in the **Actions** section in the **Description Details** area. The Recipient Selection dialog box opens where the user selects John Ronald.
- g** In the Advanced Settings tab, in the **Notification Frequency** area, the user selects **Send clear (follow up) alert notification**.
- h** The user clicks **OK**. The alert is saved and added to the list of alerts.

3 Search and duplicate an alert (change the CI)

The user would like to copy one of the alerts assigned to the **System_login** CI to the **System_logout** CI.

- a** The user selects **Admin > End User Management > Alerts** tab, and clicks the CI column name and gets a dropdown list of all the view's CIs, that have been assigned alerts.
- b** The user starts typing **Sys** and then selects **System_login**. The table now filters the alerts and shows only the ones related to the **System_login** CI.
- c** The user selects the relevant alert and clicks the **Duplicate alert** button . The alert is duplicated and the Alert Wizard opens.
- d** The user presses the **Select CI** link. The view tree opens and displays the Run-time Service Model (RTSM) provider and **EUM_admin** view.
- e** The user selects **logout**.
- f** The user presses the **OK** button. The alert is saved and added to the alert list.

4 Disable multiple alerts

The user would like to stop all the alerts of type RUM transaction.

- a** The user selects **Admin > End User Management > Alerts** tab, and clicks the header of the **Type** column. The table is sorted by alert types.
- b** The user selects all the **RUM Transaction Alert** types.

- c The user presses the **Deactivate (disable) alerts** button.
 - The RUM Transaction Alerts that were enabled are disabled.
 - The RUM Transaction Alerts that were disabled remain disabled.

How to Configure the Alert MIBs

If you enabled alerts through SNMP traps in your alert schemes, it is recommended that you configure your SNMP management console to read the Alerts MIB. This configuration enables you to see a name, rather than an OID (Object Identifier), when working in the management console.

Note: HP Business Service Management uses the AM alerts MIB 5.0 by default.

To configure the alerts MIB in your SNMP management console:

- 1** Copy the **EBAlerts.mib** file from `<HPBSM root directory on the Data_Processing_server>\SNMP_MIBS`, to your SNMP management console.
- 2** To view the Alerts varbinds, use your SNMP management console's MIB browser. For a list of varbinds and their descriptions, see "Alerts MIB Varbinds" on page 491.
- 3** Using your SNMP management console's event configuration utility, configure the notification content and method for the various alert types. For a list of alert types and their corresponding SNMP-specific codes, see "SNMP-Specific Codes" on page 491.

How to Configure SMTP Mails

You can send email alerts and scheduled reports using a configured SMTP server or the Microsoft SMTP Service.

Note: UNIX uses the **sendmail** application to send SMTP emails. As a result, SMTP settings are not needed for Unix systems. Contact your system administrator to configure sending emails correctly for UNIX systems.

You can configure a primary SMTP server and an alternate SMTP server. HP Business Service Management usually uses the primary server. It uses the alternate server only if the primary server fails to send the message.

You configure the primary and alternate SMTP servers in Infrastructure Settings. For task details, see "How to Customize Alerts" in *Platform Administration* and scroll down to the **SMTP server, SMTP server port, and Alternate SMTP server**.

Note: If you use the Microsoft SMTP service to send email alerts, HP Business Service Management cannot send the email-based Performance Update report (which you configure in Scheduled Reports) in HTML format. The report must be sent as an HTML, MHT, CSV, or PDF attachment.

How to Define Alerts Dependency

HP Business Service Management enables you to define alerts dependency. For details on alert dependencies, see "Alerts Dependency" on page 477.

This task includes the following steps:

- "Plan the feature" on page 488
- "Review alert dependencies" on page 489
- "Configure the cross-CI alerts dependency" on page 489

1 Plan the feature

To make optimal use of the alerts dependency feature, it is recommended that you map out an overall picture of your monitoring and alerting strategy before defining dependent alerts. Further, you should decide whether you need cross-profile alerts dependency. For details on enabling cross-CI dependency, see "Configure the cross-CI alerts dependency" on page 489.

After you have planned out your required alert dependencies and configured the needed cross-CI dependency setting, you can create or edit your dominant alerts to specify their dependent alerts.

For details, see "Make alerts dependents of current alerts" on page 557.

2 Review alert dependencies

You can view an overall summary of all defined alert dependencies for all CIs. You can also determine whether a specific alert is defined as dependent and view its dominant alerts. You can:

- ▶ **Review all defined alert dependencies.** In the Alerts tab, click the **View Dependencies** link. The Dependencies dialog box displays a table that lists all existing dominant alerts, their dependent alerts, their corresponding CIs, and the dependency time limit. For details, see "Select Dependent Alerts Dialog Box" on page 581.
- ▶ **Verify whether an alert is defined as a dependent or as a dominant alert.** In the Alerts page, click the Edit button for the relevant alert. The Alert Wizard opens. In the Dependencies area in the Advanced Settings tab, check if:
 - ▶ **Make <specified> alerts dependents of current alerts.** Indicates that the current alert is a dominant alert for the specified alerts. For details, see "Advanced Settings Tab" on page 555.
 - ▶ **The current alert is a dependent of <specified> alert.** Indicates that the current alert is subordinate to the specified alert. For details, see "Alert Wizard" on page 515.

3 Configure the cross-CI alerts dependency

Cross-CI alerts dependency is disabled by default. Enabling cross-profile alerts dependency has the following implications:

- ▶ **You can define more complex alert dependencies.** However, managing complex dependencies may require an advanced level of administration.
- ▶ **Permissions have an impact on the alert dependencies you can define.** When defining alert dependencies with cross-CI alerts dependency enabled, keep in mind that you do not have permissions to modify alerts associated with a CI for which you do not have permission. Thus, if a dependent alert belongs to a CI for which you do not have permissions, you cannot disassociate it from its dominant alert, even if the dominant alert is assigned to a CI to which you do have permissions. Further, if a dominant alert is associated with a CI for which you do not have permission, you cannot edit the alert at all (that is, you cannot add or remove dependencies).

If you require cross-CI alerts dependency, select **Admin > Platform > Setup and Maintenance > Infrastructure Settings**:

- Select **Foundations**.
- Select **Alerting**.
- In the Alerting - Triggered Alerts table, locate **Enable cross-CI alert dependencies**. Change the value from **false** (default) to **true**.

Note: If you have defined cross-CI alert dependencies and you select not to support the feature, and set **Enable cross-CI alert dependencies** entry back to **false**, the cross-CI alert dependencies are not disabled automatically; you must remove them manually.

Reference

SNMP-Specific Codes

The SNMP-specific code for an EUM alert is **1**. Its type is: **EUM alert**.

Use this code when configuring alert notification events in your SNMP management console. For details, see "How to Configure the Alert MIBs" on page 486.

Alerts MIB Varbinds

The tables list the varbinds used in the Alerts MIB.

The message sent in an SNMP trap contains both numbers and values. For example, the message contains: 1.2.3.4.5 – critical, where 1.2.3.4.5 represents severity, so when you use the MIB, you actually receive the following information: severity - critical.

An alert may be triggered by more than one trigger and each trigger may be triggered by more than one event. In the table below, **[n]** stands for the trigger index in the triggers table, **[m]** for the specific trigger event index in the events table. For example: txnName.[2].[3] means that this is name of the 3rd transaction of the transactions that triggered trigger number 2.

OID (starts with 1.3.6.1.4.1.5233.)	Variable name	Description
4.1	entityName	Profile name
4.2	alertName	Name of the alert
4.3	alertPurpose	Alert type: clear (follow-up)
4.4	alertID	Unique alert ID

OID (starts with 1.3.6.1.4.1.5233.)	Variable name	Description
4.5	alertSeverity	Alert severity: Informational Warning Minor Major Critical
4.6	alertTriggerCause	Defined alert trigger conditions (for example, Response time less than 10 seconds)
4.7	alertActualDescription	Actual conditions at time of alert (for example, Current response time is 3.00 seconds)
4.8	alertUserMessage	User message for this alert
4.9	entityId	The ID of the CI related to the alert
4.10	groupByParameters	The parameters specified in the Grouped By definition of the alert. Format: <grouped by property1>:<value1>;<grouped by property2>:<value2>;... Example: transaction:Login;location:London
4.11.1.1.[n]	triggerIndex.[n]	Index of the trigger within the trigger list
4.11.1.2.[n]	triggerCause.[n]	Defined current trigger conditions
4.11.1.3.[n]	actualDescription.[n]	Actual conditions of the current trigger
4.11.1.4.1.1.[n].[m]	eventIndex.[n].[m]	Index of the event within the current trigger event list
4.11.1.4.1.2.[n].[m]	eventActualDescription.[n].[m]	Description of the event. For example, a Response Time of 3.00 seconds.

OID (starts with 1.3.6.1.4.1.5233.)	Variable name	Description
4.11.1.4.1.3.[n].[m].[x].[y]	<p>The name of the variable depends on the value of the n parameter:</p> <ul style="list-style-type: none"> ➤ n=1 - transactionEventDetails ➤ n=2 - rumEventDetails 	<ul style="list-style-type: none"> ➤ n is the event type: <ul style="list-style-type: none"> ➤ n=1 for BPM Transaction alert ➤ n=2 for RUM Event alert ➤ m is the event property. It depends on the event type (see below for more details) ➤ x is the ID of the triggering order. ➤ y is the ID of the event order.

OID (starts with 1.3.6.1.4.1.5233.)	Variable name	Description
4.11.1.4.1.3.[n].[m].[x].[y] (continued)		<ul style="list-style-type: none"> ➤ m for BPM Transaction alerts: <ul style="list-style-type: none"> ➤ m=1 for the btfName property (corresponding to the name of the flow). ➤ m=2 for the txnName property (corresponding to the name of the transaction). ➤ m=3 for the txnTime property (corresponding to the time the transaction ran). ➤ m=4 for the location property (corresponding to the name of the location). ➤ m=5 for the script property (corresponding to the name of the script). ➤ m=6 for the dataCollector property (corresponding to the BPM Agent name). ➤ m=7 for the txnDescription property (corresponding to the description of the event; for example, Response time 3.00 seconds). ➤ m=8 for the txnErrorMessage property (corresponding to the error message generated during a script run).

OID (starts with 1.3.6.1.4.1.5233.)	Variable name	Description
4.11.1.4.1.3.[n].[m].[x].[y] (continued)		<ul style="list-style-type: none"> ▶ m for RUM Event alerts: <ul style="list-style-type: none"> ▶ m=1 for the eventName property (corresponding to the name of the event). ▶ m=2 for the location property (corresponding to the location of the event). ▶ m=3 for the endUserGroup property (corresponding to the name of the End User group). ▶ m=4 for the softwareElem property (corresponding to the name of the software). ▶ m=5 for the eventData property (corresponding to the data of the event). ▶ m=6 for the eventTime property (corresponding to the time when the event occurred). ▶ m=7 for the eventCategory property (corresponding to the category of the event).

Example: The following table illustrates the changes made to the OID for an alert with 2 events that met 2 trigger conditions (BPM transaction performance triggers with 2 out of 2 statuses selected).

OID (starts with 1.3.6.1.4.1.5233.)	Variable name	Description
4.1	entityName	Profile
4.11.1.1.1	triggerIndex.1	Index of the subalert within the subalert list
4.11.1.1.2	triggerIndex.2	Index of the subalert within the subalert list

OID (starts with 1.3.6.1.4.1.5233.)	Variable name	Description
4.11.1.2.1	triggerCause.1	The trigger cause of the first trigger.
4.11.1.2.2	triggerCause.2	The trigger cause of the first trigger.
4.11.1.3.1	actualDescription.1	The actual trigger cause of the first trigger.
4.11.1.3.2	actualDescription.2	The actual description of the first event of the first trigger
4.11.1.4.1.1.1.1	eventIndex.1.1	Index of the event within the event list
4.11.1.4.1.1.1.2	eventIndex.1.2	Index of the event within the event list
4.11.1.4.1.1.2.1	eventIndex.2.1	Index of the event within the event list
4.11.1.4.1.1.2.2	eventIndex.2.2	Index of the event within the event list
4.11.1.4.1.2.1.1	eventActualDescription.1.1	Index of the subalert instance owner from the subalert instance table
4.11.1.4.1.2.1.2	eventActualDescription.1.2	Index of the subalert instance owner from the subalert instance table
4.11.1.4.1.2.2.1	eventActualDescription.2.1	Index of the subalert instance owner from the subalert instance table
4.11.1.4.1.2.2.2	eventActualDescription.2.2	Index of the subalert instance owner from the subalert instance table
4.11.1.4.1.3.1.1.1.1	txnName.1.1	Transaction name
4.11.1.4.1.3.1.1.1.2	txnName.1.2	Transaction name
4.11.1.4.1.3.1.1.2.1	txnName.2.1	Transaction name

OID (starts with 1.3.6.1.4.1.5233.)	Variable name	Description
4.11.1.4.1.3.1.1.2.2	txnName.2.2	Transaction name
4.11.1.4.1.3.1.2.1.1	organization.1.1	Group name
4.11.1.4.1.3.1.2.1.2	organization.1.2	Group name
4.11.1.4.1.3.1.2.2.1	organization.2.1	Group name
4.11.1.4.1.3.1.2.2.2	organization.2.2	Group name
4.11.1.4.1.3.1.3.1.1	host.1.1	Host name
4.11.1.4.1.3.1.3.1.2	host.1.2	Host name
4.11.1.4.1.3.1.3.2.1	host.2.1	Host name
4.11.1.4.1.3.1.3.2.2	host.2.2	Host name
4.11.1.4.1.3.1.4.1.1	location.1.1	Location name
4.11.1.4.1.3.1.4.1.2	location.1.2	Location name
4.11.1.4.1.3.1.4.2.1	location.2.1	Location name
4.11.1.4.1.3.1.4.2.2	location.2.2	Location name
4.11.1.4.1.3.1.5.1.1	script.1.1	Script name
4.11.1.4.1.3.1.5.1.2	script.1.2	Script name
4.11.1.4.1.3.1.5.2.1	script.2.1	Script name
4.11.1.4.1.3.1.5.2.2	script.2.2	Script name
4.11.1.4.1.3.1.6.1.1	eventTime.1.1	Event time
4.11.1.4.1.3.1.6.1.2	eventTime.1.2	Event time
4.11.1.4.1.3.1.6.2.1	eventTime.2.1	Event time
4.11.1.4.1.3.1.6.2.2	eventTime.2.2	Event time
4.11.1.4.1.3.1.7.1.1	txnErrorMessage.1.1	Description of event (for example, Response time 3.00 seconds)
4.11.1.4.1.3.1.7.1.2	txnErrorMessage.1.2	Description of event (for example, Response time 3.00 seconds)

OID (starts with 1.3.6.1.4.1.5233.)	Variable name	Description
4.11.1.4.1.3.1.7.2.1	txnErrorMessage.2.1	Description of event (for example, Response time 3.00 seconds)
4.11.1.4.1.3.1.7.2.2	txnErrorMessage.2.2	Description of event (for example, Response time 3.00 seconds)
4.11.1.4.1.3.1.8.1.1	txnDescription.1.1	Error message generated during a script run
4.11.1.4.1.3.1.8.1.2	txnDescription.1.2	Error message generated during a script run
4.11.1.4.1.3.1.8.2.1	txnDescription.2.1	Error message generated during a script run
4.11.1.4.1.3.1.8.2.2	txnDescription.2.2	Error message generated during a script run
4.2	alertName	Name of the alert
4.3	alertPurpose	Alert type: regular or follow-up
4.4	alertID	Unique alert ID
4.5	alertSeverity	Alert severity: OK -10, warning - 20, minor - 30, major - 40,critical - 50
4.6	alertTriggerCause	Defined alert trigger conditions (for example, Response time less than 10 seconds)
4.7	alertActualDescription	Actual conditions at time of alert (for example, Current response time is 3.00 seconds)
4.8	alertUserMessage	User message for this alert

OID (starts with 1.3.6.1.4.1.5233.)	Variable name	Description
4.9	entityId	The related entity ID (for example: application ID)
4.10	groupByParameters	The Group by parameters in the following format: <parameter1>:<value1>;<parameter2>:<value2>...

EUM Alerts Administration User Interface

This section describes:

- ▶ Access URLs Dialog Box on page 501
- ▶ Actions Availability Dialog Box on page 502
- ▶ Add Event Data Values/Add Event Data Value Dialog Box on page 503
- ▶ Attach Recipients Dialog Box on page 504
- ▶ Alert Frequency Criteria Dialog Box on page 506
- ▶ Alerts Page on page 507
- ▶ Alert Wizard on page 515
- ▶ Average Response Time Dialog Box on page 558
- ▶ Calculated Time Period Dialog Box on page 559
- ▶ Completed Transaction Volume Dialog Box on page 561
- ▶ Data Grouping Dialog Box on page 561
- ▶ Dependencies Dialog Box on page 564
- ▶ Detach Recipients Dialog Box on page 564
- ▶ Event Frequency Settings Dialog Box on page 566
- ▶ Event Type Indicator Dialog Box on page 567
- ▶ Log Event Dialog Box on page 568
- ▶ Network Connections Availability Dialog Box on page 569



- ▶ Response Time Dialog Box on page 570
- ▶ Response Time for Specified Percentage of Transactions Dialog Box on page 571
- ▶ Response Time Relative to Threshold Dialog Box on page 573
- ▶ Response Time Relative to Threshold for Specified Percentage of Transactions Dialog Box on page 574
- ▶ Run Executable File Dialog Box on page 577
- ▶ Select CI Dialog Box on page 581
- ▶ Select Dependent Alerts Dialog Box on page 581
- ▶ Select Event Categories Dialog Box on page 582
- ▶ Select Filter Dialog Box on page 583
- ▶ Select Recipients Dialog Box on page 583
- ▶ Set Notification Frequency Dialog Box on page 585
- ▶ Target IPs List Dialog Box on page 585
- ▶ Total Transaction Volume Dialog Box on page 587
- ▶ Transaction Availability Dialog Box on page 588
- ▶ Transaction Gross Response Time Dialog Box on page 589
- ▶ Transaction Net Response Time Dialog Box on page 590
- ▶ Transaction Server Response Time Dialog Box on page 590

Access URLs Dialog Box

This dialog box enables you to specify that you want BSM to access a URL when alert trigger criteria are met.

To access	Click the link in Access the URLs <as_specified> in the Actions section in the Definition Details area in the Actions tab in the Alert Wizard.
Important information	<ul style="list-style-type: none"> ▶ Specifying the URL enables BSM to send alerts through a Web site, for example, using Active Server Pages, CGI, or Perl. The URL can activate an executable program on a Web server, report to a custom database, activate a Web-based fax service, and so on. You can develop custom pages or use existing ones. ▶ You can customize and control the URL by adding parameters to the URL string. For example, you can use the following URL: <a href="http://myticketingsystem.com?name=<<Alert Name>>&ticketID=<<ID>>&description=<<Alert Description>>">http://myticketingsystem.com?name=<<Alert Name>>&ticketID=<<ID>>&description=<<Alert Description>> The URL accesses the myticketingsystem.com site. It uses the name of the alert, the alert ID number and the description of the alert as parameters. Note: Business Service Management supports the GET method only when accessing a URL. If your Web server only supports the POST method, or if you want more information on developing custom Web pages for your server, contact your HP Software Support representative. For information on the differences between the methods, see one of the following: http://www.cs.tut.fi/~jkorpela/forms/methods.html http://en.wikipedia.org/wiki/HTTP

User interface elements are described below:

UI Element (A-Z)	Description
	Press to add a new URL. Enables you to add a URL to the list of URLs in the URL box. The //http: string is displayed in an additional box. Drag and drop the parameters listed in the Attributes area, to create the URL. For a description and listing of the different alert parameters, see "EUM Alert Attributes" on page 597.
	Press to delete the selected URL(s). Delete the URL you selected in the URL box.
URL	The list of available URLs.

Actions Availability Dialog Box

This dialog box enables you to specify how to calculate the availability of the requests to the application. The availability is calculated as the ratio of requests that were answered to the total number of requests to the application.



To access	Click the link of Send alert if actions availability is <condition> percent in the Trigger condition area of the Summary and Detail Definition area in the Alert Wizard.
------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):


UI Element (A-Z)	Description
Actions Availability is <condition> <nn> percent	Specify the condition and the percentage of availability of the application request or is it about the performance of the request to the application.



Add Event Data Values/Add Event Data Value Dialog Box

This dialog box enables you to specify the value of an event data that is used as the criteria for the triggering of the corresponding alert.

<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Admin > End User Management > Monitoring, select the view and the CI in the left pane, click the Alerts tab, and click the Press to create new alert  button to open a list of alert types. Select one of the listed types of alerts. In the Filters tab, select Event data, and click the link in Limit the alert to event data values. ▶ Admin > End User Management > Monitoring, select the view and the CI in the left pane, click the Alerts tab, and select one of the alerts, and click the Press to edit alert  button. In the Filters tab, select Event data, and click the link in Limit the alert to event data values. ▶ Double-click the alert. In the Filters tab, select Event data, and click the link in Limit the alert to event data values. ▶ To access the Add Event Data Value dialog box, click the Add event data row button in the Add Event Data Values dialog box.
-------------------------	--


User interface elements are described below:

UI Element (A–Z)	Description
	<p>Add event data row. Opens the Add Event Data Value dialog box, where you can enter the value of the event data.</p>





UI Element (A–Z)	Description
	Edit event data row. Select the relevant value in the list of values and click the button to open the Add Event Data Value dialog box, where you can edit the value of the event data.
	Remove event data rows. Select the relevant values in the list of values and click the button to remove the values from the list.



Attach Recipients Dialog Box

This dialog box enables you to attach recipients to one or more alerts.

To access	Select one or more alerts in the table in the End User Management Alerts page, and click the Add recipients  button.
------------------	--

User interface elements are described below:

UI Element (A–Z)	Description
	Create recipient. Opens the User Management main page where you can create a recipient. For details, see "User Management Main Page" in <i>Platform Administration</i> .
	Edit recipient. Opens the User Management main page where you can edit the details of the selected recipient. For details, see "User Management Main Page" in <i>Platform Administration</i> .
	Moves the selected recipients from the Available Recipients columns to the Selected Recipients to Attach column.
	Moves all the recipients from the Available Recipients columns to the Selected Recipients to Attach column.

UI Element (A–Z)	Description
	Moves the selected recipients from the Selected Recipients to Attach column to the Available Recipients columns.
	Moves all the recipients from the Selected Recipients to Attach column to the Available Recipients columns.
Attach	<p>If you selected:</p> <ul style="list-style-type: none"> ▶ One alert. The Available Recipients column displays a list of the available recipients that are not already attached to the alert. Select one or more recipients and move them to the Selected Recipients to Attach column using the arrow buttons and click Attach to attach these recipients to the selected alert. ▶ More than one alert. The Available Recipients column displays a list of all the available recipients. Select one or more recipients and move them to the Selected Recipients to Attach column using the arrow buttons and click Attach to attach these recipients to the selected alerts.
Available Recipients	Lists the name, email, SMS, or Pager number of the recipients available to be attached to the alerts. The table indicates that the recipient definition includes (checkmark or does not include (hyphen) email, pager, and SMS information.
Selected Recipients to Attach	Lists the name, email, SMS, or Pager number of the selected recipients to be attached to the alert. The table indicates that the recipient definition includes (checkmark or does not include (hyphen) email, pager, and SMS information.

Alert Frequency Criteria Dialog Box

This dialog box enables you to define how often Business Service Management sends an alert notice when the EUM alert trigger conditions occur. If you selected any of the EUM alert triggers, you can define the alert frequency criteria.

To access	Click the link of when trigger condition occurs <condition> in the Trigger condition section in the Definition Details area in the Trigger Condition tab in the Alert Wizard.
------------------	--

User interface elements are described below:

UI Element (A-Z)	Description
at least <X> times out of <Y>	<p>Select to have Business Service Management send an alert only when the defined alert trigger conditions occur X times out of Y, where X represents the number of times the alert conditions occur, and Y represents the total number of transaction instances Business Service Management considers.</p> <p>For example:</p> <ul style="list-style-type: none"> ▶ For the alert trigger Transactions fail, if you specify at least 3 times out of 5, an alert is sent only if 3 out of every 5 transactions fail. ▶ For the alert trigger Transaction response time is greater than 10 seconds, if you specify At least 2 times out of 4, an alert is sent only if transaction response time is greater than 10 seconds in at least 2 out of 4 transaction instances.
Even once	Select to have Business Service Management send an alert every time the defined alert trigger conditions occur.

 **Alerts Page**

This page enables you to view the EUM alert schemes you have created.

To access	<p>Admin > End User Management > Alerts</p> <p>Admin > End User Management > Monitoring, select a view and a CI, and click Alert.</p>
Important information	<p>Over time, you may find it necessary to make changes to alert schemes that you create, due to organizational changes, changes to service level monitoring contracts, and so on. For example, if an alert recipient leaves the company, you need to modify the alert scheme. Alternatively, if, due to a change in a service level monitoring agreement, the availability rate of a specific transaction is now expected to be at 97 percent rather than 90 percent, you may want to modify the alert trigger criteria for that transaction accordingly.</p> <p>Limitations: You can attach alerts only to the following CIs:</p> <ul style="list-style-type: none"> ▶ For RUM Transaction, RUM Application, and RUM Event alerts. Only to business_application CIs that are monitored by Real User Monitors. ▶ For BPM Transaction alerts. Only to business_application CIs that are monitored by Business Process Monitors. <p>Note: The left-pane displays the selected view and the CIs in the view. If you select a CI in the view, the alerts listed in the right-pane are attached to the selected CI.</p>
Relevant tasks	"How to Create EUM Alert Schemes" on page 482



Left Pane






User interface elements are described below (unlabeled elements are shown in angle brackets):




UI Element (A-Z)	Description
<View and tree of CIs>	<p>The selected view.</p> <p>If you select a CI in the view, the alerts listed in the right-pane are attached to the selected CI.</p> <p>The view and the tree are displayed only when you select to access the page using Admin > End User Management > Monitoring.</p>






Toolbar





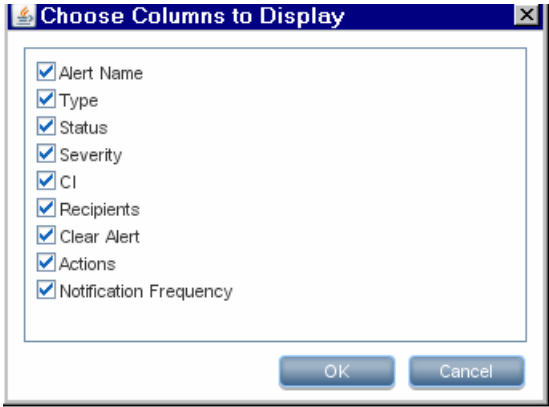
User interface elements are described below:

UI Element (A-Z)	Description
	<p>Create new alert. Opens a list of alert types. Select one of the following types:</p> <ul style="list-style-type: none"> ▶ BPM Transaction Alert. Select if you are creating an alert for a Business Process Monitor CI. ▶ RUM Alert. Select if you are creating an alert for a Real User Monitor CI. <p>The Alert Wizard opens. For details, see "Alert Wizard" on page 515.</p>
	<p>Edit alert. Opens the Alert Wizard where you can edit the selected alert. For details, see "Alert Wizard" on page 515. You can also double-click the alert to open the wizard.</p>

UI Element (A-Z)	Description
	<p>Duplicate alert: When you select:</p> <ul style="list-style-type: none"> ▶ One alert. Duplicates the selected alert. The Alert Wizard opens where you can modify the definition of the copy of the alert. ▶ Multiple alerts. Click and drag from the first alert to the last alert you want to select, and click the Duplicate alert button. The duplicate alerts are listed below the original alerts in the list. You can select each alert and click the Edit button  to edit each duplicated alert.
	<p>Delete alert. Deletes the selected alert.</p> <p>To delete multiple alerts simultaneously, click and drag from the first alert to the last alert you want to select and click the Press to delete alert button.</p>
	<p>Activate (enable) alert. Activates the selected alert.</p> <p>If an alert is activated, Business Service Management sends an alert notice when the trigger conditions defined in the alert occur.</p> <p>To activate multiple alerts simultaneously, click and drag from the first alert to the last alert you want to select, and click the button.</p>
	<p>Deactivate (disable) alert. Deactivates the selected alert.</p> <p>When an alert is deactivated, Business Service Management does not send an alert notice when the trigger conditions defined in the alert occur.</p> <p>To deactivate multiple alerts simultaneously, click and drag from the first alert to the last alert you want to select, and click the button.</p>

UI Element (A-Z)	Description
	<p>Generate event. Activates the event generation.</p> <p>If the alert is triggered, Business Service Management sends an event.</p> <p>To activate the generation of events for multiple alerts simultaneously, click and drag from the first alert to the last alert you want to select, and click the button.</p> <p>Note: This capability is available only when Business Service Management integrates with HP Operations Manager. For details, see "How to Configure BSM Alerts to Forward an Event When the Alert is Triggered" in <i>Solutions and Integrations</i>.</p>
	<p>Disable event generation. Deactivates the selected alert event generation capability.</p> <p>When the event generation capability is deactivated, Business Service Management does not send an event.</p> <p>To deactivate the generation of events for multiple alerts simultaneously, click and drag from the first alert to the last alert you want to select, and click the button.</p> <p>Note: This capability is available only when Business Service Management integrates with HP Operations Manager. For details, see "How to Configure BSM Alerts to Forward an Event When the Alert is Triggered" in <i>Solutions and Integrations</i>.</p>
	<p>Enable notification of clear alert. Enables the system to send a notification when an alert's status has improved.</p> <p>To send such notifications for selected alerts simultaneously, click and drag from the first alert to the last alert you want to select, and click the button.</p>


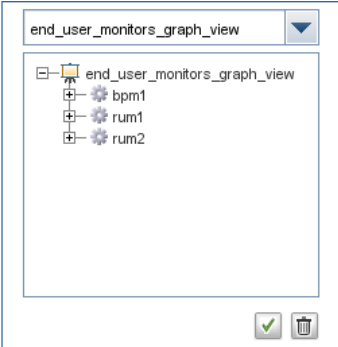



UI Element (A-Z)	Description
	<p>Disable notification of clear alert. Disables the capability to send a notification when an alert's status has improved.</p> <p>To disable the notification for selected alerts simultaneously, click and drag from the first alert to the last alert you want to select, and click the button.</p>
	<p>Open Template Repository Manager. Opens the Template Repository dialog box. For details, see "Template Repository Dialog Box" on page 602.</p>
	<p>Notification frequency. Opens the Notification Frequency dialog box where you can specify the notification frequency for the selected alert. For details, see "Set Notification Frequency Dialog Box" on page 585.</p> <p>To select the notification frequency for selected alerts simultaneously, click and drag from the first alert to the last alert you want to select, and click the button.</p>
	<p>Attach recipient. Opens the Attach Recipient dialog box where you can attach a recipient to the selected alert. For details, see "Attach Recipients Dialog Box" on page 504.</p> <p>To attach recipients for selected alerts simultaneously, click and drag from the first alert to the last alert you want to select, and click the button.</p>
	<p>Detach recipient. Opens the Detach Recipients dialog box where you can detach a recipient from the selected alert. For details, see "Detach Recipients Dialog Box" on page 564.</p> <p>To detach recipients from selected alerts simultaneously, click and drag from the first alert to the last alert you want to select, and click the button.</p>








UI Element (A-Z)	Description
	<p>View the dependencies between the alerts. Opens the Dependencies dialog box. For details, see "Select Dependent Alerts Dialog Box" on page 581.</p>
	<p>Export to Excel. Saves the information displayed in the Alerts page into Excel format. You are prompted to specify where you can save the Excel file that you are creating.</p>
	<p>Export to PDF. Saves the information displayed in the Alerts page in PDF format. You are prompted to specify where you want to save the PDF file that you are creating.</p>
	<p>Opens the Choose Columns to Display dialog box where you can select the columns you want to display on the page.</p> 

Table

Note: Each column includes a filter box. Enter or select a value in the box and click ENTER to filter out all the values except the selected one.

User interface elements are described below:

UI Element (A-Z)	Description
	<p>Note: This icon is available only when you select the view level in the left pane.</p> <p>Edit the filter. Opens a window where you can change the view and the CIs you want to display.</p>  <ol style="list-style-type: none"> 1 Select the view and the CI, and click the  button to confirm the selection. The page displays the alerts attached to the selected view and CI. 2 To restore the original view and CI selection, click the Edit the filter  button and then click the  button.
<p>Actions</p>	<p>Indicates the type of action performed by the alert when it is activated. The action can be:</p> <ul style="list-style-type: none"> ➤ URL. Sends a pre-defined URL. ➤ SNMP. Sends an SNMP trap. ➤ EXE. Executes the specified exe file. ➤ Event log. Logs an event to the Windows Event Viewer application log when an alert is triggered. <p>For details, see "Actions Tab" on page 550.</p>
<p>Alert Name</p>	<p>The name of the alert.</p>
<p>CI</p>	<p>Note: This column is available only when you select the view level in the left pane.</p> <p>Displays the name of the CI associated with the alert.</p>

UI Element (A-Z)	Description
<p>Clear Alert</p>	<p>Indicates the status of the alert:</p> <ul style="list-style-type: none"> ➤  Enabled notification of clear alert. The capability to send a notification that the alert's status has improved is enabled. ➤  Disabled notification of clear alert. The capability to send a notification that the alert's status has improved is disabled. <p>Note: Select Enabled notification or Disabled notification in the filter to display only the alerts with the selected status.</p>
<p>Notification Frequency</p>	<ul style="list-style-type: none"> ➤ Every <time_period>. ➤ Once per trigger. ➤ Every <configured_period>. <p>For details, see "Advanced Settings Tab" on page 555.</p>
<p>Recipients</p>	<p>The recipients of the alerts separated by commas (,).</p> <p>Note: To filter the list of alerts by recipient, select the relevant recipient in the list.</p>
<p>Severity</p>	<p>The severity can be:</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <ul style="list-style-type: none">  OK  Warning  Minor  Major  Critical </div>
<p>Status</p>	<p>The status of the action:</p> <ul style="list-style-type: none"> ➤ Active. The alert is triggered when the triggering conditions are met. ➤ Deactivated. The alert is not triggered when the triggering conditions are met.




UI Element (A-Z)	Description
Type	<p>The type of the alert:</p> <ul style="list-style-type: none"> ▶ BPM Transaction ▶ RUM Application ▶ RUM Transaction ▶ RUM Event

Definition Details Area

This area lists the detailed conditions of the selected alert. For details about the displayed information, see "Alert Wizard" on page 515.

Alert Wizard







This wizard enables you to create an alert scheme.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Admin > End User Management > Monitoring, select the view and the CI in the left pane, click the Alerts tab, and click the Press to create new alert  button to open a list of alert types. Select one of the listed types of alerts. ▶ Admin > End User Management > Monitoring, select the view and the CI in the left pane, click the Alerts tab, and select one of the alerts, and click the Press to edit alert  button or double-click the alert. ▶ Admin > End User Management > Alerts, and click the New  button.
Relevant tasks	"How to Create EUM Alert Schemes" on page 482
Wizard map	<p>This wizard contains:</p> <p>Trigger Condition Tab > Filters Tab > Actions Tab > Advanced Settings Tab</p>

General Area

Important information	This area provides information that is common to the Trigger Condition, Filters, Actions, and Advanced Settings tabs of the Alert Wizard.
------------------------------	---

User interface elements are described below:

UI Element (A-Z)	Description
Alert name	<p>The name of the alert.</p> <p>Syntax exceptions: The following characters are not allowed: - ~ ` # \$ % ^ & * () - + / ? < > } {] [\ \ " .</p> <p>Limitation: 250 characters.</p> <p>Note: After you enter the alert name in the box and you select the CI to associate with the alert, the validator checks if the alert name already exists for the selected CI.</p>
Select CI	<p>Click the Select the CI the alert is related to  button to open the Select CI dialog box, where you can browse views to help you select the CI you want to associate with the alert. For details, see "Select CI Dialog Box" on page 581.</p>
Severity	<p>The severity can be:</p> <div style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none">  OK  Warning  Minor  Major  Critical </div>

UI Element (A-Z)	Description
Status	Select: <ul style="list-style-type: none"> ▶ Active. Select to activate the alert. If an alert is activated, Business Service Management sends an alert notice when the trigger conditions defined in the alert occur. ▶ Inactive. Select to deactivate the alert. The alert calculation is deactivated, so Business Service Management does not send an alert notice when the trigger conditions defined in the alert occur and the alert is not sent to the alerts log.
User Message	Enables you to type the message you want to include in the alert notice. Limitation: 1000 characters.

Tabs Area

Important information	This area provides the tabs that enable you to define an alert scheme: <ul style="list-style-type: none"> ▶ Trigger Condition Tab on page 518 ▶ Filters Tab on page 542 ▶ Actions Tab on page 550 ▶ Advanced Settings Tab on page 555
------------------------------	---

Definition Details Area

After you select the trigger condition in the Trigger Condition tab, the detailed condition is displayed in the **Definition Details** area under the Trigger Condition or Data Calculation areas with default conditions.



To specify the appropriate triggering condition, click the link included in each detailed condition listed in this area to open the specific dialog box where you can define the specific alert triggering condition.

The detailed conditions are described in each triggering condition description in the tab descriptions.

Trigger Condition Tab

This tab enables you to specify the conditions that trigger an alert and how to group the criteria.

The Trigger tab is displayed below the General area. For details, see "General Area" on page 516.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ The conditions displayed in the Trigger condition tab depend on the type of alert you selected when you clicked the Create new alert  button or the Edit alert  button: <ul style="list-style-type: none"> ▶ "BPM Transaction Alerts" on page 519 ▶ "RUM Application Alerts" on page 527 ▶ "RUM Event Alerts" on page 531 ▶ "RUM Transaction Alerts" on page 533 ▶ When you set alert filters, Business Service Management considers trigger criteria within the context of the selected items only. ▶ Consider the following guidelines when specifying alert trigger criteria: <ul style="list-style-type: none"> ▶ Set your alerts to about 10-20% over your average times. ▶ Use the following values for transaction response time alert triggers: 4 seconds for general transactions, like loading a home page; 10 seconds for more complex transactions, like searching; 12 seconds for the most complex activities, like logging to the database. ▶ If you configure transaction thresholds of CIs to be similar to thresholds established in your organization's service level agreements, you can use threshold-based alerts to alert recipients to performance issues related to deviation from SLA criteria.
<p>Wizard map</p>	<p>The Alert Wizard includes: Trigger Condition Tab > Filters Tab > Actions Tab > Advanced Settings Tab</p>

BPM Transaction Alerts

This tab enables you to select how to trigger an alert based on an event related to the BPM transaction's performance and availability when you have selected a BPM Transaction Alert type in the Alert page. For example, you can send an alert when a transaction fails or exceeds a specified amount of time.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ Each time you select a trigger criteria in the Trigger Condition area in the upper part of the page, a statement detailing the corresponding condition criteria is added to the Trigger Condition section in the Definition Details area in the lower part of the page. The statement may include a link to a dialog box that enables you to specify the appropriate criteria for the triggering condition you selected. ▶ If you select multiple triggering conditions in the upper part of the page, the corresponding statements are listed in the Trigger Condition in the Definition Details area. ▶ If you select multiple, EUM alert trigger criteria, you also specify multiple-trigger condition properties.
-------------------------------------	---

User interface elements are described below:

▶ End User Management Triggers:

UI Element (A-Z)	Description
<p>Transactions fail</p>	<p>To use the CI's transaction failure as a criteria.</p> <p>After selection, the following information is displayed in the Trigger condition section in the Definition Details area:</p> <p style="padding-left: 20px;">Send the alert if transactions fail when trigger conditions occur <condition>.</p> <p>Click the <condition> link to open the Alert Frequency Criteria Dialog Box on page 506.</p>

UI Element (A-Z)	Description
<p>Transactions Response Time</p>	<p>To send an alert if the CI's transaction response time is greater or less than the specified amount of time, in seconds.</p> <p>After selection, the following information is displayed in the Trigger condition section in the Definition Details area:</p> <p style="padding-left: 40px;">Send the alert if transactions response time is <condition> when trigger conditions occur <alert_frequency_criteria></p> <p>Click the <condition> link to open the Response Time Dialog Box on page 570.</p> <p>Click the <alert_frequency_criteria> link to open the Alert Frequency Criteria Dialog Box on page 506.</p> <p>Only completed transactions are considered for this alert trigger. If a transaction fails—that is, when it is not completed successfully—no alert is sent.</p>

UI Element (A-Z)	Description
Transactions response time relative to configured thresholds	<p>To send an alert if the CI's transaction response time is better or worse than the threshold. Only completed transactions are considered for this alert trigger. You can also anticipate the response time of the transaction by raising or lowering the threshold by a specified percentage.</p> <p>Threshold offsets are specified, per location, for the relevant CI in Admin > End User Management > Monitoring. For details on configuring the threshold, see "Edit Thresholds Dialog Box" on page 217. You specify the locations you want to filter in the Filters tab. For details, see "Filters Tab" on page 542.</p> <p>After selection, the following information is displayed in the Definition Details area:</p> <p style="padding-left: 40px;">Send the alert if transaction response time relative to configured threshold is <as specified> when trigger conditions occur <alert_frequency_criteria></p> <p>Click the <as specified> link to open the Response Time Relative to Threshold Dialog Box on page 573.</p> <p>Click the <alert_frequency_criteria> link to open the Alert Frequency Criteria Dialog Box on page 506.</p>

► Time-Based Triggers:

UI Element (A-Z)	Description
<p>Availability</p>	<p>To send an alert if the availability of the CI's transactions is greater or less than the selected percentage, calculated over the selected time period. Availability is the number of times that transactions succeed as a percentage of the total number of transaction instances.</p> <p>After selection, the following information is displayed in the Trigger condition section in the Definition Details area:</p> <p style="padding-left: 40px;">Send the alert if availability is <condition> calculated over a <time_period> period</p> <p>Click the <condition> link to open the Transaction Availability Dialog Box on page 588.</p> <p>Click the <time_period> link to open the Calculated Time Period Dialog Box on page 559.</p> <p>The specified time period is used as a sliding window. Periodically (every minute), the system checks if the criteria is fulfilled for the last time period including the current minute. If the criteria is fulfilled, an alert notification is sent.</p> <p>To receive only one alert notification for the same alert event, select Send no more than one alert as long as the conditions that triggered the alert continue to exist in the Advanced Settings Tab on page 555.</p>

UI Element (A-Z)	Description
<p>Transaction response time for specified percentage of transactions</p>	<p>To send an alert if the response time of the CI's transactions is greater or less than the selected number of seconds, for the specified percentage of transactions, calculated over the selected time period. You can also select to count a minimum number of transactions over the calculated time period.</p> <p>After selection, the following information is displayed in the Definition Details area:</p> <p>Send the alert if transaction response time relative to configured thresholds is <as_specified> calculated over a <calculated_time_period> period</p> <p>Click the <as specified> link to open the Response Time for Specified Percentage of Transactions Dialog Box on page 571.</p> <p>Click the <calculated_time_period> link to open the Calculated Time Period Dialog Box on page 559. Only completed transactions are considered for this alert trigger.</p> <p>The specified time period is used as a sliding window. Periodically (every minute), the system checks if the criteria is fulfilled for the last time period including the current minute. If the criteria is fulfilled, an alert notification is sent.</p> <p>To receive only one alert notification for the same alert event, select Send no more than one alert as long as the conditions that triggered the alert continue to exist in the Advanced Settings Tab on page 555.</p>

UI Element (A-Z)	Description
<p>Transaction response time relative to configured thresholds for specified percentage of transactions</p>	<p>To send an alert if the response time of the CI's transactions is better or worse than the selected transaction threshold, for the specified percentage of transactions, calculated over the selected time period. You can also select to treat the threshold value as better or worse than the set threshold, by a specified percentage for a specified minimum number of transactions over the calculated time period.</p> <p>After selection, the following information is displayed in the Definition Details area:</p> <p style="padding-left: 40px;">Send the alert if transactions response time relative to configured threshold for specified percentage of transactions is <as specified> calculated over a <calculated_time_period> period</p> <p>Click the <as specified> link to open the Response Time Relative to Threshold for Specified Percentage of Transactions Dialog Box on page 574.</p> <p>Click the <calculated_time_period> link to open the Calculated Time Period Dialog Box on page 559. Only completed transactions are considered for triggering this alert.</p> <p>The specified time period is used as a sliding window. Periodically (every minute), the system checks if the criteria is fulfilled for the last time period including the current minute. If the criteria is fulfilled, an alert notification is sent.</p> <p>To receive only one alert notification for the same alert event, select Send no more than one alert as long as the conditions that triggered the alert continue to exist in the Advanced Settings Tab on page 555.</p>

UI Element (A-Z)	Description
Average transaction response time	<p>To send an alert if the average response time of the CI's transactions is greater or less than the selected number of seconds, calculated over the selected time period. After selection, the following information is displayed in the Definition Details area:</p> <p>Send the alert if the average response time is <condition> calculated over a <calculated_time_period> period</p> <p>Click the <condition> link to open the Average Response Time Dialog Box on page 558.</p> <p>Click the <calculated_time_period> link to open the Calculated Time Period Dialog Box on page 559.</p> <p>The specified time period is used as a sliding window. Periodically (every minute), the system checks if the criteria is fulfilled for the last time period including the current minute. If the criteria is fulfilled, an alert notification is sent.</p> <p>To receive only one alert notification for the same alert event, select Send no more than one alert as long as the conditions that triggered the alert continue to exist in the Advanced Settings Tab on page 555.</p>

► **Data Grouping Area:**

Important information	<p>If you select the Data Grouping option in the upper part of the page, a statement detailing the corresponding grouping is added to the Data Grouping section in the Definition Details area in the lower part of the page. The statement includes a link to a dialog box that enables you to configure the data grouping.</p>
------------------------------	--

User interface elements are described below:

UI Element (A-Z)	Description
Group data by the specified criteria	<p>Select to group the data by the specified criteria.</p> <p>After selection, the following information is displayed in the Data Grouping section in the Definition Details area:</p> <p style="padding-left: 40px;">Group data by <as_specified></p> <p>Click the link to open the Data Grouping Configuration dialog box. For details, see Data Grouping Dialog Box on page 561.</p>

RUM Application Alerts

This tab enables you to select how to trigger an alert based on an application's availability when you have selected a RUM Application Alert type in the Alert page. For example, you can send an alert when a request to a specific application fails or exceeds a specified amount of time.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ Each time you select a trigger criteria in the Trigger Condition area in the upper part of the page, a statement detailing the corresponding condition criteria is added to the Trigger Condition section in the Definition Details area in the lower part of the page. The statement includes a link to a dialog box that enables you to specify the appropriate criteria for the triggering condition you selected. ▶ If you select multiple triggering conditions in the upper part of the page, the corresponding statements are listed in the Trigger Condition in the Definition Details area. ▶ If you select multiple, EUM alert trigger criteria, you also specify multiple-trigger condition properties. <p>Note:</p> <ul style="list-style-type: none"> ▶ The rum_application_stats_t sample sent to Business Service Management includes aggregated samples where each sample represents five minutes of data. For details on the sample, see "Sample: RUM Application Statistics (rum_application_stats_t)" in "Data Samples for Real User Monitor" in <i>Reports</i>. ▶ The rum_tcp_application_stats_t sample sent to Business Service Management includes aggregated samples where each sample represents five minutes of data. For details on the sample, see "Sample: RUM Application Statistics (rum_application_stats_t)" in "Data Samples for Real User Monitor" in <i>Reports</i>.
-------------------------------------	---

User interface elements are described below:

► **Trigger Condition:**

UI Element (A-Z)	Description
<p>Actions availability</p>	<p>To send an alert if the percentage of successful requests (for example, HTTP requests) to the application related to the alert, compared to the total number of application requests, is less than or greater than the specified percentage, calculated over the selected time period.</p> <p>After selection, the following information is displayed in the Definition Details area:</p> <p style="padding-left: 40px;">Send the alert if actions availability is <condition> percent calculated over a <time_period> period</p> <p>Click the <condition> link to open the Actions Availability Dialog Box on page 502.</p> <p>Click the <time_period> link to open the Calculated Time Period Dialog Box on page 559.</p> <p>Only completed transactions are considered when triggering this alert.</p> <p>Note: The rum_application_stats_t sample sent to Business Service Management includes aggregated samples where each sample represents five minutes of data. For details on the sample, see "Sample: RUM Application Statistics (rum_application_stats_t)" in "Data Samples for Real User Monitor" in <i>Reports</i>.</p>

UI Element (A-Z)	Description
Network connections availability	<p>To send an alert if the percentage of successfully created TCP connections compared to the total number of created connections is less than or greater than the specified percentage, calculated over the selected time period.</p> <p>After selection, the following information is displayed in the Definition Details area:</p> <p>Send the alert if network connections availability is <condition> percent calculated over a <time_period> period</p> <p>Click the <condition> link to open the Network Connections Availability Dialog Box on page 569.</p> <p>Click the <time_period> link to open the Calculated Time Period Dialog Box on page 559.</p> <p>Only completed transactions are considered when triggering this alert.</p> <p>Note: The trigger is calculated using the values of the availability and tot_connection fields in the rum_tcp_application_stats_t sample sent to Business Service Management, which includes aggregated samples where each sample represents five minutes of data. The availability of the network connection is calculated as the (availability/tot_connection)x100 where availability represents the number of available network connections, and tot_connection represents the number of connections that opened in the selected time period.</p> <p>Note: The rum_tcp_application_stats_t sample sent to Business Service Management includes aggregated samples where each sample represents five minutes of data. For details on the sample, see "Sample: RUM Application Statistics (rum_application_stats_t)" in "Data Samples for Real User Monitor" in <i>Reports</i>.</p>

UI Element (A-Z)	Description
Any of the above trigger conditions are met	This additional trigger condition is enabled when you select more than one trigger condition. Select to send an alert if any (one or more) of the trigger conditions you selected are met. The selected statements in the Definition Details area are separated by or .
All of the above trigger conditions are met	This additional trigger condition is enabled when you select more than one trigger conditions. Select to send an alert if all the trigger conditions you selected are met. The selected statements in the Definition Details area are separated by and .

► **Data Grouping Area:**

Important information	If you select a type of Data Grouping in the upper part of the page, a statement detailing the corresponding grouping is added to the Data Calculation section in the Definition Details area in the lower part of the page. The statement includes a link to a dialog box that enables you to configure the data grouping.
------------------------------	--

User interface elements are described below:

UI Element (A-Z)	Description
Group data by the specified criteria	Select to group the data (for the selected CI) by the specified criteria. After selection, the following information is displayed in the Data Calculation section in the Definition Details area: Group data by <as_specified> . Click the link to open the Data Grouping Configuration dialog box. For details, see Data Grouping Dialog Box on page 561.

RUM Event Alerts

This tab enables you to select how to trigger the alert based on the event automatically created by an incoming sample when you have selected a RUM Event Alert type in the Alert page. For example, you can send an alert when a transaction fails or exceeds a specified amount of time.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ Each time you select a trigger criteria in the Trigger Condition area in the upper part of the page, a statement detailing the corresponding condition criteria is added to the Trigger Condition section in the Definition Details area in the lower part of the page. The statement includes a link to a dialog box that enables you to specify the appropriate criteria for the triggering condition you selected. ▶ If you select multiple triggering conditions in the upper part of the page, the corresponding statements are listed in the Trigger Condition in the Definition Details area. ▶ If you select multiple, EUM alert trigger criteria, you also specify multiple-trigger condition properties.
-------------------------------------	--

User interface elements are described below:

▶ Trigger Condition:

UI Element (A-Z)	Description
<p>For every occurrence</p>	<p>To send an alert each time an event is created by an incoming sample.</p> <p>After selection, the following information is displayed in the Trigger Condition section in the Definition Details area:</p> <p style="text-align: center;">Send alert if the Real User Monitor event occurs</p> <p>Example: The alert is sent as soon as the sample of a RUM event arrives in the Metric Processing Subsystem.</p>

UI Element (A-Z)	Description
<p>For the specified frequency</p>	<p>To send an alert each time an event is created by an incoming sample and the event occurs at least the specified number of time within a specified time-period.</p> <p>After selection, the following information is displayed in the Trigger Condition section in the Definition Details area:</p> <p style="padding-left: 40px;">Send alert if the Real User Monitor event occurs with a <frequency> of at least <nn> times within a <tt> <time unit> period</p> <p>Click the <frequency> link to open the Event Frequency Settings Dialog Box on page 566.</p> <p>Example: The alert is sent as soon as the sample of the RUM event arrives in the Metric Processing Subsystem 5 times in 5 minutes.</p>

► **Data Grouping Area:**

<p>Important information</p>	<p>If you select a type of Data Grouping in the upper part of the page, a statement detailing the corresponding grouping is added to the Data Calculation section in the Definition Details area in the lower part of the page. The statement includes a link to a dialog box that enables you to configure the data grouping.</p>
-------------------------------------	---

User interface elements are described below:

UI Element (A-Z)	Description
<p>Group data by the specified criteria</p>	<p>Select to group the data (for the selected CI) by the specified criteria.</p> <p>After selection, the following information is displayed in the Data Calculation section in the Definition Details area:</p> <p style="padding-left: 40px;">Group data by <as_specified>. Click the link to open the Data Grouping Configuration dialog box. For details, see Data Grouping Dialog Box on page 561.</p>

RUM Transaction Alerts

This tab enables you to select how to trigger the alert based on an event related to the RUM transaction's performance and availability when you have selected a RUM Transaction Alert type in the Alert page. For example, you can send an alert when a transaction fails or exceeds a specified amount of time.

Important information	<ul style="list-style-type: none">▶ Each time you select a trigger criteria in the Trigger Condition area in the upper part of the page, a statement detailing the corresponding condition criteria is added to the Trigger Condition section in the Definition Details area in the lower part of the page. The statement includes a link to a dialog box that enables you to specify the appropriate criteria for the triggering condition you selected.▶ If you select multiple triggering conditions in the upper part of the page, the corresponding statements are listed in the Trigger Condition in the Definition Details area.▶ If you select multiple, EUM alert trigger criteria, you also specify multiple-trigger condition properties.
------------------------------	--

User interface elements are described below:

► **Trigger Condition:**

UI Element (A-Z)	Description
<p>Transaction availability</p>	<p>To send an alert if the availability of the CI's transactions is greater or less than the selected percentage, calculated over the selected time period. Availability is the number of times that transactions succeed as a percentage of the total number of transaction instances.</p> <p>After selection, the following information is displayed in the Trigger Condition section in the Definition Details area:</p> <p style="padding-left: 40px;">Send an alert if transaction availability is <condition> percent calculated over a <calculated_time_period> period</p> <p>Click the <condition> link to open the Transaction Availability Dialog Box on page 588.</p> <p>Click the <calculated_time_period> link to open the Calculated Time Period Dialog Box on page 559.</p> <p>Example: When the criteria is fulfilled five minutes after the start of the time period (15 minutes), a check performed at 16 minutes after the start of the time period finds the criteria fulfilled and sends an alert. The same test is then performed every minute after that, and finds that the criteria is fulfilled five times, up to the 21st minute after the start of the time period. At the 22nd minute after the start of the time period, the criteria is not fulfilled any more.</p>

UI Element (A-Z)	Description
<p>Transaction performance - percentage of transactions with breached gross transaction response time</p>	<p>To send an alert if the network and application response time for the specified percentage of the CI's transactions has breached the conditions, per sampling period.</p> <p>After selection, the following information is displayed in the Trigger Condition section in the Definition Details area:</p> <p>Send alert if percentage of transactions with breached gross transaction response time is <condition> percent calculated over a <calculated_time_period> period</p> <p>Click the <condition> link to open the Transaction Gross Response Time Dialog Box on page 589.</p> <p>Click the <calculated_time_period> link to open the Calculated Time Period Dialog Box on page 559.</p> <p>Only completed transactions are considered when triggering this alert.</p>
<p>Transaction performance - percentage of transactions with breached net transaction response time</p>	<p>To send an alert if the network response time for the specified percentage of the CI's transactions corresponds to the conditions, per sampling period.</p> <p>After selection, the following information is displayed in the Trigger Condition section in the Definition Details area:</p> <p>Send alert if percentage of transactions with breached net transaction response time is <condition> percent calculated over a <calculated_time_period> period</p> <p>Click the <condition> link to open the Transaction Net Response Time Dialog Box on page 590.</p> <p>Click the <calculated_time_period> link to open the Calculated Time Period Dialog Box on page 559.</p> <p>Only completed transactions are considered when triggering this alert.</p>

UI Element (A-Z)	Description
<p>Transaction performance - percentage of transactions with breached server transaction response time</p>	<p>To send an alert if the server response time for the specified percentage of the CI's transactions has breached the conditions, per sampling period.</p> <p>After selection, the following information is displayed in the Trigger Condition section in the Definition Details area:</p> <p>Send alert if percentage of transactions with breached server transaction response time is <condition> percent calculated over a <calculated_time_period> period</p> <p>Click the <condition> link to open the Transaction Server Response Time Dialog Box on page 590.</p> <p>Click the <calculated_time_period> link to open the Calculated Time Period Dialog Box on page 559.</p> <p>Only completed transactions are considered when triggering this alert.</p>
<p>Transaction volume - all</p>	<p>To send an alert if the CI's total transaction volume corresponds to the conditions, per sampling period.</p> <p>After selection, the following information is displayed in the Trigger Condition section in the Definition Details area:</p> <p>Send transaction if total volume is <condition> transactions calculated over a <calculated_time_period> period</p> <p>Click the <condition> link to open the Total Transaction Volume Dialog Box on page 587.</p> <p>Click the <calculated_time_period> link to open the Calculated Time Period Dialog Box on page 559.</p> <p>Only completed transactions are considered when triggering this alert.</p>

UI Element (A-Z)	Description
Transaction volume - completed	<p>To send an alert if the volume of the CI's completed transactions corresponds to the conditions, calculated over the selected time period.</p> <p>After selection, the following information is displayed in the Trigger Condition section in the Definition Details area:</p> <p>Send transaction if completed volume is <condition> transactions calculated over a <calculated_time_period> period</p> <p>Click the <condition> link to open the Completed Transaction Volume Dialog Box on page 561.</p> <p>Click the <calculated_time_period> link to open the Calculated Time Period Dialog Box on page 559.</p> <p>Only completed transactions are considered when triggering this alert.</p>
Any of the above trigger conditions are met	<p>This additional trigger condition is enabled when you select one or more trigger conditions.</p> <p>Select to send an alert if any (one or more) of the trigger conditions you selected is met. The selected statements are separated by or.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Trigger condition</p> <p>Send alert if transaction availability is less than 80 percent</p> <p><input type="checkbox"/> or total volume is less than 150 transactions</p> <p>calculated over a 15 minute(s) period</p> </div>

UI Element (A-Z)	Description
<p>All of the above trigger conditions are met</p>	<p>This additional trigger condition is enabled when you select one or more trigger conditions.</p> <p>Select to send an alert if all the trigger conditions you selected are met. The selected statements are separated by and.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Trigger condition</p> <p>Send alert if transaction availability is less than 80 percent</p> <p><input type="checkbox"/> and total volume is less than 150 transactions</p> <p>calculated over a 15 minute(s) period</p> </div>

► **Data Grouping Area**

<p>Important information</p>	<p>If you select a type of Data Grouping in the upper part of the page, a statement detailing the corresponding grouping is added to the Data Calculation section in the Definition Details area in the lower part of the page. The statement includes a link to a dialog box that enables you to configure the data grouping.</p>
-------------------------------------	---

User interface elements are described below:

UI Element (A-Z)	Description
<p>Group data by the specified criteria</p>	<p>Select to group the data (for the selected CI) by the specified criteria.</p> <p>After selection, the following information is displayed in the Data Calculation section in the Definition Details area:</p> <p style="padding-left: 20px;">Group data by <as_specified>.</p> <p>Click the link to open the Data Grouping Configuration dialog box. For details, see Data Grouping Dialog Box on page 561.</p>

Examples of Triggering Conditions

An EUM alert is triggered, every time a sample arrives on the bus, when the triggering condition on the transaction response time, availability, success or failure, or completion time status is met and when the received sample also meets the condition.

This section provides two detailed examples of triggering conditions.

Example 1

The alert scheme definition is: trigger an alert if the transaction response time is greater than 10 seconds in at least 2 out of 4 occurrences.

The alert scheme definition includes a follow up alert.

The received samples include the following data:

Response time in sample	Condition met	Condition met in sample	Alert is triggered?
12 seconds	No 1 alert out of 1	Yes	No
11 seconds	Yes 2 alerts out of 2	Yes	Yes
5 seconds	Yes 2 alerts out of 3	No Response time in sample is 5 and does not meet the alert scheme condition.	No
20 seconds	Yes 3 alerts out of 4	Yes	Yes
4 seconds	Yes 2 alerts out of 4	No Response time in sample is 4 and does not meet the alert scheme condition.	No

Response time in sample	Condition met	Condition met in sample	Alert is triggered?
7 seconds	No 1 alert out of 4 Condition was met until the new sample arrived.	No The new sample does not meet the condition.	No The follow-up alert is triggered.

Example 2

The alert scheme definition is: RUM Page availability is less than 80% in the past 10 minutes.

You also create a follow up alert.

The received samples include the following data:



Total hits	Availability	Condition met?	Condition met in sample?	Alert is triggered?
10	1 (10% availability)	Yes	Yes	Yes
10	9 (90% availability)	Yes Average availability over the two samples is $(90\% + 10\%)/2 = 50\%$.	No Sample availability is 90%	No

Total hits	Availability	Condition met?	Condition met in sample?	Alert is triggered?
100	100 (100% availability)	No Average availability over the three samples is 92%	No Sample availability is 100%	No The follow-up alert is triggered although the previous sample did not trigger an alert. The reason is that the condition was met until the new sample arrived.

Filters Tab

This tab enables you to filter the data used to calculate the alert.

The Trigger tab is displayed below the General area. For details, see "General Area" on page 516.

<p>Important information</p>	<p>The conditions displayed in the Filters tab depend on the type of alert you selected when you clicked the Press to create new alert  button or the Press to edit alert  button:</p> <ul style="list-style-type: none"> ➤ "BPM Transaction Alerts" on page 543 ➤ "RUM Application Alerts" on page 544 ➤ "RUM Event Alerts" on page 546 ➤ "RUM Transaction Alerts" on page 548 <p>When you select a filter, the corresponding filter definition statement is added to the Filter data section in the Definition Details area. Depending on the filter you select, the Filter data area displays different information. The statement includes a link to a dialog box that enables you to specify the appropriate criteria for the triggering condition you selected.</p> <p>You can combine one or more filters.</p> <p>You can define a filter for the alert only if the alert is created for an Application CI:</p> <ul style="list-style-type: none"> ➤ Select such a CI in the CI selection area when you define the alert using the Monitoring tab. ➤ Select an Application CI in the Alert Wizard when defining an alert using the Alerts tab.
<p>Wizard map</p>	<p>The Alert Wizard includes: Trigger Condition Tab > Filters Tab > Actions Tab > Advanced Settings Tab</p>

BPM Transaction Alerts

This tab enables you to select how to filter the alert based on an event related to the BPM transaction's performance and availability. This list of filters is displayed when you have selected a BPM Transaction Alert type in the Alert page.

User interface elements are described below:

UI Element (A-Z)	Description
<p>Transactions</p>	<p>Select to send an alert if the alert trigger criteria are met for the specified transactions. By default, alerts are sent when alert trigger criteria are met for any transaction.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="text-align: center;">Limit alert to the <specified> transactions</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>
<p>Locations</p>	<p>Select to send an alert if the alert trigger criteria are met for the specified locations. By default, alerts are sent when alert trigger criteria are met for any location. The locations can be specified per CI in Admin > Platform > Locations. For details on the user interface, see "Location Manager Page" in <i>Platform Administration</i>.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="text-align: center;">Limit to locations <as_specified></p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>

RUM Application Alerts

This tab enables you to select how to filter an alert based on an application's performance and availability. The filters listed in the page are displayed when you have selected a RUM Application Alert type in the Alert page.

User interface elements are described below:

UI Element (A-Z)	Description
<p>End user subnets</p>	<p>Select to send an alert if the alert trigger criteria are met for the specified end user subnet.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="padding-left: 40px;">Limit alert to the <specified> end user subnet</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>
<p>End-user groups</p>	<p>Select to send an alert if the alert trigger criteria are met for the specified end-user groups.</p> <p>After selection, the following information is displayed in the Filter section in the Definition Details section:</p> <p style="padding-left: 40px;">Limit the alert to <specified> end-user groups</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>
<p>Locations</p>	<p>Select to send an alert if the alert trigger criteria are met for the specified locations. The locations can be specified per CI in Admin > Platform > Locations. For details on the user interface, see "Location Manager Page" in <i>Platform Administration</i>.</p> <p>After selection, the following information is displayed in the Filter section in the Definition Details section:</p> <p style="padding-left: 40px;">Limit the alert to <specified> locations</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>

UI Element (A-Z)	Description
Servers	<p>Select to send an alert if the alert trigger criteria are met for the specified servers.</p> <p>After selection, the following information is displayed in the Filter section in the Definition Details section:</p> <p style="padding-left: 40px;">Limit the alert to <specified> servers</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>
Software elements	<p>Select to send an alert if the alert trigger criteria are met for the specified software elements.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="padding-left: 40px;">Limit alert to the <specified> software elements</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>
Tiers	<p>Select to send an alert if the trigger alert criteria are met for the specified tiers.</p> <p>After selection, the following information is displayed in the Filter section in the Definition Details section:</p> <p style="padding-left: 40px;">Limit the alert to <specified> tiers</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p> <p>For details about tiers, see "Application Monitoring Tiers Area" on page 373.</p>

RUM Event Alerts

This tab enables you to select how to filter the alert based on a RUM event related to the RUM transaction's performance and availability. The filters listed in the page are displayed when you have selected a RUM Event Alert type in the Alert page.

User interface elements are described below:

UI Element (A-Z)	Description
<p>End-user groups</p>	<p>Select to send an alert if the alert trigger criteria are met for the specified end user groups. By default, alerts are sent when alert trigger criteria are met for any event.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="padding-left: 40px;">Limit the alert to the <specified> end-user groups</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p> <p>Note: You cannot define follow-up alerts for end user groups.</p>
<p>Event category</p>	<p>Select to send an alert if the alert trigger criteria are met for the specified event category.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="padding-left: 40px;">Limit the alert to the <specified> event categories</p> <p>Click the link to open the Select Event Categories Dialog Box on page 582.</p> <p>Note: The Performance classification is the default option (it is available for all events including automatic events).</p>

UI Element (A-Z)	Description
Event data	<p>Select to send an alert if the alert trigger criteria are met for the specified event data values. Use this trigger if you have defined Text Pattern EventsAdd Event Data Values/Add Event Data Value Dialog Box on page 503. The Alert application checks the contents of the Event Data field in the sample. If the contents correspond to the value defined in the DATA field in the Add Event Data Values dialog box, the event is taken into consideration in the calculation of the alert.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="text-align: center;">Limit the alert to the <specified> event data values</p> <p>Click the link to open the Add Event Data Values/Add Event Data Value Dialog Box on page 503.</p>
Events	<p>Select to send an alert if the alert trigger criteria are met for the specified RUM events.</p> <p>After selection, the following information is displayed in the Filter area in the Description Details area in the Filters tab:</p> <p style="text-align: center;">Limit the alert to the <specified> events</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p> <p>Note: The events listed in the Filter Conditions dialog box are the default RUM application events, the HTTP error events, and the RUM events you configured in the Global and Selective Events page accessed by clicking the Real User Monitor tab in the Monitoring tab for the selected CI.</p>

UI Element (A-Z)	Description
<p>Locations</p>	<p>Select to send an alert if the alert trigger criteria are met for the specified locations.</p> <p>After selection, the following information is displayed in the Filter section in the Definition Details section:</p> <p style="text-align: center;">Limit the alert to <specified> locations</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>
<p>Servers</p>	<p>Select to send an alert if the alert trigger criteria are met for the specified servers.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="text-align: center;">Limit the alert to the <specified> servers</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>

RUM Transaction Alerts

This tab enables you to select how to filter the alert based on a RUM event related to the RUM transaction’s performance and availability. The filters listed in the page are displayed when you have selected a RUM Transaction Alert type in the Alert page.

User interface elements are described below:

UI Element (A-Z)	Description
<p>End user groups</p>	<p>Select to send an alert if the alert trigger criteria are met for the specified end user groups.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="text-align: center;">Limit alert to the <specified> end user groups</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>

UI Element (A-Z)	Description
End user subnets	<p>Select to send an alert if the alert trigger criteria are met for the specified end user subnet.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="padding-left: 40px;">Limit alert to the <specified> end user subnet</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>
Locations	<p>Select to send an alert if the alert trigger criteria are met for the specified locations.</p> <p>After selection, the following information is displayed in the Filter section in the Definition Details section:</p> <p style="padding-left: 40px;">Limit the alert to <specified> locations</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>
Servers	<p>Select to send an alert if the alert trigger criteria are met for the specified servers.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="padding-left: 40px;">Limit alert to the <specified> servers</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>
Software elements	<p>Select to send an alert if the alert trigger criteria are met for the specified software elements.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="padding-left: 40px;">Limit alert to the <specified> software elements</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>

UI Element (A-Z)	Description
Transactions	<p>Select to send an alert if the alert trigger criteria are met for the specified transactions.</p> <p>After selection, the following information is displayed in the Filter data area in the Description Details area in the Filters tab:</p> <p style="text-align: center;">Limit alert to the <specified> transactions</p> <p>Click the link to open the Select Filter Dialog Box on page 583.</p>

Actions Tab

This tab enables you to specify the actions that Business Service Management takes when alert trigger criteria and filter criteria are met. A sample is processed by Alert Engine immediately as it arrives to BSM, the alert actions are executed 60 seconds after the alert was triggered.

The Trigger tab is displayed below the General area. For details, see "General Area" on page 516.

Important information	<p>When you select an action, the Actions area is added to the Definition Details area.</p> <p>You can select one or more actions.</p> <p>You can select one or more of the following actions:</p> <ul style="list-style-type: none"> ▶ Send an alert to specified recipients. ▶ Access URLs. ▶ Send an SNMP trap. ▶ Run an executable file. ▶ Log an event in the Windows Event Viewer application log.
Wizard map	<p>The Alert Wizard includes: Trigger Condition Tab > Filters Tab > Actions Tab > Advanced Settings Tab</p>

Recipients Area

User interface elements are described below:

UI Element (A-Z)	Description
<p>Send alert to specified recipients</p>	<p>Sends an alert notice to selected recipients when an alert is triggered.</p> <p>After selection, the following information is displayed in the Actions area in the Description Details area in the Actions tab:</p> <p style="padding-left: 40px;">Send alert to <specified_recipients></p> <p>Click the link to open the Select Recipients Dialog Box on page 583 where you can select the recipients of the alert notices.</p>

Event Creation Area

User interface elements are described below:

UI Element (A-Z)	Description
<p>Generate Event</p>	<p>Enables the creation of an event, when the alert is triggered.</p> <p>The event details are mapped to the alert details according to a template. You can customize the template. For details, see "Template Repository Dialog Box" on page 602.</p> <p>The event is available in HP Operations Manager, and Operations Manager <i>i</i>. For details, see "Generate Events in HP Operations Manager when BSM Alert is Triggered" in <i>Solutions and Integrations</i>.</p> <p>When the checkbox is selected:</p> <ul style="list-style-type: none"> ▶ Event Template. The default template is used. It is selected and configured in the Template Repository. For user interface details, see "Template Repository Dialog Box" on page 602. ▶ Event Type Indicator. The default values depend on the alert type and the trigger selection. It is possible that the default value is empty. For user interface details, see "Event Type Indicator Dialog Box" on page 567. <p>After selection, the following information is displayed in the Actions area in the Description Details area in the Actions tab:</p> <p style="padding-left: 40px;">Generate event with <default_template_name> template and <default_values> Event Type Indicator</p> <p>Click <default_template_name> to open the <alert_type> Template Repository dialog box where you can change the default and map the alert to an event. For details, see "Template Repository Dialog Box" on page 602.</p> <p>Click <default_values> to open the "Event Type Indicator Dialog Box" on page 567 where you can modify the default values.</p>

External Actions Area

Important information	The permissions to change, view, delete, or execute external actions (executable files, send SNMP traps, or log to Event Viewer) are set separately from the permissions to change, view, delete, or execute the EUM alerts. For details on modifying the permissions for the external actions, access Admin > Platform > Users and Permissions > User Management , and for the relevant user select the Platform context and set the permissions for the external actions.
------------------------------	--

User interface elements are described below:

UI Element (A-Z)	Description
Access URLs	<p>Select to specify that you want to access specified URLs when the alert trigger criteria are met.</p> <p>Accessing the URL provides the capability to send alerts through a Web site (for example, using Active Server Pages, CGI, or Perl). The URL can activate an executable program on a Web server, report to a custom database, activate a Web-based fax service, and so on. You can develop custom pages or use existing ones.</p> <p>After selection, the following information is displayed in the Actions area in the Description Details area in the Actions tab:</p> <p style="padding-left: 40px;">Access the URLs <as_specified></p> <p>Click the link to open the Access URLs Dialog Box on page 501 where you can enter the URL or select an existing URL.</p> <p>Note: Business Service Management supports the GET method only when accessing a URL. If your Web server supports only the POST method, or if you want more information on developing custom Web pages for your server, contact your HP Software Support representative.</p>

UI Element (A-Z)	Description
<p>Log to Event Viewer application log (Windows only)</p>	<p>Select to log the event that triggered the alert to the Windows Event Viewer application log when an alert is triggered.</p> <p>After selection, the following information is displayed in the Actions area in the Description Details area in the Actions tab:</p> <p style="padding-left: 40px;">Log <as_specified> to Event Viewer application log</p> <p>Click the link to open the Log Event Dialog Box on page 568, where you configure the event type, ID, category, and description (standard Event Viewer categories).</p> <p>Note: If the Data Processing Server is not installed on a Windows-based machine, HP Business Service Management cannot execute this alert action.</p>
<p>Run executable file</p>	<p>Select to run a predefined or custom executable file (for example, an .exe or .bat file for the Windows operating system and .sh file for the UNIX operating system) when an alert is triggered. The executable file must not be interactive (no user response required) and should not have a user interface.</p> <p>After selection, the following information is displayed in the Actions area in the Description Details area in the Actions tab:</p> <p style="padding-left: 40px;">Run executable file <as_specified></p> <p>Click the link to open the Run Executable File Dialog Box on page 577, where you can specify the location and the type of the executable file.</p>

UI Element (A-Z)	Description
Send SNMP trap	<p>Select to specify that you want to send an SNMP trap when an alert is triggered. The alert notice can then be seen through any SNMP management console in the organization.</p> <p>After selection, the following information is displayed in the Actions area in the Description Details area in the Actions tab:</p> <p style="padding-left: 40px;">Send SNMP trap to <as_specified></p> <p>Click the link to open the Target IPs List Dialog Box on page 585, where you can specify information about the SNMP servers.</p> <p>Note: HP Business Service Management supports only SNMP V1 traps.</p> <p>For details on configuring the Alerts MIB in your SNMP management console, see "How to Configure the Alert MIBs" on page 486.</p>

Advanced Settings Tab

This area enables you to specify additional alert settings and review your alert scheme before saving it.

The Trigger tab is displayed below the General area. For details, see "General Area" on page 516.

Important information	<ul style="list-style-type: none"> ▶ You can: <ul style="list-style-type: none"> ▶ Send a follow-up alert and to run an executable file when the follow-up alert is triggered. ▶ Define the alert dependencies. ▶ Specify the alert notification frequency.
Wizard map	<p>The Alert Wizard includes: Trigger Condition Tab > Filters Tab > Actions Tab > Advanced Settings Tab</p>

Send Notification of Clear Alert Area

User interface elements are described below:

UI Element (A-Z)	Description
<p>Override the original executable file when the clear alert is sent</p>	<p>To override the executable file associated with the alert and to run instead the executable file specified for the clear alert notification.</p> <p>After selection, the following information is displayed in the Clear alert section in the Definition Details area:</p> <p style="padding-left: 40px;">Override the original executable file when the clear alert is sent <as_specified></p> <p>Click the link to open the Run Executable File Dialog Box on page 577, where you enter the URL or select an existing URL.</p> <p>Note: You can select this option only when you have selected the Send notification of clear alert.</p>
<p>Send clear (follow up) alert notification</p>	<p>To enable the ability to send a notification that the alert's status has improved.</p> <p>After selection, the following information is displayed in the Clear alert section in the Definition Details area:</p> <p style="padding-left: 40px;">Send notification of clear alert</p>

Dependencies Area

User interface elements are described below:

UI Element (A-Z)	Description
Make alerts dependents of current alerts	<p>Select to specify that you want to make the current alert dominant over other alerts.</p> <p>After selection, the following information is displayed in the Dependencies section in the Definition Details area:</p> <p style="padding-left: 20px;">Make the <specified> alerts dependents of current alert</p> <p>Click the link to open the Select Dependent Alerts Dialog Box on page 581, where you can select the dependent alerts.</p> <p>Note: For details on alert dependencies, see "Alerts Dependency" on page 477.</p>

Notification Frequency Area

This area enables you to select the notification frequencies.

Important information	<p>Every minute, the system checks if the criteria is fulfilled for the specified time period. If it is, an alert notification is sent. To receive only one alert notification for the same alert event, select Send no more than one alert as long as the conditions that triggered the alert continue to exist in the Settings tab.</p>
------------------------------	--

User interface elements are described below:

UI Element (A-Z)	Description
Send alert for every triggered occurrence	Select the option to send an alert every time trigger conditions exist.

UI Element (A-Z)	Description
<p>Send no more than one alert for every <mixed_values> <time_period></p>	<p>Select the option to send no more than one alert over each specified time period, even if the alert trigger conditions continue to exist during the entire time period.</p> <p>Example: If you instruct HP Business Service Management to send no more than one alert notice per 60 minutes, from the moment alert trigger conditions exist and HP Business Service Management sends the alert, HP Business Service Management waits 60 minutes before sending another alert. If, after the 60 minutes, the conditions that triggered the alert continue to exist, another alert is sent.</p>
<p>Send no more than one alert as long as the conditions that triggered the alert continue to exist</p>	<p>Select the option to send no more than one alert notice as long as the conditions that triggered the alert continue to exist.</p> <p>Example: If you select this option, from the moment alert trigger conditions exist and HP Business Service Management sends the alert, an additional alert is not sent as long as the conditions that triggered the alert continue to exist.</p>

Average Response Time Dialog Box

This dialog box enables you to specify the average response time trigger criteria.

<p>To access</p>	<p>Click the link in Send an alert if average response time is <condition> in the Trigger condition area in the Description Details area in the Trigger Condition tab in the Alert Wizard.</p>
<p>Important information</p>	<p>An alert is triggered if the average transaction response time is greater or less than the selected number of seconds, calculated over the selected time period. Only completed transactions are considered when triggering this alert.</p>

User interface elements are described below:

UI Element (A-Z)	Description
Average response time is <condition> <nn> seconds	Select the required criteria. Example: Select greater than and 10 to instruct Business Service Management to send the alert if average response time is greater than 10 seconds, over the calculated time period.



Calculated Time Period Dialog Box

This dialog box enables you to specify the time period during which the transactions availability and performance are calculated and compared to the triggering criteria.

To access	Click the link of Calculate over <calculated_time_period> in the Alert Description area of the Trigger Criteria tab in the Alert Wizard.
------------------	---

User interface elements are described below:

UI Element (A-Z)	Description
<p>Calculate over <nn> <time period></p>	<p>Specify the time period. You can select up to 525600 minutes, 721 hours, or 30 days.</p> <p>Example:</p> <ul style="list-style-type: none"> ▶ Transaction availability time-based trigger, select 15 and minute(s) to send the alert if transaction availability is less than 95 percent, over a five minute-period. ▶ Transaction Response Time for Specified Percentage of Transactions time-based trigger, select 2 and hour(s) to send the alert if the response time is greater than 7 seconds for 50 percent of all transaction instances that occur over a 2-hour period, but only if there were at least 50 transaction instances during the 2 hours. ▶ Transaction Response Time Relative to Threshold for Specified Percentage of Transactions time-based trigger, select 2 and hour(s) to send the alert if the response time is worse than the set threshold (treated as 10 percent better than the set value) for 90 percent of transaction instances that occur over a 2-hour period, but only if there were at least 100 transaction instances during the 2 hours. ▶ Average Transaction Response Time time-based trigger, select 2 and hour(s) to send the alert if average response time is greater than 10 seconds, over a 2-hour period. <p>Note: Because the wider the time interval, the smaller the trigger calculation accuracy, the actual calculation time period to be smaller than the requested one. For example, for a 15 minute interval, the last sentence in the Current Description in the Alert Details report is as follows, if Sun May 16 3:45:53 PM is the time of the last sample that triggered the alert: Alert calculated between Sun May 16 3:31:30 PM 2010 (IDT) (+0300) and Sun May 16 3:45:53 PM 2010 (IDT) (+0300)</p>

Completed Transaction Volume Dialog Box

This dialog box enables you to specify the conditions on the completed transaction volume. The alert is triggered if the number of completed transaction runs is less than or greater than the specified number of transactions, calculated over the selected time period.

To access	Click the link in Send transaction if completed volume is <condition> transactions in the Trigger Criteria page of the Alert Wizard.
------------------	---

User interface elements are described below:

UI Element (A-Z)	Description
Send alert if completed volume is <condition> <nn> transactions	Select the required criteria. Example: Select less than and 80 to send the alert if there were fewer than 80 completed transaction runs, over the calculated time period. For details on how to set the calculated time period, see "Calculated Time Period Dialog Box" on page 559.

Data Grouping Dialog Box

This dialog box enables you to select the criteria by which the data is grouped.

To access	Click the link in Group data by <as_specified> in the Data Grouping page of the Alert Wizard.
Important information	The user interface depends on the type of alert you are defining. Example: Grouping data by transaction means that data is collected and calculated separately for each transaction type.

BPM Transaction Alert

User interface elements are described below:

UI Element (A-Z)	Description
Location	The performance data is grouped by the location of the host machine that runs the transactions that trigger the event. The location of the host machine is specified during Business Process Monitor installation.
Transaction	The performance data is grouped by transactions.
Script	The performance data is grouped by script.

RUM Application Alert

User interface elements are described below:

UI Element (A-Z)	Description
End user	The performance data is grouped by the end users who access the application.
Location	The performance data is grouped by the location of the end users who access the applications.
Server	The performance data is grouped by the servers where the applications are running.
Software element	The performance data is grouped by software elements. The software elements are programs installed on the server and used by the application.

RUM Event Alert

User interface elements are described below:

UI Element (A-Z)	Description
Category	The performance data is grouped by category. Category can be: error, info, or performance.
End user	The performance data is grouped by end user.
Event	The performance data is grouped by event.
Location	The performance data is grouped by location. This represent the location from where the users access the applications.
Server	The performance data is grouped by server.
Software element	The performance data is grouped by software elements. The software elements are programs installed on the server and used by the application.


RUM Transaction Alert

User interface elements are described below:

UI Element (A-Z)	Description
End user	The performance data is grouped by end users.
Location	The performance data is grouped by location. This represent the location from where the users access the applications.
Transaction	The performance data is grouped by transactions.

Dependencies Dialog Box

This dialog box enables you to list the dominant alerts and their dependent alerts.


To access	Click the View the dependencies defined between the alerts button  in the Alerts page.
See also	"Alerts Dependency" on page 477

User interface elements are described below:






UI Element (A-Z)	Description
Dependent Alert CI	The name of the CI associated to the dependent alert.
Dependent Alert Name	The name of the dependent alert.
Dominant Alert CI	The name of the CI associated to the dominant alert.
Dominant Alert Name	The name of the dominant alert.
Time Limit	The time limit for each alert you designate as dependent. When a time limit is defined, the actions of the dependent alert are suppressed as long as the conditions that triggered the dominant alert remain true—but only until the time limit expires. The clock starts running on the time limit from the moment the dominant alert is triggered.

Detach Recipients Dialog Box

This dialog box enables you to detach recipients attached to an alert.

To access	Select one or more alerts in the table in the Alerts page, and click the Detach recipients  button.
------------------	---

User interface elements are described below:

UI Element (A–Z)	Description
	Edit recipient. Opens the User Management main page where you can edit the details of the selected recipient. For details, see "User Management Main Page" in <i>Platform Administration</i>
	Moves the selected recipients from the Recipients in Selected Alerts column to the Selected Recipients to Detach column.
	Moves all the recipients from the Recipients in Selected Alerts columns to the Selected Recipients to Detach column.
	Moves the selected recipients from the Selected Recipients to Detach column to the Recipients in Selected Alerts columns.
	Moves all the recipients from the Selected Recipients to Detach column to the Recipients in Selected Alerts columns.
Detach	<p>If you selected:</p> <ul style="list-style-type: none"> ▶ One alert. The Recipients in Selected Alerts column displays a list of recipients that are attached to the alert. Select one or more recipients and move them to the Selected Recipients to Detach column using the arrow buttons and click Detach to detach these recipients from the selected alert. ▶ More than one alert. The Recipients in Selected Alerts column displays a list of all the recipients attached to the selected alerts. Select one or more recipients and move them to the Selected Recipients to Detach column using the arrow buttons and click Detach to detach these recipients from the selected alerts.

UI Element (A-Z)	Description
Recipients in Selected Alerts	Lists the name, email, SMS, or Pager number of the recipients attached to the alerts. The table indicates that the recipient definition includes (checkmark or does not include (hyphen) email, pager, and SMS information.
Selected Recipients to Detach	Lists the name, email, SMS, or Pager number of the selected recipient to be detached from the alert. The table indicates that the recipient definition includes (checkmark or does not include (hyphen) email, pager, and SMS information.

Event Frequency Settings Dialog Box

This dialog box enables you to select the frequency of event occurrence that is to be used as criteria for triggering the alert.

To access	Click the link in Send alert if the Real User Monitor event occurs with a frequency of at least <nn> times within a <tt> <time unit> period in the Alerts definition area in the Filters tab in the Alert Wizard.
------------------	--

User interface elements are described below:

UI Element (A-Z)	Description
If the Real User Monitor event occurs with a frequency of at least <nn> times within a <tt> <time unit> period	Specify the number of times the event occurs in the <nn> box and the period of time in the <tt> and <time unit> boxes.

Event Type Indicator Dialog Box

This dialog box enables you to specify the Event Type Indicator name and state that are used by the event created by the triggered alert. You can also specify the Event Type Indicator state that is used when a clear alert is triggered for the alert.

To access	Click <values> in Generate event with <template_name> template and <values> Event Type Indicator in the Event Creation section in the Definition Details in the Actions tab in the Alert Wizard.
------------------	--

User interface elements are described below:

UI Element (A-Z)	Description
Clear Alert Event Type Indicator State	The state of the Event Type Indicator that is used by the event created by the triggered alert, when a clear alert has been triggered.
Event Type Indicator	The name of the Event Type Indicator that is used by the event created by the triggered alert. Note: To modify the list of Event Type Indicators that is displayed in this field, select Admin > Service Health > Repositories > Indicators , and for the relevant CI, add or remove Event Type Indicators.
Event Type Indicator State	The state of the Event Type Indicator that is used by the event created by the triggered alert.

Log Event Dialog Box

This dialog box enables you to specify that you want to log an event to the Windows Event Viewer application log when an alert is triggered. You configure the event type, ID, category, and description (standard Event Viewer categories).

Note: If the Data Processing Server is not installed on a Windows-based machine, HP Business Service Management cannot execute this alert action.

To access	Click the link in Log <as_specified> to Event Viewer application log in the Actions section in the Definition Details area in the Actions tab in the Alert Wizard.
------------------	---

User interface elements are described below:

UI Element (A-Z)	Description
Category	If required, specify a numerical category value in the Category box. You can use category values to group alerts by type. Using categories enables you to find events in the Event Viewer. Default: 0 Example: Assign 1 to availability-related alerts and 2 to response-time related alerts.
Description	If required, type a description of the logged event. Example: Type a description that corresponds to the characteristics of the alert scheme (alert filters being used, alert trigger criteria, and so on).

UI Element (A-Z)	Description
Event ID	If required, specify a numerical event ID in the Event ID box. You can use event IDs to group alerts by trigger criteria, profile, transaction, or any other identifying characteristic. Use event IDs to find events in the Event Viewer. Default: 0
Type	Select an event type from the Type list: Success, Error, Warning, Information, Success audit, or Failure audit. Event types are represented by icons to the left of the entries in the Event Viewer.

Network Connections Availability Dialog Box

This dialog box enables you to specify that you want to send an alert when the server network connection availability meets the alert trigger criteria.

To access	Click the link in Send alert if network connections availability is <condition> percent in the Definition Details area in the Trigger Criteria in the Alert Wizard.
------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Element (A-Z)	Description
Network connections availability is <condition> <nn> percent	Specify the trigger criteria.

Response Time Dialog Box

This dialog box enables you to send an alert if transaction response time is greater or less than the selected number of seconds. Only completed transactions are considered. If a transaction fails (that is, when it is not completed successfully) no alert is sent.

To access	Click the link of Send alert if transactions response time is <condition> in the Trigger condition area of the Definition Details area in the Alert Wizard.
------------------	--

User interface elements are described below:

UI Element (A-Z)	Description
Response time is <condition> <X> seconds	Select greater or less than , and enter the number of seconds in the appropriate boxes. Limitation: The time range is 0 to 999999999. Example: Specify greater than and 10 to instruct HP Business Service Management to send the alert if the response time is greater than 10 seconds.

Response Time for Specified Percentage of Transactions Dialog Box

This dialog box enables you to specify the transaction availability criteria.

An alert is sent if the response time is greater or less than the selected number of seconds, for the specified percentage of transactions, calculated over the selected time period. Only completed transactions are considered for this alert trigger.

In addition, you can instruct Business Service Management to count a minimum number of transactions over the calculated time period.

To access	Click the link of Send alert if transaction response time relative to configured threshold is <as_specified> in the Alert Description area of the Trigger Criteria tab in the Alert Wizard.
Important information	Example: An alert is sent if transaction response time is greater than 10 seconds for 90 percent of all transaction instances that occur over the calculated time period (which you set in a separate dialog box). Further, the alert is sent only if at least 100 transactions occur during the calculated time period.

User interface elements are described below:

UI Element (A-Z)	Description
<p>Minimum number of transactions for which condition is calculated <nnn></p>	<p>Select the minimum number of transactions that must be considered in the calculation.</p> <p>Example: Select 50 to instruct HP Business Service Management to send the alert only if there are at least 50 transaction instances over the calculated time period.</p>
<p>Response time is <condition> <n> seconds for <percentage> percent of transactions</p>	<p>Select the condition, the required response time and percentage criteria.</p> <p>Example: Select greater than, 7 seconds, and 50 percent to instruct HP Business Service Management to send the alert if the response time is greater than 7 seconds for 50 percent of transaction instances, over the calculated time period.</p> <p>Note: The value of the percentage must be an integer.</p>

Response Time Relative to Threshold Dialog Box

This dialog box enables you, if you select this trigger, to send an alert if the transaction response time is better or worse than the configured threshold raised or lowered by a specified percentage. This enables you to anticipate when the transaction response time is getting better or worse. Only completed transactions are considered for the specified minimum number of transaction.

To access	Click the link in Send alert if transaction response time relative to configured threshold is <as specified> in the Trigger condition area of the Definition Details area in the Trigger Condition tab in the Alert Wizard.
Important information	<p>Example: The alert is triggered if the response time for a given transaction is worse than the set threshold. If you specified to raise the threshold value by 10 percent and the threshold for the transaction is 10 seconds, the alert is triggered if the transaction response time is 11 seconds which enables you to anticipate that the transaction response time is getting worse.</p> <p>You configure transaction thresholds in End User Management. For details, see "Edit Thresholds Dialog Box" on page 217.</p>

User interface elements are described below:

UI Element (A-Z)	Description
<Raise/lower> the threshold value by <value> %	<p>Specify that you want to send an alert when the transaction response time is better or worse than the specified threshold and the threshold is raised or lowered by a specified percentage.</p> <p>The specified percentage enables you to anticipate when the transaction response time is becoming better (or worse) by specifying 10 percent and raise (lower).</p> <p>Limitation: The value field should not be empty.</p> <p>Note: The value of the percentage must be an integer.</p>
Response time is <condition> <threshold> configured threshold	<p>Select the condition criteria: worse than or better than and enter the required threshold criteria: OK/Minor or Minor/Critical that is compared to the configured threshold.</p> <p>Note: Transaction thresholds for Business Process profiles are set in System Availability Management. For details, see "Edit Thresholds Dialog Box" on page 217.</p>

Response Time Relative to Threshold for Specified Percentage of Transactions Dialog Box

This dialog box enables you, if you select this trigger, to send an alert if the response time is better or worse than the selected transaction threshold, for the specified percentage of transactions, calculated over the selected time period. Only completed transactions are considered for triggering this alert.

To access	<p>Click the link in Send alert if transactions response time relative to configured threshold for specified percentage of transactions is <response_time_threshold_for_%_of_trans> in the Trigger condition area of Definition Details area in the Trigger Condition tab in the Alert Wizard.</p>
-----------	---

Important information	<p>You can also instruct Business Service Management to:</p> <ul style="list-style-type: none">▶ Treat the threshold value as better or worse than the set threshold, by a specified percentage.▶ Count a minimum number of transactions over the calculated time period. <p>Example: Business Service Management sends the alert if the response time is worse than the selected level threshold for 90 percent of all transaction instances that occur over the calculated time period (which you set in a separate dialog box). In addition, Business Service Management treats the threshold value as 10 percent better, and the alert is sent only if at least 100 transactions occur during the calculated time period.</p> <p>Thus, if the threshold for the transaction is, for example, 10 seconds, and there are, for example, 120 transactions during the calculated time period, Business Service Management sends an alert if transaction response time for at least 108 transactions (120 x 90%) is worse than 9 seconds (because 9 seconds is 10 percent better than 10 seconds).</p> <p>You configure transaction thresholds in End User Management. For details, see "Edit Thresholds Dialog Box" on page 217.</p>
------------------------------	---

User interface elements are described below:

UI Element (A-Z)	Description
<p><Raise/lower> the threshold value by <nn> percent</p>	<p>Specify that you want to raise or lower the specified threshold by the specified percentage.</p> <p>Example: Select raise and 10 percent to instruct to trigger an alert when the response time is 10 percent higher than the specified threshold.</p> <p>Note: The value of the percentage must be an integer.</p>
<p>Minimum number of transactions for which condition is calculated <nn></p>	<p>Specify the minimum number of transactions that can be used in the calculation.</p> <p>Example: Select 100 to instruct Business Service Management to send the alert only if there are at least 100 transaction instances over the calculated time period.</p>
<p>Response time is <condition> <threshold> configured threshold for <nn> percent of transactions</p>	<p>Select the required threshold and condition criteria.</p> <p>Example: Select worse than, Minor/Critical, and 90 percent to instruct Business Service Management to send the alert if the response time is worse than the set Minor/Critical threshold for 90 percent of transaction instances, over the calculated time period.</p> <p>Note: The value of the percentage must be an integer.</p>

 **Run Executable File Dialog Box**

This dialog box enables you to run a pre-defined or custom executable file (.exe or .bat file) when an alert is triggered. The executable file must not be interactive (no user response required) and should not have a user interface.

To access	Use one of the following: <ul style="list-style-type: none">▶ Click the link in Run executable file <as_specified> in the Actions section in the Definition Details area in the Actions tab in the Alert Wizard.▶ Click the link in Override the original executable file when the clear alert is sent <as_specified> in the Clear alert section in the Definition Details area in the Advanced Settings tab in the Alert Wizard.
------------------	--

<p>Important information</p>	<p>You can embed predefined alert parameters into a custom command line that runs an executable file when an alert is triggered. For example: C:\Bin\MyAlertReporter.exe -title "Alert <<Alert Name>> for <<Entity Name>>" -Text "<<User Message>>"</p> <p>The command uses the MyAlertReporter exe file located in C:\Bin. It uses the name of the alert, the name of the entity, and the message to the user as parameters.</p> <p>Note to Windows users: To use the predefined batch files that restart a service (including IIS) or server, you must provide the supervisor service running on the Data Processing Server with permissions to restart a remote service or machine, as follows:</p> <ol style="list-style-type: none"> 1 Open the Windows Services dialog box. 2 Right-click the HP Business Service Management service, select Properties, and click the Log On tab. 3 In the Log On As section, select This Account, and specify the username and password of a user with administrator permissions on the HP Business Service Management server machine. <p>If the administrator of the Data Processing Server and of the remote machine are not the same, you must provide the Data Processing Server machine administrator with permissions on the remote machine:</p> <ol style="list-style-type: none"> 1 On the remote machine, open Windows User Manager, and double-click Administrators in the Groups window to open the Local Group Properties dialog box. 2 Click Add to open the Add Users and Groups dialog box, and add the name of a user with administrator permissions on the Data Processing Server.
<p>Relevant tasks</p>	<p>"How to Create EUM Alert Schemes" on page 482</p>


User interface elements are described below:

UI Element (A-Z)	Description
<Command line>	<p>You can customize and control the executable file. If you select:</p> <ul style="list-style-type: none"> ▶ Any template except User defined, the appropriate information is automatically displayed. ▶ The User defined template, you can drag and drop the parameters listed in the Attributes area, to the field. For a list of the attributes, see "EUM Alert Attributes" on page 597. <p>Use the following format for the executable file command line: <path to exe file from Data Processing server><<program command line switches>></p> <p>Parameters:</p> <ul style="list-style-type: none"> ▶ <path to exe file from Data Processing server> The path to the executable must be available from the Data Processing server for the server to trigger the executable. ▶ <<program command line switches>> includes the alert parameters. The program command line switches are expanded before the command line is executed. Use the following format: <pre>-request_parameter_name "string <<request_parameter_value>>" -request_parameter_name "<<request_parameter_value>>"</pre> where request_parameter_value must be enclosed in double-angled brackets. For details on the parameters, see "EUM Alert Attributes" on page 597. <p>Example: \myfile\run.exe -a "123" -b "qwerty asdfg" or d:\myfile\run.exe "123" "qwerty asdfg"</p> <p>Note: For additional information, if you select the Group Performance Data option, add group performance data parameters to the command line. For details, see "Data Grouping Dialog Box" on page 561.</p>

UI Element (A-Z)	Description
<p>Include output in alert email</p>	<p>Select to include any output that results from the running of the executable file in email alerts. HP Business Service Management places this output in the section of the email alert containing the Actions Result text parameter. For details, see "Notification Templates Page" in <i>Platform Administration</i>.</p>
<p>Use the following template</p>	<p>Select the type of template to use for running the file.</p> <ul style="list-style-type: none"> ➤ User defined. Place your custom script in an accessible location and specify the exact path. See how to define the command in the description of the <Command line>. ➤ ping. The template includes the name or the IP of the machine you want to ping when the alert is triggered. ➤ Restart IIS. The template includes the name or IP of the machine on which you want to restart the IIS service when the alert is triggered. This option is not displayed if the Data Processing Server is on a Solaris platform; displayed if the Data Processing Server is on a Windows platform. ➤ Restart server. The template includes the name or IP of the machine you want to restart when the alert is triggered. This option is not displayed if the Data Processing Server is on a Solaris platform; displayed if the Data Processing Server is on a Windows platform). ➤ Restart service. The template includes the name or IP of the service you want to restart when the alert is triggered, as well as the name or ip of the machine on which the service is running. This option is not displayed if the Data Processing Server is on a Solaris platform; displayed if the Data Processing Server is on a Windows platform.

Select CI Dialog Box

This dialog box enables you to browse views to help you select the CI you want to associate with the alert.

To access	Click the Select the CI the alert is related to button  in the Alert Wizard when you access the Alert Wizard from Admin > End User Management > Alerts .
Important Information	To select a CI, move the cursor to the relevant CI and click, but note that: <ul style="list-style-type: none"> ▶ When you create a RUM Transaction Alert, you can only select Application CIs that have a RUM monitor attached. When you select such a CI in the tree, the Select button is enabled. ▶ When you create a BPM Transaction Alert, you can only select Application CIs that have a BPM monitor attached. When you select such a CI in the tree, the Select button is enabled. ▶ You can select only one CI at a time.
See also	"How to Create EUM Alert Schemes" on page 482

Select Dependent Alerts Dialog Box

This dialog box enables you to list the dominant alerts and their dependent alerts.



To access	Click the link in The <specified> alerts are dependents of the current alert in the Dependencies area of Definition Details area in the Advanced Settings tab in the Alert Wizard.
See also	"Alerts Dependency" on page 477

User interface elements are described below:

UI Element (A-Z)	Description
Available alerts	Lists the Alert Name, Status, and CI Name of the alerts that can be configured as dependents of the alert you are currently configuring.
Selected alerts	Lists the Alert Name, Status, and CI Name of the alerts that you selected as dependents of the alert you are currently configuring.

Select Event Categories Dialog Box

This dialog box enables you to specify the value of the event categories to be used as the criteria for the triggering of the corresponding alert.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Admin > End User Management > Monitoring, select the view and the CI in the left pane, click the Alerts tab, and click the Press to create new alert  button to open a list of alert types. Select one of the listed types of alerts. In the Filters tab, select Event category, and click the link in Limit the alert to specified event categories. ▶ Admin > End User Management > Monitoring, select the view and the CI in the left pane, click the Alerts tab, and select one of the alerts, and click the Press to edit alert  button. In the Filters tab, select Event category, and click the link in Limit the alert to specified event categories. ▶ Double-click the alert. In the Filters tab, select Event data, and click the link in Limit the alert to specified event categories.
Important information	You can select Info , Error , or Performance . For details about these options, see "RUM Event Alert" on page 563.

Select Filter Dialog Box

This dialog box enables you to instruct to limit the alert scheme to one or more of the listed elements.







To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Click the link in Limit to <specified> transactions in the Filters tab in the Alert Wizard. ▶ Click the link in Limit to <specified> end-user groups in the Filters tab in the Alert Wizard. ▶ Click the link in Limit to <specified> servers groups in the Filters tab in the Alert Wizard. ▶ Click the link in Limit to <specified> software elements in the Filters tab in the Alert Wizard. ▶ Click the link in Limit to <specified> end-user subnets in the Filters tab in the Alert Wizard. ▶ Click the link in Limit to <specified> tiers in the Filters tab in the Alert Wizard.
Important information	<p>To use the filter, select types:</p> <ul style="list-style-type: none"> ▶ From the Available <filter type> list, and use the upper right arrow or the multiple right arrow to move your selections to the Selected <filter type> list. ▶ From the Selected <filter type> list, and use the lower left arrow or the multiple left arrow to move your selections to the Available <filter type> list.

Select Recipients Dialog Box

This dialog box enables you to specify the recipients of the alert notices.

To access	<p>Click the link in Send alert to <specified_recipients> in the Actions section in the Definition Details area in the Actions tab in the Alert Wizard.</p>
------------------	---


User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Element (A–Z)	Description
	Create recipient. Opens the User Management main page where you can create a recipient. For details, see "User Management Main Page" in <i>Platform Administration</i> .
	Edit recipient. Opens the User Management main page where you can edit the details of the selected recipient. For details, see "User Management Main Page" in <i>Platform Administration</i> .
	Move to Selected Recipients. Moves the selected recipients from the Available Recipients column to the Selected Recipients column.
	Move all to Selected Recipients. Moves all the recipients from the Available Recipients columns to the Selected Recipients column.
	Move to Available Recipients. Moves the selected recipients from the Selected Recipients column to the Available Recipients columns.
	Move all to Available Recipients. Moves all the recipients from the Selected Recipients column to the Available Recipients columns.
Available Recipients	Lists the name, email, SMS, or Pager number of the recipients available to be attached to the alert. The table indicates that the recipient definition includes (checkmark or does not include (hyphen) email, pager, and SMS information.

UI Element (A–Z)	Description
OK	The Available Recipients column displays a list of available recipients. Select one or more recipients and move them to the Selected Recipients column using the arrow buttons and click OK to attach these recipients to the alert.
Selected Recipients	Lists the name, email, SMS, or Pager number of the recipient selected to be attached to the alert. The table indicates that the recipient definition includes (checkmark) or does not include (hyphen) email, pager, and SMS information.

Set Notification Frequency Dialog Box

This dialog box enables you to specify the notification frequency of the alert.

To access	Select an alert in the Alert page, and click the Notification frequency  button.
Important information	For details about the options, see "Notification Frequency Area" on page 557.

Target IPs List Dialog Box



This dialog box enables you to specify the SNMP server IP address to which you want to send an SNMP trap when alert trigger criteria are met. The alert notice can then be seen from any SNMP management console in the organization.

Note: HP Business Service Management supports only SNMP V1 traps.

For details on configuring an alert MIB in your SNMP management console, see "How to Configure the Alert MIBs" on page 486.

<p>To access</p>	<p>Select the Send SNMP Trap option in the Actions tab in the Alert Wizard, and then click the link in Send SNMP trap to <as_specified> in the Actions area in the Description Details area in the Actions tab in the Alert Wizard.</p>
<p>Important information</p>	<p>You can select to use a global SNMP target IP for all alerts. To specify the global SNMP target IP, select Admin > Platform > Setup and Maintenance > Infrastructure Settings:</p> <ul style="list-style-type: none"> ➤ Select Foundations. ➤ Select Alerting. ➤ In the Alerting - Triggered Alerts, locate the Legacy SNMP target address. Change the value to the IP address you want to use as the default IP address of the destination host to which the SNMP traps are sent. <p>When you have specified a global SNMP target IP in the Infrastructure Settings, the Use global SNMP target IPs and Use custom SNMP target IPs options are displayed in the Target IPs List dialog box. See below for details.</p>

User interface elements are described below:

UI Element (A-Z)	Description
Target IP	<p>The list of validated IP address of the SNMP server.</p> <p>To add new target IPs, click the  button. A box opens in the column where you can enter the new target IP.</p> <p>To delete a target IP, select the relevant target IP and click the  button and confirm the action you want to perform.</p>
Use global SNMP target IPs	<p>Select this option to use a global SNMP target IP for all alerts. To specify the global SNMP target IP, select Admin > Platform > Setup and Maintenance > Infrastructure Settings:</p> <ul style="list-style-type: none"> ▶ Select Foundations. ▶ Select Alerting. ▶ In the Alerting - Triggered Alerts, locate the Legacy SNMP target address. Change the value to the IP address you want to use as the default IP address of the destination host to which the SNMP traps are sent.
Use custom SNMP target IPs	<p>Select this option to use a custom SNMP target IP for the specific alert. Specify the IP in the Target IP field.</p>

Total Transaction Volume Dialog Box

This dialog box enables you to specify the conditions for triggering alerts when the number of transaction runs is less than or greater than the specified number, calculated over the selected time period.

To access	Click the link in Send transaction if total volume is <condition> transactions in the Trigger Criteria page of the Alert Wizard.
------------------	---

User interface elements are described below:

UI Element (A-Z)	Description
<p>Send alert if total volume is <condition> <nn> transactions</p>	<p>Select the required criteria.</p> <p>Example: Select less than and 80 to instruct HP Business Service Management to send the alert if there were fewer than 80 transactions run, over the calculated time period. For details on how to set the calculated time period, see "Calculated Time Period Dialog Box" on page 559.</p>

Transaction Availability Dialog Box

This dialog box enables you to specify the transaction availability criteria.

<p>To access</p>	<p>Click the link of Send an alert if transaction availability is <condition> percent in the Trigger condition area of the Definition Details area in the Trigger Condition tab in the Alert Wizard.</p>
<p>Important information</p>	<p>Business Service Management sends an alert if transaction availability is greater or less than the selected percentage, calculated over the time period selected in the Calculated Time Period dialog box. For details, see "Calculated Time Period Dialog Box" on page 559.</p> <p>Transaction availability is defined as the number of times that transactions succeed as a percentage of the total number of transaction instances.</p> <p>You configure transaction thresholds in End User Management. For details, see "Edit Thresholds Dialog Box" on page 217.</p>

User interface elements are described below:

UI Element (A-Z)	Description
Transaction availability is <condition> <n> percentage	Select the required criteria: less than or greater than and specify the percentage. The value of the percentage must be an integer. Example: Select less than and 80 to instruct Business Service Management to send the alert if transaction availability is less than 80 percent, over the calculated time period.

Transaction Gross Response Time Dialog Box

This dialog box enables you to specify the conditions for triggering alerts when more than or less than the specified percentage of transactions have a breached gross transaction response time.

To access	Click the link in Send alert if percentage of transactions with breached gross transaction response time is <condition> percent. in the Trigger Criteria page of the Alert Wizard.
------------------	---

User interface elements are described below:

UI Element (A-Z)	Description
Send alerts if percentage of transactions with breached gross transaction response time is <condition> <nn> percent	Select the condition and specify the percentage used to trigger the alert.

Transaction Net Response Time Dialog Box

This dialog box enables you to specify the conditions for triggering alerts when the response time of more than or less than the specified percentage of transactions was breached while in the network, per sampling period.

To access	Click the link in Send alert if percentage of transactions with breached net transaction response time is <condition> percent in the Trigger Criteria page of the Alert Wizard.
Important information	Select the condition and specify the percentage used to trigger the alert.

User interface elements are described below:

UI Element (A-Z)	Description
Send alerts if percentage of transactions with breached net transaction response time is <condition> <nn> percent	Select the condition and specify the percentage used to trigger the alert.

Transaction Server Response Time Dialog Box

This dialog box enables you to specify the conditions for triggering alerts when the response time of more than or less than the specified percentage of transactions was breached while in the server, per sampling period.

To access	Click the link in Send alert if percentage of transactions with breached server transaction response time is <condition> percent in the Trigger Criteria tab of the Alert Wizard.
------------------	--

User interface elements are described below:

UI Element (A-Z)	Description
Send alert if percentage of transactions with breached server transaction response time is <condition> <nn> percent	Select the condition and specify the percentage used to trigger the alert.

Troubleshooting and Limitations

This section describes troubleshooting and limitations for EUM Alerts.

Invalid Characters

The following characters are invalid:

Where	Invalid Characters
Alert name and alert description	' ~ ! @ # \$ % ^ & * - + = [] { } \ / ? . , " ' : ; < >
Recipient name	' ~ ! @ # \$ % ^ & * - + = [] { } \ / ? . , " ' : ; < >
Message sender name in alerts	' ~ ! # \$ % ^ * _ - + = { } \ / ? . ' <space>
SMTP server name in alerts	_ . -

Audit Log

This section describes how to troubleshoot EUM alerts.

Each change you make to an EUM alert is logged into the EUM Alert Administration log.

To access that information click **Admin > Platform > Setup and Maintenance > Audit Log** and select **Alert Administration** in the **Context** list. For details about the user interface, see "Audit Log Page" in *Platform Administration*.

Example: The audit log provides information about the date the alert definition was modified, the user who made the modification, the type of action that was performed followed by the contents of the **Definition Details** area of the alert definition, and additional information. For details about the **Definition Details** area, see "Alert Wizard" on page 515.

7

Use the Event Template for EUM Alerts

This chapter includes:

Concepts

- ▶ Event Template for EUM Alerts Overview on page 594

Tasks

- ▶ How to Configure the Event Template on page 595

Reference

- ▶ EUM Alert Attributes on page 597
- ▶ Event Template for EUM Alerts User Interface on page 601

Concepts

Event Template for EUM Alerts Overview

The Event Template maps an event triggering condition (for example, the triggering condition of an EUM alert scheme) to an event attributes. The attributes are specific to the application (for example, the EUM alert attributes).

EUM alerts have a default Event Template. You can create a template by modifying the default Event Template.

When the event trigger condition is met (meaning that the EUM alert is triggered), and if you have configured the EUM alert to send an event, the event attributes are populated by the relevant triggered EUM alert conditions, and create an event corresponding to the alert. The event is then available to HP Operations Manager, or Operations Management.

For task details, see "How to Configure the Event Template" on page 595.

For user interface details, see "Template Repository Dialog Box" on page 602.

Tasks

How to Configure the Event Template

This task describes how to configure the Event Template so events are created when EUM alerts are triggered.

This task includes the following steps:

- "Configure the alerts" on page 595
- "Configure an Event Template – optional" on page 595
- "Enable the drilldown from Operations Management to End User Management reports" on page 596
- "Results" on page 596

1 Configure the alerts

Configure the alert schemes that, when triggered, create the relevant events.

For details about creating EUM alerts, see "How to Create EUM Alert Schemes" on page 482.

2 Configure an Event Template – optional

You can modify the Event Template default or you can configure a new template that maps an alert's attributes to the corresponding event attributes. You can create several templates for each type of alert.

For user interface details, see "Template Repository Dialog Box" on page 602.

3 Enable the drilldown from Operations Management to End User Management reports

If you have an Event Management Foundation license, to support the drilldown from Operations Management to End User Management reports, add the relevant custom attributes to the relevant template.

- a Access the Template Repository dialog box. For user interface details, see "Template Repository Dialog Box" on page 602.
- b For the relevant template, select the **Custom Attributes** tab. Click **New key**. In the **Name** field enter the relevant value from the **Drilldown Name** column, and in the **Value** field enter the relevant URL from the **Value** column. For a list of the relevant attributes, see "Custom Attributes Used to Support Drilldowns" on page 615.



In the Event Browser, you can now right-click the event corresponding to the EUM alert, to display the relevant **Go to <report>** option that enables you to open the relevant End User Management report.

4 Results

You can view the events corresponding to the triggered alerts in HP Operations Manager, or Operations Manager *i*.

Reference

EUM Alert Attributes

The table lists the EUM alert attributes:

Attribute	Description
Actual Details	A description of the actual conditions at the time the alert was triggered Example: Transaction availability: 70.0% Number of available transactions: 3 Alert calculated between Sun Jan 24 3:42:30 PM 2010 (IST) (+0200) and Sun Jan 24 3:47:30 PM 2010 (IST) (+0200)]

Attribute	Description
Alert Detailed Description	<p>A collection of the alert's parameters that form an overall description of the alert. The template for this description appears in the default log notification template of the alert. For details about the log,</p> <p>Example:</p> <p>BusinessApplication Name: rum_app Severity: Major Alert Name: michael_rum_event</p> <p>Trigger Condition: ----- Event occurred Current Description: ----- Event occurred is: dd Occurred in application \"michael_rum\" Occurred in location \"kabal\" Event data was \"oodd\" User Message: N/A HP Application Management Web Site URL: HP Business Service Management</p>
Alert ID	<p>The unique ID assigned to the alert scheme.</p> <p>Example:</p> <p>a148edca593f423aa36c256e687ad58f</p>
Alert Name	<p>The alert name specified in the alert scheme.</p> <p>Example:</p> <p>My_rum_transaction_alert</p>
Alert Trigger Time UTC	<p>The starting time of the transaction that triggered the alert in UTC format.</p> <p>Example:</p> <p>Tue Jan 05 6:07:29 PM 2010 (IST) (+0200)</p>

Attribute	Description
Alert Type	<p>The type of alert. It can be either one of the following types:</p> <ul style="list-style-type: none"> ▶ A regular alert, which is sent when alert trigger conditions are true. ▶ A clear alert, which is sent when the alert trigger conditions that triggered the earlier alert are no longer true. <p>Example: rum.event.alert.type</p>
Alert User Description	<p>The description of the alert you provided when you created the alert.</p>
BSM DNS	<p>The name of the machine on which BSM is installed.</p> <p>Example: machineName.devlab.ad</p>
End User Group Name	<p>When creating an alert, you select the option to chose to do group by transaction, location or end user. The type of group you select is the value of the Data Collector Name parameter.</p>
Entity ID	<p>The ID of the entity for which the alert scheme was created.</p> <p>Example: cfe0e1157c28513f2c10c008e543c5cb</p>
Entity Name	<p>The name of the entity for which the alert scheme was created.</p>
Event Severity	<p>The severity of the event. You can set it to correspond exactly to the alert's severity or to another value; for example: major, or critical.</p>
Event State	<p>The Event Type Indicator state that matches the alert.</p>
Event Type	<p>The Event Type Indicator name that matches the conditions of the alert.</p> <p>Example: BusinessApplication</p>

Attribute	Description
Follow up	Indicates if the alert is a follow up alert: <ul style="list-style-type: none"> ▶ true if this is a follow up alert ▶ false otherwise
Groupby Names Key	The key that is composed by the field names of the fields selected in the Groupby configuration.
Groupby Values Key	The key that is composed by the field names of the fields selected in the Groupby configuration.
Location Name	The location of the host machine, specified during Business Process Monitor installation, that ran the transactions that triggered the event. This parameter is available to use as an alert parameter only when the alert has been grouped by location. Example: Paris
Severity	The alert severity label specified in the alert scheme. Example: Major
Transaction Description	The description of the transaction that triggers the EUM alert.
Transaction Error	The text of the transaction error.
Transaction Name	The name of the transaction that triggered the alert. This parameter is available to use as an alert parameter only when the alert has been grouped by transaction. This parameter is displayed only if a group by option was selected during the alert definition. Example: rum_transaction
Transaction Time	The time when the transaction failed.

Attribute	Description
Trigger Cause	The alert trigger criteria specified in the alert scheme. Example: Transaction availability less than 80.00%; Calculate alert over 5 minute time interval.




Event Template for EUM Alerts User Interface

This section describes:

- ▶ Template Repository Dialog Box on page 602

Template Repository Dialog Box

This dialog box enables you to map an EUM alert's attributes to an event's attributes.






<p>To access</p>	<p>Select one of the following:</p> <ul style="list-style-type: none"> ▶ Admin > End User Management > Monitoring, select a BPM CI, and click the Alerts tab. In the Alerts tab, click the  button to create a new alert, and in the Actions tab of the wizard, select the Generate Event option. In the Actions section of the Definition Details area, click the <template name> link. ▶ Admin > End User Management > Alerts, click the New template  button, select BPM Transaction Alert, select a CI and in the Actions tab of the wizard, select the Generate Event option. In the Actions section of the Definition Details area, click the <template name> link. ▶ Admin > End User Management > Alerts, select an existing BPM Transaction Alert, click the  button, and in the Actions tab of the wizard, select the Generate Event option. In the Actions section of the Definition Details area, click the <template name> link.
<p>Important information</p>	<ul style="list-style-type: none"> ▶ You can edit an EUM alert Event Template when you have the appropriate user permission. For details, see the "Specify the appropriate user permissions" step in "How to Set Up an Alert Delivery System" in <i>Platform Administration</i>. ▶ To modify the existing default template or to create a new template, duplicate the existing template and edit the duplicated copy. You can then modify the new or edited template as the default template. ▶ When an alert is triggered, the values of the event template attributes are changed into the relevant values of the alert attributes.
<p>Relevant tasks</p>	<p>"How to Configure the Event Template" on page 595</p>

See also	<ul style="list-style-type: none"> ➤ "Event Template for EUM Alerts Overview" on page 594 ➤ "Attributes Area" on page 612
-----------------	---

Templates Area

This area lists the existing templates. It enables you to add new templates, duplicate existing templates, edit template names, and delete existing templates.


User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Element (A-Z)	Description
	New template. Empties the boxes in the currently displayed template to enable you to create a new event template.
	Duplicate selected template. Duplicates the selected template.
	Rename selected template. Enables you to edit the name of the selected template.
	Set selected template to be the default template. Sets the selected template as the default template.
	Delete selected template. Deletes the selected template.
<template>	<p>Lists the existing event templates.</p> <p>Default: A default template is specified for each type of alert. The default template has the following format: <Alert Type> Default Template</p>

Properties Area

This area enables you to give a name to the active template or to change its name.

User interface elements are described below:

UI Element (A-Z)	Description
	Discard changes. Resets the values entered in the template fields to their original values.
Set the selected template to be the default template	Select to make the current template the default template.
Template Name	The name of the active template.

General Tab

This area enables you to define a new Event Template or to edit an existing one.

Important information	<p>If necessary, select the relevant attribute in the Attributes area and drag it into the relevant box in the General tab.</p> <p>You can also select a specific attribute and click CTRL+I while editing text to insert that attribute in the text.</p>
------------------------------	---

User interface elements are described below:

UI Element (A-Z)	Description
Category	<p>Used to organize or group events. Out-of-the-box categories are provided.</p> <p>You can specify your own categories since this field is just regarded as a string by the creation rules.</p> <p>Default: Application</p> <p>Note: Depending on your permissions, you can define your own categories. Permissions are configured in Admin > Platform > User and Permissions.</p>
CI hint	<p>Information about the CI that is related to the event. This attribute is used for providing hints to enable the event processing to find the correct related CI (the RTSM ID of the related CI).</p> <p>Add the attributes using the following format: UCMDB: <<Entity>>.*</p> <p>Example:</p> <ul style="list-style-type: none"> ➤ RTSM as hint "UCMDB:3bcbb67a6233cfd0e400e7c1e637db5" ➤ A set of natural identifiers: "oracle:database:987"
Close key pattern	<p>Enables the event that is sent to close all the events whose Key attribute matches the Close Key Pattern expression. You can use wildcards (*).</p> <p>Add the attributes using the following format: <<Alert Name>>: <<Entity ID>>.*</p> <p>Example: host1.hp.com:DB_ess1:ConnectionPoolUtilization.* closes all the events whose key starts with host1.hp.com:DB_ess1:ConnectionPoolUtilization.</p>

UI Element (A-Z)	Description
<p>Description</p>	<p>Detailed information describing the event.</p> <p>Add the attributes using the following format: Alert Name:<<Alert Name>> CI Name: <<Entity Name>><<Actual Details>> <<Trigger Condition>> <<User Message>></p> <p>Example of a BPM Alert: Alert Name: My Pet Store Application Alert CI Name: Gils Profile</p> <p>Severity: Warning</p> <p>Alert Name: twice</p> <p><u>Trigger Condition:</u> For transaction "szTransactionName_1" . 3 out of 5 transactions failed.</p> <p><u>Current Description:</u> 4 out of 5 transactions failed.</p> <p>Following is a list of the most recent occurrences of the alert trigger criteria for this alert:</p> <p>Occurrence 1: Failed transaction</p> <p>Triggered at location "szLocationName_1" on Wed Jul 15 11:28:00 AM 2009 (+0300)</p>

UI Element (A-Z)	Description
<p>Description (continued)</p>	<p>Example of a RUM Transaction Alert: Alert Name: My Pet Store Application Alert CI Name: Gils Profile SProfile Name: Default_Client_RUM_Profile Severity: Major Alert Name: My Pet Store Application Alert</p> <p><u>Trigger Condition:</u> 20.00% hits with gross transaction time greater than defined threshold. Calculate over 15 minutes time interval.</p> <p><u>Current Description:</u> 100% of 3 hits were with gross transaction time greater than defined threshold; Alert calculated between Wed Mar 12 1:09:00 PM 2008 (+0200) and Wed Mar 12 1:09:00 PM 2008 (+0200). Sub Alert Triggered (2 of 3):</p> <p><u>Trigger Condition:</u> 25.00% hits with net transaction time greater than defined threshold; Calculate alert over 15 minute time interval.</p> <p><u>Current Description:</u> 100% of 3 hits were with net transaction time greater than defined threshold; Alert calculated between Wed Mar 12 1:09:00 PM 2008 (+0200) and Wed Mar 12 1:09:00 PM 2008 (+0200). Sub Alert Triggered (3 of 3):</p> <p><u>Trigger Condition:</u> 33.30% hits with server transaction time greater than defined threshold; Calculate alert over 15 minute time interval....</p>

UI Element (A-Z)	Description
<p>Description (continued)</p>	<p>Example of a RUM Server Alert: Alert Name: My Pet Store Application Alert CI Name: Gils Profile SProfile Name: Default_Client_RUM_Profile Severity: Major Alert Name: My Pet Store Application Alert Alert Triggered (1 of 3): <u>Trigger Condition:</u> 20.00% hits with gross transaction time greater than defined threshold. Calculate over 15 minutes time interval. <u>Current Description:</u> 100% of 3 hits were with gross transaction time greater than defined threshold; Alert calculated between Wed Mar 12 1:09:00 PM 2008 (+0200) and Wed Mar 12 1:09:00 PM 2008 (+0200). Sub Alert Triggered (2 of 3): <u>Trigger Condition:</u> 25.00% hits with net transaction time greater than defined threshold; Calculate alert over 15 minute time interval. <u>Current Description:</u> 100% of 3 hits were with net transaction time greater than defined threshold; Alert calculated between Wed Mar 12 1:09:00 PM 2008 (+0200) and Wed Mar 12 1:09:00 PM 2008 (+0200). Sub Alert Triggered (3 of 3): <u>Trigger Condition:</u> 33.30% hits with server transaction time greater than defined threshold; Calculate alert over 15 minute time interval....</p>

UI Element (A-Z)	Description
Event Type Indicator	<p>Links between the event and the health indicator so information about the health indicator can be updated as a result of submitting the event.</p> <p>Add the attributes using the following format: <<ETI/HI Name>>[:<<ETI/HI State>>[:ETI Numeric Value]]]</p> <p>Default: none</p> <p>Example:</p> <ul style="list-style-type: none"> ▶ Health indicator with state and numeric value for a Database CI: ConnectionPoolUtilization:High:0.88 ▶ Health indicator with state for a Node CI: MemoryBottleneck:Active ▶ Event Type Indicator (ETI) without a state (does not trigger a health indicator): RebootOccurred
Generating source hint	<p>Information about the monitoring application and the corresponding probe/agent that is responsible for creating the event.</p> <p>Add the attributes using the following format: <<BSM DNS>></p> <p>Example: BSM:BSMserver1.hp.com, OM:omserver32.deu.hp.com:agentId0c9da6d8-3e08-45cd-9b12-b49a1ca4de20</p>
Host hint	<p>Information about the CI of type Node that is hosting the CI related to the event.</p> <p>The host can be identified by RTSM ID, BSM DNS, IPv4 Address, IPv6 Address, MAC Address, HP L-Core Core ID.</p> <p>Example: IPV4:15.15.12.13, DNS:h1.mercury.il; CoreId: 0c9da6d8-3e08-45cd-9b12-b49a1ca5de20</p>

UI Element (A-Z)	Description
<p>Key</p>	<p>A unique string representing the type of event that occurred. Two events have the same key if, and only if, the two events represent the same situation in the managed environment. Events with the same key are treated as duplicates.</p> <p>Add the attributes using the following format: <<Alert Name>>:<<Entity>>:<<Event Severity>></p> <p>Example: host1:hp.com:DB_ess1:ConnectionPoolUtililtization:High</p>
<p>Log only</p>	<p>Assign the value:</p> <ul style="list-style-type: none"> ▶ true to send the event to the history event browser as a "close" event. Such an event goes through the complete event processing, but has its Life Cycle State set to close from the beginning. ▶ false to send the event if the alert is configured to send an event. <p>Add the attributes using the following format: <<Is Log Only>></p> <p>Example:</p> <ul style="list-style-type: none"> ▶ An event that result in resetting a health indicator to a normal or good state. ▶ An event signaling that a previous problem no longer exists (where the problem was reported in another event). <p>Default value: True. Depending on your permissions, you can modify the default.</p>

UI Element (A-Z)	Description
Severity	<p>The severity of the event. It represents the translation of the alert CI status into the event severity.</p> <p>The severity levels can be: Unknown, Normal, Warning, Minor, Major, Critical.</p> <p>This information enables you to map the triggering event status to the event severity level.</p> <p>Add the attributes using the following format: <<Event Severity>></p> <p>Example: Warning</p> <p>Default value: Major</p>
Subcategory	<p>More detailed organization of events that have the same category. Used for event standards and external event sources that are using subcategories.</p> <p>Add the attributes using the following format: <<Alert Type>></p> <p>Example: BPM Alert RUM Transaction RUM Servers</p>
Submit close key condition	<p>When you select the option, you must enter a value in the Close key pattern box.</p>

UI Element (A-Z)	Description
Title	<p>Describes the occurrence represented by the event. The title should include information about what threshold has been crossed (or other trigger conditions), and the current values.</p> <p>Add the attributes using the following format for EUM alerts: <<Alert Name>> Triggered on CI: <<Entity Name>> Trigger condition</p> <p>Example of a BPM Alert: My Pet Store Application Alert Triggered On CI PetStore 3 out of 5 transactions failed.</p> <p>Example of a RUM Transaction Alert: My Pet Store Application Real User Performance Alert Triggered On CI PetStore 20.00% hits with gross transaction time greater than defined threshold Calculate alert over 15 minute time interval.</p> <p>Note: Since the text is typically shown within a single line in the event browser, it is recommended that the most relevant information is at the beginning of the text.</p>

Attributes Area

Use this area to specify the attributes.

Important information	<p>Select the relevant attribute in the Attributes area and drag it into the relevant box in the General tab.</p> <p>You can also select a specific attribute and click CTRL+I while editing text to insert that attribute in the text.</p> <p>For a list of the attributes and their description, see "EUM Alert Attributes" on page 597.</p>
------------------------------	--



Custom Attributes Tab

Use this tab to add custom attributes.

When you create or edit a mapping in the Event Template dialog box, you can choose an attribute that was configured in OMi, or you can create a custom attribute. The custom attributes configured in OMi provide additional features for the events mapped using these attributes. For details about the difference between the OMi custom attributes and the Event Template custom attributes, see the OMi documentation.

<p>Important information</p>	<p>A custom attribute consists of a key and a value (both are strings). The value can be any string and is used by the Event Template mapping as any other value.</p> <p>Limitations:</p> <ul style="list-style-type: none"> ▶ Make sure that the name of the custom attribute you are defining is unique and does not already exist in the list of factory attributes. ▶ If you add to a template a custom attribute with a key similar to a constant attribute's key, the custom attribute is ignored. For details about the constant attributes, see "Constant Attributes" on page 617. ▶ If you use, in the same template, more than one custom attribute with the same key, only one of these custom attributes is taken into account. To check if you have such a configuration, when you switch to another template and switch back to the original template, only one of the custom attributes should be listed. ▶ Event Template attributes are changed into the value of the relevant attribute of the triggered alert. When an attribute does not correspond to existing alert attributes (when it is a custom attribute), then the value specified in the Custom Attributes tab for the relevant attribute, is used.
-------------------------------------	---

User interface elements are described below:

UI Element	Description
	<p>Deletes the selected attributes from the table.</p>
	<p>Lists the options available for creating a new Event Template. You can select:</p> <ul style="list-style-type: none"> ➤ New key. To create a new key. A new row opens in the Name/Value table. ➤ Known key. Opens a submenu with the known keys as options. You can select the relevant key. A new row opens in the Name/Value table, with the name of the selected key in the Name column. You can then enter the value of the key in the corresponding Value column. <p>Note: The known keys are defined in OMi. Such keys have additional capabilities. Keys defined in the Template Repository dialog box only have a value and are used as strings.</p>
<p>Name and Value</p>	<p>Each event can have any number of custom attributes. Custom attributes can be used to provide additional information with the event that is not provided in any of the other Event Template attributes or that is contained in any of the other attributes. Each custom attribute is a Name-Value pair, where you enter the name of the attribute in the Name field and the value of the attribute in the Value field.</p> <p>This feature may be used when you manage the environment of multiple customers using one instance of the product. The multiple customers might be handled by a custom attribute object. For details about the available attributes, see "Attributes Area" on page 612.</p> <p>Example: Name = "Customer"; Value = "XYZ Company"</p>

Custom Attributes Used to Support Drilldowns

If you have the Event Management Foundation license, to support drilldowns from Operations Management to the End User Management reports, add the following attributes to the relevant templates. Replace BSM DNS server with the name of your BSM DNS server.

Event Type	Drilldown Name	Value
BPM Transaction	Go to BPM Triage Report	<code>http://<BSM DNS server>/topaz/rfw/popuAction.do?popUp=true?filter.filters.TIME_PERIOD.timeBarBean.view=pastHour&filter.filters.DATA_COLLECTOR.dataCollector=BPM&autoGenerate=true&reportID=trriage_report&filter.filters.APPLICATION.selectedIdsInTree=<entity id>&filter.filters.APPLICATION.fromDashboard=true</code>
	Go to BPM Performance Analysis	<code>http://<BSM DNS server>/topaz/rfw/popuAction.do?popUp=true?filter.filters.TIME_PERIOD.timeBarBean.view=pastHour&filter.filters.DATA_COLLECTOR.dataCollector=BPM&autoGenerate=true&reportID=performance_summary_report&filter.filters.APPLICATION.selectedIdsInTree=<entity id>&filter.filters.APPLICATION.fromDashboard=true</code>
RUM Application	Go to Application Summary report	<code>http://<BSM DNS server>/topaz/rfw/popuAction.do?popUp=true?filter.filters.TIME_PERIOD.timeBarBean.view=pastHour&autoGenerate=true&reportID=application_summary&filter.filters.APPLICATION.selectedIdsInTree=<entity id>&filter.filters.APPLICATION.fromDashboard=true</code>

Chapter 7 • Use the Event Template for EUM Alerts

Event Type	Drilldown Name	Value
RUM Transaction	Go to RUM Triage report	<code>http://<BSM DNS server>/topaz/rfw/popuAction.do?popUp=true?filter.filters.TIME_PERIOD.timeBarBean.view=pastHour&filter.filters.DATA_COLLECTOR.dataCollector=BPM&autoGenerate=true&reportID=trriage_report&filter.filters.APPLICATION.selectedIdsInTree=<entity id>&filter.filters.APPLICATION.fromDashboard=true</code>
	Go to RUM Performance Analysis	<code>http://<BSM DNS server>/topaz/rfw/popuAction.do?popUp=true?filter.filters.TIME_PERIOD.timeBarBean.view=pastHour&filter.filters.DATA_COLLECTOR.dataCollector=BPM&autoGenerate=true&reportID=performance_summary_report&filter.filters.APPLICATION.selectedIdsInTree=<entity id>&filter.filters.APPLICATION.fromDashboard=true</code>
RUM Event	Go to RUM Event Summary	<code>http://<BSM DNS server>/topaz/rfw/popuAction.do?popUp=true?filter.filters.TIME_PERIOD.timeBarBean.view=pastHour&filter.filters.DATA_COLLECTOR.dataCollector=BPM&autoGenerate=true&reportID=rums_events_summary&filter.filters.APPLICATION.selectedIdsInTree=<entity id>&filter.filters.APPLICATION.fromDashboard=true</code>

Constant Attributes

The Event Template uses the constant attributes to represent the fields that appear in the General tab (title, category, subcategory, and more).

Note: Do not use these attribute's keys as the keys to custom attributes.

The constant attribute's keys are:

- Category
- CiHint
- CloseKeyPattern
- DateOccurred
- Description
- EtiHint
- HostHint
- Key
- LogOnly
- OriginalData
- Severity
- SubmitCloseKey
- SourceHint
- SubCategory
- Title

Part II

Application

8

End User Management Reports

This chapter includes:

Concepts

- ▶ End User Management Reports Overview on page 623
- ▶ Status Aggregation Rules Overview on page 625
- ▶ Aggregating Real User Monitor Data on page 631
- ▶ Report Settings Overview on page 633
- ▶ Displaying End-User Names in Reports on page 635
- ▶ Understanding Transaction Breakdown in Reports on page 635
- ▶ Drilling Down Within Reports on page 651
- ▶ Viewing Page Component Breakdown Data in other Contexts on page 652
- ▶ Correlating Transaction Breakdown Summary Data with Other HP Business Service Management Reports on page 653
- ▶ Viewing Data for Different Application Tier Types in Real User Monitor Reports on page 654
- ▶ Viewing HP Diagnostics Data From End User Management Reports on page 661
- ▶ Viewing TransactionVision Data From End User Management Reports on page 665
- ▶ Viewing HP Network Node Manager Data From Real User Monitor Reports on page 668

Tasks

- ▶ How to Customize End User Management Reports on page 671

- ▶ **How to Enable Snapshot on Error When Recording Scripts on page 673**

Reference

- ▶ **End User Management Reports User Interface on page 674**

Troubleshooting and Limitations on page 692

Concepts

End User Management Reports Overview

HP Business Service Management End User Management reports enable you to proactively monitor network and application performance and availability in real time, from the end-user perspective, so you can resolve issues before customers experience problems.

You use the End User Management application to view and analyze reports based on performance data collected by HP Business Service Management data collectors and stored in the HP Business Service Management database.

End User Management reports enable you to:

- ▶ Detect end-user business process issues before customers are impacted
- ▶ Track alerts for user performance and availability issues
- ▶ Proactively identify end-user performance and availability trends that need IT attention
- ▶ Assess business impact and prioritize resolution efforts, escalating user problems to the correct IT groups
- ▶ Prioritize IT response based on customer/business impact
- ▶ Manage the customer's Quality of Experience (QoE), and gain real-time visibility into the QoE of real users

You access End User Management reports from the End User Management application in the Applications menu.

For details on working with HP Business Service Management reports, see "Working in Reports - Overview" in *Reports*.

Report Access and Permissions

The availability of report data for a specific user is dependent on the access permissions granted that user. For details on granting permissions, see "Permissions Overview" in *Platform Administration*.

Data Aggregation

HP Business Service Management uses data aggregation to make data handling and management more efficient and to improve the speed and performance of report generation. For more information on data aggregation in HP Business Service Management, see "Data Aggregation" in *Reports*.

Report Types

The following types of End User Management reports are available:

Reports	Description	For concept details, see...
Status reports	Reports that provide an overall snapshot of the health of your monitored environment.	"Status Reports Overview" on page 696
Analysis reports	Reports that provide an in-depth look at the health of your monitored environment and help you diagnose and pinpoint the root cause of performance and availability problems.	"Analysis Reports Overview" on page 758
Utilities	Tools and reports that help you identify problems along the network. Report data is based on WebTrace/Traceroute monitor data.	"End User Management Utilities Overview" on page 982
Alerts	Reports that provide information about the EUM alerts that were triggered in the past.	"EUM Alert Reports Overview" on page 1012
Production Analysis	Reports based on real-user transaction data that assist you in constructing meaningful load tests.	"Production Analysis Reports Overview" on page 1028

Status Aggregation Rules Overview

In many of the end-user management reports, various performance, availability, and latency measurements are colored (data cells and tooltips) to represent the status of the actual measurement in comparison to an applicable threshold configured in End User Management Administration (for example, transaction thresholds). The valid statuses are:

- **Green.** OK
- **Yellow.** Minor (for performance measurements only)
- **Red.** Critical
- **Blue.** No data

Some of the rules used to calculate the statuses have changed in Business Service Management version 9.00. The following table lists the different measurements and the rules used to calculate each one:

Measurement	Data Collector	Rule used for versions of Business Service Management earlier than 9.00	Rule used for Business Service Management version 9.00
Performance	Business Process Monitor	Average of Values	Status Average
	Real User Monitor	Sum of Differences	Status Average
Availability	Business Process Monitor	N/A	Sum of Differences
	Real User Monitor	Sum of Differences	Sum of Differences
Latency	Business Process Monitor	N/A	N/A
	Real User Monitor	Sum of Differences	Sum of Differences

This section also includes:

- "Average of Values Rule" on page 626
- "Status Average Rule" on page 627
- "Sum of Differences Rule" on page 629
- "Changing the Default Performance Status Rule" on page 630

Average of Values Rule

In this rule, performance status is calculated by totalling the duration time in all of the samples included in the report and dividing it by the total number of available transactions/action included in the report. The calculated, average duration is compared to the relevant threshold configured in End User Management Administration and the status is determined accordingly.

Note: Location threshold offsets are not used by this rule. For concept details, see "Location Threshold Offsets Overview" on page 29.

Example

In the following example, four samples for a transaction are included in a report and contain the following data:

Sample	Duration (seconds)	Status (according to the transaction thresholds configured in End User Management Administration): OK < 8 seconds Minor 8-12 seconds Critical > 12 seconds
1	5	OK
2	13	Critical
3	9	Minor
4	2	OK

Using the Average of Values rule, the status is calculated by totalling the duration of all the samples and dividing it by the total number of available transactions, to obtain an average duration of 7.25 seconds $((5+13+9+2)/4)$. This value is compared to the transaction thresholds configured in End User Management Administration, and since it less than 8 seconds, the status for the transaction in the report is **OK** (green).

Status Average Rule

In this rule, performance status is calculated by assigning a value to the status of each sample included in the report (OK-20, Minor-10, Critical-0), totalling these values, and dividing the result by the total number of available transactions or actions included in the report to obtain an average value between 0-20. This average value determines the status (and coloring) of the measurement in the report, according to the following table:

Calculated Average Value	Assigned Status
0<5	Critical
5<15	Minor
15<20	OK

By default, when calculating the average value, equal weight is given to each status. You can change the weight given to a status in the calculation. For details, see "Changing the Weighting of the Status Average Rule" on page 628.

Note: Location threshold offsets are used by the Status Average rule. For concept details, see "Location Threshold Offsets Overview" on page 29.

Example

In the following example, four samples for a transaction are included in a report and contain the following data:

Sample	Duration (seconds)	Status (according to the transaction thresholds configured in End User Management Administration): OK < 8 seconds Minor 8-12 seconds Critical > 12 seconds
1	5	OK
2	13	Critical
3	9	Minor
4	2	OK

Using the Status Average rule, the status is calculated by totalling the values assigned to each sample according to its status and dividing the total by the number of samples, to obtain a status average of 12.5 $((20+0+10+20)/4)$. Based on this value, according to a predefined range, the status for the transaction in the report is **Minor** (yellow).

Changing the Weighting of the Status Average Rule

By default, the weight of each status value used in the Status Average rule is 1, that is, they are all weighted equally. You can change the weight for a given status value so that it will be given proportionally more (or less) importance in the calculation.

To modify the weight of a status value, select **Admin > Platform > Setup and Maintenance > Infrastructure Settings**:

- Select **Applications**.
- Select **End User/System Availability Manager**.
- In the **Data table**, locate the following entries and change the value to the required weight:
 - Reports Status Average Rule - Critical Status weight
 - Reports Status Average Rule - Minor Status weight

- Reports Status Average Rule - OK Status weight

Sum of Differences Rule

In this rule, an availability or latency status value is calculated for each sample included in the report by:

- **Availability.** Subtracting the configured threshold percentage value valid at the time the sample was created, from:
 - **Business Process Monitor transactions.** 1 (for available transactions) or 0 (for unavailable transactions).
 - **Real User Monitor transactions.** The total number of transaction runs included in the sample.
- **Latency.** Subtracting the actual latency measurement from the configured latency threshold value valid at the time the sample was created.

This value is totalled for all the samples included in the report and the total determines the status as follows:

- **Availability.** If the final value is greater than 0, the availability status is **OK** (green) and if it is less than or equal to zero, the availability status is **Critical** (red).
- **Latency.** If the final value is greater than 0, the latency status is **Critical** (red) and if it is less than or equal to zero, the latency status is **OK** (green).

Example

In the following example, ten samples for a transaction are included in a report and contain the following data:

Sample	Availability 1 = Available 0 = Unavailable	Availability Threshold Percentage Valid at Sample Time	Calculated Availability Status Value
1	1	98	0.02
2	1	98	0.02
3	1	98	0.02

Sample	Availability 1 = Available 0 = Unavailable	Availability Threshold Percentage Valid at Sample Time	Calculated Availability Status Value
4	1	98	0.02
5	1	98	0.02
6	1	98	0.02
7	1	95	0.05
8	1	95	0.05
9	1	85	0.15
10	0	90	-0.90
Total			-0.53

The current availability threshold percentage is 85%.

The total calculated availability status for all the samples is -0.53, which is less than 0, so the availability status in the report is **Critical** (red).

Changing the Default Performance Status Rule

The default rule used to calculate performance status differs for previous installations of HP Business Service Management that are upgraded to version 9.00 and new installations of HP Business Service Management version 9.00.

By default, previous installations of HP Business Service Management that are upgraded to version 9.00 use the old rules to calculate performance statuses, and new installations of HP Business Service Management version 9.00 use the new **Status Average** rule. You can change the default rules used.

To modify the default rule used, select **Admin > Platform > Setup and Maintenance > Infrastructure Settings**:

- ▶ Select **Applications**.
- ▶ Select **End User/System Availability Manager**.

- In the **Data table**, locate the **Reports status rule type** entry. Change the value to:
 - **New Status Rule.** To use the new Status Average rule for both Business Process Monitor and Real User Monitor performance status thresholds.
 - **Backward Compatibility.** To use the Average of Values rule for Business Process Monitor performance status thresholds, and the Sum of Differences rule for Real User Monitor performance status thresholds.

Aggregating Real User Monitor Data

The Real User Monitor engine sends data samples to Business Service Management, which aggregates the data for use in End User Management reports. For details on Business Service Management data aggregation, see "Data Aggregation" in *Reports*.

There are a number of data sample types that the Real User Monitor engine aggregates itself, before sending them to Business Service Management. Once received in Business Service Management, these pre-aggregated data samples are further aggregated by Business Service Management on a daily basis. The following table lists the data sample types, the End User Management report for which they are used, and their aggregation period in Real User Monitor:

Data Sample Type	Real User Monitor Report	Aggregation Period in Real User Monitor
Action	RUM Action Summary	Every five minutes
Transaction	<ul style="list-style-type: none"> ➤ RUM Transaction Summary ➤ Application Summary ➤ Location Summary ➤ Metrics Over Time ➤ Performance Analysis ➤ Status Snapshot ➤ Triage Report 	Every five minutes

Data Sample Type	Real User Monitor Report	Aggregation Period in Real User Monitor
Application Statistics	<ul style="list-style-type: none"> ▶ RUM Tier Summary ▶ RUM End User Group Summary ▶ RUM Application Infrastructure Summary 	Every five minutes
Top Domain	RUM Global Statistics	Every one hour
Missing Component (Broken Link)	RUM Global Statistics	Every five minutes
Most Error Action	RUM Global Statistics	Every five minutes
Session Statistics	<ul style="list-style-type: none"> ▶ Application Summary ▶ Application Health ▶ Location Summary ▶ Status Snapshot 	Every five minutes
Slow Action	RUM Global Statistics	Every five minutes
Slow End User	RUM Global Statistics	Every five minutes
Slow Location	RUM Global Statistics	Every five minutes
TCP Application Statistics	<ul style="list-style-type: none"> ▶ RUM Tier Summary ▶ Location Summary ▶ RUM End User Group Summary ▶ RUM Application Infrastructure Summary 	Every five minutes
Top Action	RUM Global Statistics	Every one hour
Top Location	RUM Global Statistics	Every one hour

You can change the aggregation period of these data sample types in the Real User Monitor engine JMX console. For details on changing the aggregation period, see "Using the JMX Console to Configure the HP Real User Monitor Engine" in the *Real User Monitor Administration* PDF.

Report Settings Overview

When you generate an End User Management report, you configure a number of settings that determine the data included in the report, by filtering the data according to various criteria. When you move from one report to another within the same session (either by drilling down from one report to another, or by selecting a different report), the configured settings are carried over from report to report. You can access and change the settings from any report. The settings that you configure are:

- ▶ **The report time range and granularity.** For user interface details, see "Common Report and Page Elements" in Reports.
- ▶ **Applications.** For user interface details, see "Applications Dialog Box" on page 689.

Note:

- ▶ When you move between reports, all the selected applications also move, but only the applications that are configured for the type of data relevant to the specific report are displayed. For example, if you select applications configured for Business Process Monitor, but then move to a report that shows only real user data, the selected Business Process Monitor applications are unavailable and are not displayed. If you then move to another report that shows synthetic user (Business Process Monitor) data, the selected Business Process Monitor applications are once again available and displayed.
- ▶ For certain reports, you can select a single application only. If you have previously selected multiple applications and then move to such a report, only one of the applications is selected (randomly). Also, if you have selected in any of the filters a CI collection that can contain multiple applications, the selection for that CI collection is cleared when you move to a single application report.

-
- ▶ **Active filters.** For user interface details, see "Active Filters Dialog Box" on page 675.

Note:

- ▶ Although active filters are carried over from report to report within the same session, not every active filter is applicable for every report. If you set a specific active filter for a report and then move to another report for which that filter is not valid, the specific filter tab is not displayed. When you move to a report for which that filter is valid, it is displayed with the settings you configured previously.
 - ▶ For certain reports, you can select a single transaction only. If you have previously selected multiple transactions and then move to such a report, only one of the transactions is selected (randomly). Also, if you have selected in any of the filters a CI that can contain multiple transactions (CI collections, business transaction flows, or applications), the selection for that CI is cleared when you move to a single transaction report.
-
- ▶ **Data type.** In some reports, you can select the type of data you want to include in the report—real user data, synthetic user (Business Process Monitor) data, or both. In such reports, you select the data type you want from a set of radio buttons. For reports that show one data type only, the data type is automatically selected by default.
 - ▶ **Additional report settings.** In some reports, there are specific additional settings. For example, how you want the data to be grouped within the report. Descriptions of these settings are included in the help pages for the specific reports.

Displaying End-User Names in Reports

End-user group names are displayed in reports for end-user groups that have been configured in End User Management Administration. For concept details on end-user groups, see "End-User Groups Overview" on page 258. HP Business Service Management includes a list of predefined end-user groups for some of the more common, publicly known IP ranges (for example, for the major Internet service providers). These predefined end-user groups are included in **Others** in the End-User Summary report, but are displayed in the Unconfigured End Users reports. For user interface details on the End-User Summary report, see "RUM End User Group Summary Report" on page 882. For user interface details on the Unconfigured End Users reports, see "Unconfigured End Users Report" on page 979.

Note: If an IP range is included in both a predefined end-user group and an end-user group you configure, the end-user group you configure is used as the name in reports.

Understanding Transaction Breakdown in Reports

The transaction breakdown component in reports helps you determine whether poor transaction response times are caused by network or server problems, or by client delays, and to pinpoint exactly when the problems are occurring. The transaction breakdown component displays Business Process Monitor data collected by scripts recorded using the Web (http/html) protocol, or specific non-Web based TCP protocols.

For details on the reports that include the transaction breakdown component, see:

- "Performance Analysis Report" on page 829
- "Performance Raw Data Report" on page 836
- "Triage Report" on page 966
- "Page Component Breakdown Report" on page 827

This section includes:

- "Understanding Web Based Transaction Breakdown Reports" on page 636
- "Understanding Non-Web Based TCP Transaction Breakdown Reports" on page 641

Understanding Web Based Transaction Breakdown Reports

The Web based protocols for which Business Process Monitor can perform transaction breakdown are configured in the **BdSupportedProtocols** setting in the **agent1.cfg** file on the Business Process Monitor machine. For details on the agent1.cfg file, see "Business Process Monitor Configuration Files" in the *Business Process Monitor Administration* PDF. If a script for which Business Process Monitor is configured to collect transaction breakdown data contains multiple protocols, Web based breakdown is used providing one of the protocols is a Web based protocol that is included in the **BdSupportedProtocols** configuration setting.

Note: Transaction breakdown is not supported by Business Process Monitors running scripts recorded in **wininet** mode in HP Virtual User Generator.

This section also includes:

- "Understanding How HP Business Service Management Breaks Down Transaction Response Times" on page 637
- "Understanding Transaction Breakdown Categories" on page 637
- "Understanding Download Time" on page 641

Understanding How HP Business Service Management Breaks Down Transaction Response Times

When HP Business Service Management runs a Business Process Monitor script and measures response time for a specific transaction, HP Business Service Management collects breakdown data—information about network/server activity during the transaction—for each component of every Web page accessed in the transaction.

Because HP Business Service Management runs the script over multiple connections (in the same way a browser does when you access any URL), at any given moment in time there is typically an overlap in the various breakdown categories.

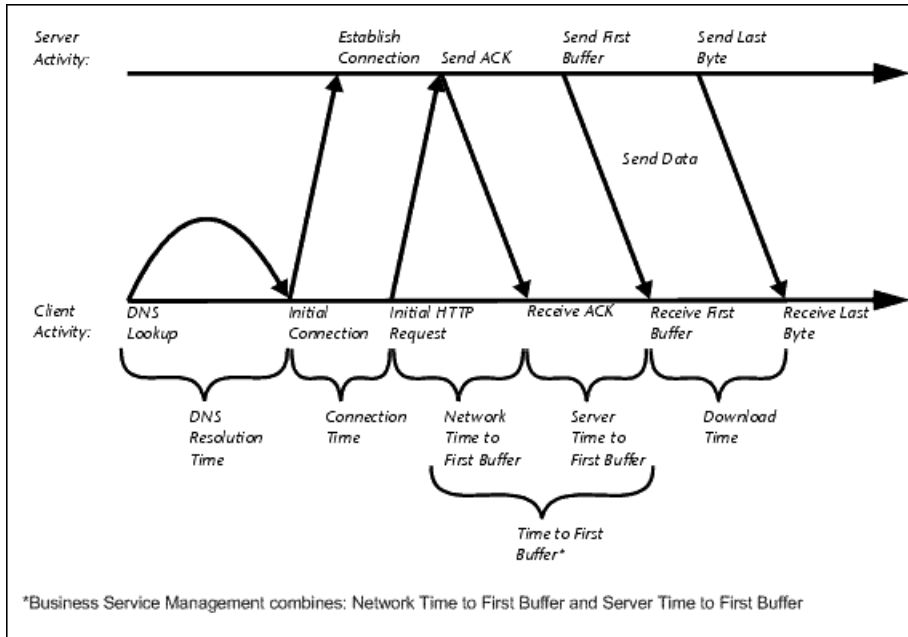
HP Business Service Management uses a weighted algorithm to display the breakdown data that it collects. Every breakdown category for every element of the Web page is taken into consideration, and weight is given to the element according to its value relative to the other elements in the concurrent time period. For example, the DNS time for each element of the Web page is collected, weighted, and then displayed under the DNS time category.

Understanding Transaction Breakdown Categories

The transaction breakdown component in reports displays a breakdown of average transaction response times (in milliseconds) over time, for the selected time frame. Response times are broken down by retry time, DNS resolution time, connection time, network time to first buffer, server time to first buffer, download time, and client time. If your site uses SSL authentication, SSL handshaking time is also displayed.

The diagram below illustrates the relationship between the component's main breakdown categories (shown along the bottom of the diagram) and client/server activity during transaction execution.

Note that retry time, SSL handshaking time, and client time are not shown in this diagram and are described in the breakdown category table that follows the diagram.



The following table describes the component's breakdown categories. Times are calculated by taking the average of all transaction runs within the specified time period.

Name	Description
Retry Time	Displays the overall amount of time that passes from the moment an HTTP request is started until the moment an HTTP or TCP error message is returned. Retry time only relates to HTTP or TCP errors that execute a retry after the error.
DNS Resolution	Displays the average amount of time needed to resolve the DNS name to an IP address, using the closest DNS server. The DNS Lookup measurement is a good indicator of slow DNS resolution or other problems with the DNS server.
Connection Time	Displays the average amount of time needed to establish an initial connection with the Web server performing the transaction. The connection measurement is a good indicator of problems along the network or whether the server is responsive to requests.
SSL Handshaking Time	Displays the average amount of time taken to establish an SSL connection (includes the client hello, server hello, client public key transfer, server certificate transfer, and other—partially optional—stages). After this point, all the communication between the client and server is encrypted. Note: The SSL handshaking measurement is only applicable for https communications.
Network Time to First Buffer	Displays the average amount of time that passes from the moment the first HTTP request is sent until receipt of ACK. The network measurement is a good indicator of network quality (look at the time/size ratio to calculate download rate).

Name	Description
Server Time to First Buffer	<p>Displays the average amount of time that passes from the receipt of ACK of the initial HTTP request (usually GET) until the first buffer is successfully received back from the Web server. The server time to first buffer measurement is a good indicator of Web server delay.</p> <p>Note: Because server time to first buffer is being measured from the client, network time may influence this measurement if there is a change in network performance from the time the initial HTTP request is sent until the time the first buffer is sent.</p>
Download Time	<p>Displays the time from the receipt of the first buffer until the last byte arrives.</p> <p>Download time is a combination of server and network time, since the server typically sends data over multiple connections, and therefore is usually working while data is being transmitted over the network. For more details, see "Understanding Download Time" on page 641.</p>
Client Time	<p>Displays the average amount of time that passes while a request is delayed on the client machine. Client-related delays can include browser think time, CPU think time, HTML page processing time, time needed to open sockets, application delays caused by heavy applets, and so on.</p> <p>Note: Client time is calculated by subtracting all other measured times from the total transaction time.</p>

Note: In certain circumstances, for example, when the Business Process Monitor is using a proxy server, the transaction breakdown mechanism cannot differentiate between server time to first buffer and network time to first buffer. In these cases, the report displays the time between initial HTTP request and receipt of first buffer as Time to First Buffer.

Understanding Download Time

When a Business Process Monitor running a script communicates with a Web server (specified by the URLs in the script), communication is carried out, by default, over four connections simultaneously.

As the Web page is retrieved, its various components (images, applets, and so on) travel in data packets from server to client across these multiple connections.

As a result, at any point along the time line after the server sends the first buffer until the client receives the last byte for the page, data packets may be traveling over the network through some of the connections while others are being processed by the server through the remaining connections. The download time in the report represents the sum total of the time when network resources and server resources are in use at the same time, between the time the client receives the first buffer and the last byte.

Understanding Non-Web Based TCP Transaction Breakdown Reports

The non-Web based (TCP) protocols for which Business Process Monitor can perform transaction breakdown are configured in the **AdvancedTcpBdSupportedProtocols** setting in the **agent1.cfg** file on the Business Process Monitor machine. For details on the **agent1.cfg** file, see "Business Process Monitor Configuration Files" in the *Business Process Monitor Administration* PDF. If a script for which Business Process Monitor is configured to collect transaction breakdown data contains multiple

protocols, TCP breakdown is used providing one of the protocols is a non-Web based protocol that is included in the **AdvancedTcpBdSupportedProtocols** configuration setting and none of the protocols is a Web based protocol that is included in the **BdSupportedProtocols** configuration setting (in which case Web based breakdown is used).

Note:

- Non-Web based (TCP) transaction breakdown is supported on Windows only.
 - Supported protocols must be TCP request/response based protocols.
 - Non-Web based (TCP) transaction breakdown cannot be used with VuGen Speed Simulation.
-

This section also includes:

- "Understanding How HP Business Service Management Breaks Down Transaction Response Times" on page 643
- "Understanding Transaction Breakdown Categories for Non-Web Based (TCP) Transactions" on page 643
- "Understanding Time to First Buffer and Download Time for Non-Web Based (TCP) Transactions" on page 648
- "Understanding Breakdown Report Data for Non-Web Based (TCP) Transactions" on page 648
- "Notes and Limitations for Non-Web Based (TCP) Protocols" on page 649

Understanding How HP Business Service Management Breaks Down Transaction Response Times

When HP Business Service Management runs a Business Process Monitor script and measures response time for a specific transaction, HP Business Service Management collects breakdown data—information about TCP activities during the transaction—for each request (component) of the transaction. A TCP request (component) represents a sequence of measurements starting with a DNS resolution, TCP Connect operation, or a Send operation on an open connection and ending with the last Receive operation for the relevant starting operation.

Because some TCP based protocols can use multiple connections, at any given moment in time there can be an overlap in the various breakdown categories.

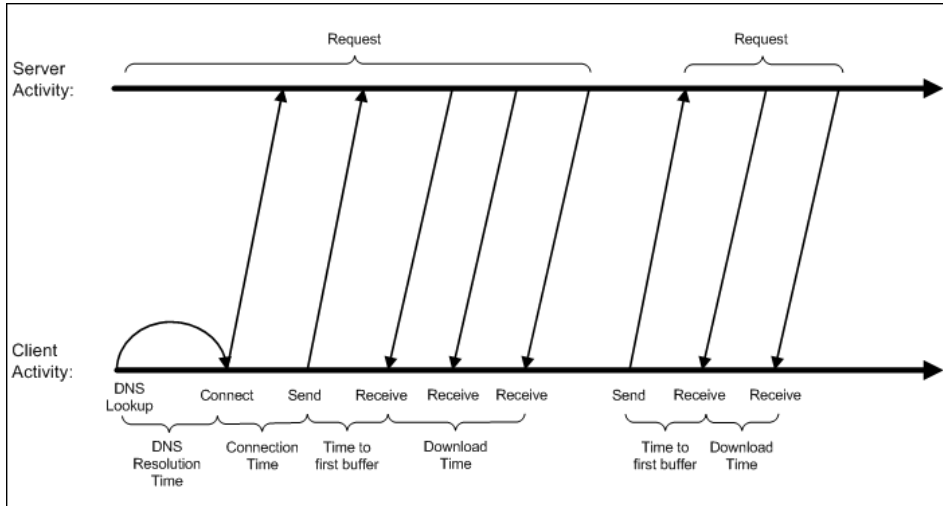
HP Business Service Management uses a weighted algorithm to display the breakdown data that it collects. Every breakdown category for every element of the connection requests is taken into consideration, and weight is given to the element according to its value relative to the other elements in the concurrent time period. For example, the Connect time for each request in the connection is collected, weighted, and then displayed under the Connect time category.

Understanding Transaction Breakdown Categories for Non-Web Based (TCP) Transactions

The transaction breakdown reports display a breakdown of average transaction response times (in milliseconds) over time, for the selected time frame. Response times are broken down by DNS resolution time, connection time, network time to first buffer, server time to first buffer, download time, and client time.

The diagram below illustrates the relationship between the report's main breakdown categories (shown along the bottom of the diagram) and TCP client/server activity during transaction execution. In the diagram, there are two sequential TCP requests included in the same connection.

Note that client time is not shown in this diagram and is described in the breakdown category table. For details, see "Client Time" on page 647.



The following table describes the report's breakdown categories, which comprise a TCP request. Times are calculated by taking the average of all transaction runs within the specified time period.

Name	Description
DNS Resolution	<p>Displays the average amount of time needed to resolve the DNS name to an IP address, using the closest DNS server. The DNS Lookup measurement is a good indicator of slow DNS resolution or other problems with the DNS server.</p> <p>Note: If the DNS resolution is adjacent to a Connect for the same IP address, it is considered part of the request (component) and its time is displayed in the breakdown reports. Otherwise, the DNS resolutions of one or more hosts without an adjacent Connect are considered as a separate request (component). In such cases, only the DNS Resolution time is displayed for that request and for all other measurements, a minus sign (-) is displayed.</p>
Connection Time	<p>Displays the average amount of time needed to establish an initial connection with the TCP server performing the transaction. The connection measurement is a good indicator of problems along the network or whether the server is responsive to requests.</p> <p>Note: If a connection did not occur within a request's (component's) context, a minus sign (-) is displayed for the connection time in the breakdown reports.</p>

Name	Description
Time to First Buffer	<p>Displays the average amount of time that passes from the first TCP Send, up to and including the first Receive of a component.</p> <p>This measurement includes both network time and server time that are required for handling the first TCP buffer and therefore, it is a good indicator of both network quality and server delay.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This measurement is only shown if both Sends and Receives are included in the request (component). ▶ If there are no Sends or Receives within a request (component), a minus sign (-) is displayed in the breakdown reports.
Network Time to First Buffer	<p>Displays the time from the first Send up to and including the last Send. This measurement is a good indicator of network quality.</p> <p>Note: This measurement is only shown if there are Sends included in the request (component), but no Receives.</p>
Server Time to First Buffer	<p>This measurement is only shown if there are Sends included in the request (component), but no Receives. A minus sign (-) is displayed in the breakdown reports.</p>

Name	Description
Download Time	<p>Displays the time from the receipt of the second TCP buffer up to and including receipt of the last byte.</p> <p>Download time usually only includes network time and is influenced by both network quality and component size.</p> <p>For more details, see "Understanding Time to First Buffer and Download Time for Non-Web Based (TCP) Transactions" on page 648.</p> <p>Note: If a download did not occur within a request's (component's) context, a minus sign (-) is displayed for the download time in the breakdown reports.</p>
Client Time	<p>Displays the average amount of time that passes while a request is delayed on the client machine. Client-related delays can include CPU think time, processing time, time needed to open sockets, time between the last Receive of a request and the first Send of the next request in the same connection, and so on.</p> <p>Note: Client time is calculated by subtracting all other measured times from the total transaction time.</p>

Note: Either Time to First Buffer or Network Time to First Buffer and Server Time to First Buffer are displayed.

Understanding Time to First Buffer and Download Time for Non-Web Based (TCP) Transactions

Time to First Buffer includes both network time (for sending the packet) and server time (for processing the packet), whereas Download time usually includes only network time (for downloading the rest of the reply packets). This means that if both Time to First Buffer and Download times increase, it is a good indicator of network quality problems and if only Time to First Buffer increases, it is usually a good indicator of server delay problems.

Understanding Breakdown Report Data for Non-Web Based (TCP) Transactions

The same breakdown reports are used to display Web based breakdown data and non-Web based (TCP) breakdown data, but the following differences apply when viewing non-Web based (TCP) breakdown data:

- ▶ The **Page** column (which displays page names for Web based transactions) is not applicable for non-Web based transactions and a minus sign (-) is displayed in this column for all non-Web based components.
- ▶ The **Retry Time** and **SSL Handshake Time** columns are not applicable for non-Web based transactions and a minus sign (-) is displayed in these columns for all non-Web based components.
- ▶ In the **Component/Request** column (which displays URLs for Web based breakdown data), the name of the TCP request (component) is displayed. The name can be one of the following:
 - ▶ **TCP_BdwnDns<nnn>**. For DNS only components (for example, a DNS component that does not have an adjacent Connect component correlated to the same IP address). The number in the display is sequentially incremented for each component entry. For such entries, only the DNS Resolution time is displayed and for all other measurements, a minus sign (-) is displayed.
 - ▶ **TCP_BdwnReq<nnn>**. For TCP request components. The number in the display is sequentially incremented for each component entry.
- ▶ For non-Web based (TCP) components, there is no tooltip available for the **Page** column.

- ▶ You cannot click a non-Web based (TCP) component to drill down to further information about it.

Notes and Limitations for Non-Web Based (TCP) Protocols

The following table lists the TCP protocols for which breakdown data can be displayed, together with special notes and limitations where applicable:

Protocol	Notes and Limitations
EJB	Multi-threaded protocol.
FTP	Both FTP passive and FTP active modes are supported.
IMAP	The communication in an IMAP script usually starts with a server's greeting message. Consequently, the first TCP breakdown component (request) in the script is usually reported with valid DNS and Connect times, whereas the Download time is reported as 0 and all other measurements are not applicable and are shown with a minus (-) sign in the reports.
Java Record/Replay	<ul style="list-style-type: none"> ▶ This is a new protocol added in VuGen 9.0 which supports and combines the following Java protocols—RMI, CORBA, JMS, JACADA, and Custom Hooks. TCP breakdown is supported only when the script is recorded using RMI protocol calls. If the script includes other protocol calls, TCP breakdown results are not defined. ▶ Multi-threaded protocol. ▶ Both RMI over IIOP and RMI over JRMP are supported. ▶ Some Java applications which use the RMI protocol send many ping requests between application-driven RMI calls. Consequently, the TCP breakdown reports many components with a small Time to First Buffer value and with a Download size of approximately 1 byte. ▶ The last step in a Java Record/Replay script (which terminates the connection to the server) sometimes ends with data being sent by the client, without receiving any response. Consequently, there is a corresponding TCP breakdown component reported with a Network Time to First Buffer value ≥ 0 and with all other measurements not applicable and shown with a minus (-) sign in the reports.

Protocol	Notes and Limitations
LDAP	The last step in an LDAP script (which terminates the connection to the server) usually ends with data being sent by the client, without receiving any response. Consequently, there is a corresponding TCP breakdown component reported with a Network Time to First Buffer value ≥ 0 and with all other measurements not applicable and shown with a minus (-) sign in the reports.
ODBC	N/A
Oracle 2-Tier	Some of the steps in an Oracle 2-Tier script end with data being sent by the client, without receiving any response. Consequently, there are TCP breakdown components reported with a Network Time to First Buffer value ≥ 0 and with all other measurements not applicable and shown with a minus (-) sign in the reports.
Oracle NCA	<p>If the script works over HTTP communications, you can run it using Web breakdown (which is the default).</p> <p>If the protocol is run using TCP socket communications instead of HTTP, Web breakdown is not applicable and you can run it using TCP breakdown instead, providing that:</p> <ul style="list-style-type: none"> ▶ the script is recorded in such a way so that the Active Types with which the script is recorded are Oracle NCA only (that is, the script does not include WEB(HTTP/HTML)). ▶ you move the Oracle NCA protocol from the BdSupportedProtocols list to the AdvancedTcpBdSupportedProtocols list in the agent1.cfg file on the Business Process Monitor machine.
POP3	The communication in a POP3 script usually starts with a server's greeting message. Consequently, the first TCP breakdown component (request) in the script is usually reported with valid DNS and Connect times, whereas the Download time is reported as 0 and all other time measurements are not applicable and are shown with a minus (-) sign in the reports.

Protocol	Notes and Limitations
RMI Java	<ul style="list-style-type: none"> ▶ Multi-threaded protocol. ▶ Both RMI over IIOP and RMI over JRMP are supported. ▶ Some Java applications which use the RMI protocol send many ping requests between application-driven RMI calls. Consequently, the TCP breakdown reports many components with a small Time to First Buffer value and with a Download size of approximately 1 byte. ▶ The last step in an RMI script (which terminates the connection to the server) sometimes ends with data being sent by the client, without receiving any response. Consequently, there is a corresponding TCP breakdown component reported with a Network Time to First Buffer value ≥ 0 and with all other measurements not applicable and shown with a minus (-) sign in the reports.
SAP GUI	Multi-threaded protocol.
SMTP	N/A

Drilling Down Within Reports

In many of the End User Management reports it is possible to drill down from one report to another to:

- ▶ View more detailed information about applications, end-user groups, actions, events, transactions, servers, running software elements, and sessions.
- ▶ View relevant data in Transaction Management, HP Diagnostics, or Network Node Manager.
- ▶ View a higher time resolution for the same report.

The available drilldown options in a report depend on the specific report as well as your system configuration.

In table view, you drill down within a report by selecting a row in the table and clicking the required drilldown button. In graph view, you drill down within a report by right-clicking a data point, bar, or pie chart slice to display a Shortcut menu, and clicking the required menu option.

When you drill down within a report, or move from one report to another, any active filters that have been set are automatically applied to the new report. However, if you use the breadcrumb link to return to a previously displayed report, the current active filters are not used and the original filters for the report in question are applied, until you regenerate the report or generate a different report. For details on active filters, see "Active Filters Dialog Box" on page 675.

Viewing Page Component Breakdown Data in other Contexts

In addition to generating the Page Component Breakdown report from the Utilities tab in the End User Management application, you can generate page component breakdown data in the following contexts:

- ▶ If page component breakdown data collection is enabled for a specific script, HP Business Service Management collects and saves page component breakdown data for a sampling of transaction instances over a given time period. You can view this data via the Performance Analysis or Triage reports. For details on enabling page component breakdown data collection, see "Default Transaction Breakdown" on page 153. For details on viewing page component breakdown data in the Performance Analysis report, see "Performance Analysis Report" on page 829.
- ▶ A Page Component Breakdown report can be generated on demand from the Business Process Monitor page within the Business Process Monitor Admin. For details, see "Run Page Component Breakdown" in the *Business Process Monitor Administration* PDF.
- ▶ If page component breakdown data collection is enabled for a specific script, a Page Component Breakdown report is generated when invoking a task from the Business Transaction Flow page within Business Process Monitor Admin. For details, see "Task Reports" in the *Business Process Monitor Administration* PDF.

Correlating Transaction Breakdown Summary Data with Other HP Business Service Management Reports

You can cross-reference transaction breakdown data with data in other HP Business Service Management reports. For example:

- ▶ Using the Performance Status report, you may determine that average response time for a transaction being run from a particular location is close to the maximum transaction time, indicating poor response times for the transaction at that location. By viewing the Performance Analysis report for that transaction and location, you may discover that server time to first buffer is unusually high. This could indicate a problem with the Web server serving the region in which the host is located.
- ▶ To analyze the source of high download time, analyze server performance in the System Availability Management reports to pinpoint potential server-side problems. For details, see "Cross-Performance Report" in *Using System Availability Management*.
- ▶ To analyze the source of slow network times, click anywhere in the transaction breakdown bar except the Retry Time, Time to First Buffer, Server Time to First Buffer, or Download segments to open the WebTrace report for the current time period. To provide meaningful correlation between the transaction breakdown data and the WebTrace data, it is recommended that you configure WebTrace to access the same servers that your transactions are accessing. For details on the WebTrace report, see "BPM WebTrace Report" on page 1002. For details on configuring WebTraces, see "WebTrace Dialog Box" on page 240.
- ▶ To analyze the source of slow Server Time to First Buffer or Download times, click the appropriate segment in the transaction breakdown bar to view the Diagnostics Transactions page in HP Diagnostics (a licensed version of HP Diagnostics is required). For details, see the *HP Diagnostics User's Guide*.

Viewing Data for Different Application Tier Types in Real User Monitor Reports

In a number of End User Management reports for Real User Monitor, the availability of certain tabs, graphs, tables, and data depends on the types of the application tiers for which the report is generated—application tiers (with or without TCP settings) that support actions, TCP request-response application tiers, or TCP streaming tiers. If you generate a report for more than one type of application tier, only data that is common to all the selected application tier types is displayed.

Also, in some reports, there is a **Highlights** tab that includes data from other tabs in the same report. If a tab is not available in a report, the Highlights tab does not include any data from that tab.

For user interface details on creating applications, see "Real User Monitor Application Configuration Wizard" on page 327.

This section also includes:

- ▶ "RUM End User Group Summary Report" on page 655
- ▶ "RUM End User Group Over Time Report" on page 656
- ▶ "RUM Application Infrastructure Summary Report" on page 657
- ▶ "Application Infrastructure Over Time Report" on page 658
- ▶ "RUM Tier Summary Report" on page 659
- ▶ "Tiers Over Time Report" on page 660

RUM End User Group Summary Report

The RUM End User Group Summary report groups and displays data in different tabs—Highlights, Actions, Request-Response, and Network Connections. The availability of these tabs depends on the tier types of the applications for which you generate the report. The following table describes which tabs are available for the different application tier types:

Report Tab	Application Tiers Without TCP Settings That Support Actions	Application Tiers With TCP Settings That Support Actions	TCP Request-Response Tiers	TCP Streaming Tiers
Highlights	✓	✓	✓	✓
Actions	✓	✓		
Request-Response		✓	✓	
Network Connections		✓	✓	✓

For details on the RUM End User Group Summary report, see "RUM End User Group Summary Report" on page 882.

RUM End User Group Over Time Report

The RUM End User Group Over Time report displays data in different graphs. The availability of these graphs, as well as the data included in them, depends on the tier types of the applications for which you generate the report. The following table describes which graphs are available for the different application tier types:

Report Tab	Application Tiers Without TCP Settings That Support Actions	Application Tiers With TCP Settings That Support Actions	TCP Request-Response Tiers	TCP Streaming Tiers
Application Traffic Over Time		✓	✓	✓
Latency Over Time Graph		✓	✓	✓
Action Hits Over Time graph	✓	✓		
Events Over Time graph	✓	✓		
Requests Over Time graph		✓	✓	
TCP Errors Over Time graph		✓	✓	✓

Note: If you generate the RUM End User Group Over Time report for a combination of application tiers that support actions (that is, tiers both with and without TCP settings), only the Action Hits Over Time and Actions with Events Over Time components are displayed.

For details on the RUM End User Group Over Time report, see "RUM End User Group Over Time Report" on page 870.

RUM Application Infrastructure Summary Report

The RUM Application Infrastructure report groups and displays data in different tabs—Highlights, Actions, Request-Response, and Network Connections. The availability of these tabs depends on the tier types of the applications for which you generate the report. The following table describes which tabs are available for the different application tier types:

Report Tab	Application Tiers Without TCP Settings That Support Actions	Application Tiers With TCP Settings That Support Actions	TCP Request-Response Tiers	TCP Streaming Tiers
Highlights	✓	✓	✓	✓
Actions	✓	✓		
Request-Response		✓	✓	
Network Connections		✓	✓	✓

For details on the RUM Application Infrastructure report, see "RUM Application Infrastructure Summary Report" on page 851.

Application Infrastructure Over Time Report

The Application Infrastructure Over Time report displays data in different graphs and tables. The availability of these graphs and tables, as well as the data included in them, depends on the type of applications for which you generate the report. The following table describes which graphs, tables and data are available for the different application types:

Report Tab	Application Tiers Without TCP Settings That Support Actions	Application Tiers With TCP Settings That Support Actions	TCP Request-Response Tiers	TCP Streaming Tiers
Running Software/ Server Availability – application data	✓	✓		
Running Software/ Server Availability – connection data		✓	✓	✓
Application Traffic		✓	✓	
Running Software/ Server Requests		✓	✓	
Traffic Throughput		✓	✓	✓
TCP Server Errors		✓	✓	✓

For details on the Application Infrastructure Over Time report, see "Application Infrastructure Over Time Report" on page 796.

RUM Tier Summary Report

The RUM Tier Summary report groups and displays data in different tabs—Highlights, Network, Request-Response, and Actions. While all the tabs are always included in the report, certain application tier types may not be included in a tab, or specific fields may not show data for certain application tier types.

- ▶ If a selected application includes a TCP streaming tier, for which partial data only is available, the Request-Response tab does not include this tier and some fields in other tabs do not display data for this tier.
- ▶ If a selected application includes a tier that does not have any http data, the Actions tab does not include this tier.
- ▶ If a select application includes a tier that does not have any TCP data, the Request-Response and Network tabs do not include this tier.

The following table describes which application tier types are relevant for each tab:

Report Tab	Application Tiers Without TCP Settings That Support Actions	Application Tiers With TCP Settings That Support Actions	TCP Request-Response Tiers	TCP Streaming Tiers
Highlights		✓	✓	✓
Network		✓	✓	✓
Request-Response		✓	✓	
Actions	✓	✓		

Note: For an http only tier, only the Actions tab is displayed.

For details on the RUM Tier Summary report, see "RUM Tier Summary Report" on page 902.

Tiers Over Time Report

The Tiers Over Time report displays data in different graphs and tables. The availability of these graphs and table depends on the type of applications for which you generate the report. The following table describes which graphs and tables are available for the different application types:

Report Tab	Application Tiers Without TCP Settings That Support Actions	Application Tiers With TCP Settings That Support Actions	TCP Request-Response Tiers	TCP Streaming Tiers
Throughput and Connection Availability Over Time		✓	✓	✓
Packets with Errors Over Time		✓	✓	✓
TCP Response Time and Load Over Time			✓	
Action Response Time and Load Over Time	✓	✓		
Tier Availability and Load Over Time	✓	✓		

For details on the Tiers Over Time report, see "Tiers Over Time Report" on page 942.

Viewing HP Diagnostics Data From End User Management Reports

If HP Diagnostics has been registered and enabled on your HP Business Service Management system, you can drill down to the HP Diagnostics server to view server request details or synthetic transaction details for specific pages or actions from some of the End User Management reports.

This section includes:

- "End User Management Reports with Drilldown to HP Diagnostics" on page 661
- "Notes and Limitations" on page 664

End User Management Reports with Drilldown to HP Diagnostics

The following tables list the applicable End User Management reports and describes the data included in the HP Diagnostics view.

From the reports listed below you can drill down to Diagnostics server request details. The drill down to Diagnostics displays a snapshot with details for the corresponding server requests. In the snapshot you can select any of the instance tree icons to drill down further to the call profile:

End User Management Report	Data included in the HP Diagnostics Snapshot
Session Details	Server request instance details for the corresponding clickstream page URL, or action description.

End User Management Report	Data included in the HP Diagnostics Snapshot
RUM Action Summary	Server request instance details for the corresponding URL or action description, in the given time period.
Action Over Time > Load and Response Time Breakdown Over Time table	
End Users by Action	
Application Infrastructure by Action	
Action Raw Data	

For details on working with the Server Requests view or the Analyze Snapshots view, see the *HP Diagnostics User's Guide*.

From the reports listed below you can drill down to Diagnostics Synthetic Transactions view, which displays the back-end performance metrics for the synthetic transactions being executed:

End User Management Report	Data included in the HP Diagnostics Snapshot
Performance Analysis (for synthetic user data): <ul style="list-style-type: none"> ➤ Transaction Breakdown component ➤ Transaction Performance component 	Server request instance details for the corresponding URL or action description, in the given time period.
Performance Analysis Raw Data > Transaction Performance component (for synthetic user data)	
Triage > Transaction Breakdown component	
Triage Raw Data > Transaction Breakdown component	

For details on working with the Synthetic Transactions view see the *HP Diagnostics User's Guide*.

Notes and Limitations

The following notes and limitations apply when drilling down to HP Diagnostics:

- ▶ The drilldown button to HP Diagnostics in the End User Management reports is enabled only if:
 - ▶ you have registered and enabled HP Diagnostics in HP Business Service Management. To register and enable HP Diagnostics in HP Business Service Management, select **Admin > Diagnostics**.
 - ▶ Real User Monitor has detected Diagnostics data for the requested action.
- ▶ The data displayed in the HP Diagnostics snapshot is data aggregated by URL/action description, whereas the data displayed in the End User Management reports is data aggregated by time, except in reports that use raw data (for example, the RUM Session Analyzer and Session Details reports).
- ▶ If the URL of a page, or the description of an action, you have configured for monitoring in End User Management Administration has passed through a Web server that uses URL rewriting, the URL/description in Real User Monitor differs from the corresponding URL/description in HP Diagnostics and a match is not found when drilling down.
- ▶ If an application is installed on multiple servers working behind a load balancer, the page URL, or action description, in Real User Monitor has multiple corresponding URLs/descriptions in HP Diagnostics. In such a case, when you drill down to the HP Diagnostics snapshot all the corresponding URLs/descriptions are displayed, but only one of those URLs/descriptions is selected.
- ▶ Parameter aggregation is enabled by default in the Diagnostics Probe points file. To obtain an exact match in HP Diagnostics for a Real User Monitor URL/description that contains a parameter, you must define keys for the parameter values in the Diagnostics Probe points file.

If you do not define keys for the parameter values, or have turned off parameter aggregation in the Diagnostics Probe points file, and the URL/description that you are drilling down from in the End User Management report includes a parameter, an exact match is not found when drilling down and you have to manually locate the server request in HP Diagnostics.

- ▶ For real user data, if the application server handling a particular page is not monitored by a Diagnostics probe, the drilldown button to HP Diagnostics is disabled.
- ▶ By default, HP Diagnostics does not monitor post parameters. To configure HP Diagnostics to monitor post parameters, see the Integration section of the *HP Diagnostics User's Guide*.
- ▶ If you are unable to drill down to view HP Diagnostics data from the Session Details report, if the Session Replay window is open, try closing it to solve the problem.

Viewing TransactionVision Data From End User Management Reports

If TransactionVision has been deployed on your HP Business Service Management system, you can drill down to Transaction Management reports for specific pages or actions from some of the End User Management reports. For details on working with the Transaction Management reports, see *Using Transaction Management*.

This section includes:

- ▶ "End User Management Reports With Drilldown to Transaction Management Reports" on page 666
- ▶ "Enabling the Drilldown from End User Management to Transaction Management" on page 667

End User Management Reports With Drilldown to Transaction Management Reports

The following table lists the applicable End User Management reports and describes the Transaction Management reports to which you can drill down and the data included in them:

End User Management Report	Transaction Management Report	Data included in the Transaction Management Report
RUM Session Analyzer	Transaction Tracking	The first ten pages/actions included in the selected session.
Session Details	Transaction Tracking	The selected page/action hit only.
RUM Action Summary	Transaction Tracking	Up to ten hits of the selected page/action that have the slowest server time in the given time period.
Action Over Time > Load and Response Time Breakdown Over Time table		
End Users by Action		
Application Infrastructure by Action		
Action Raw Data		
Triage > Transaction Breakdown component	Transaction Tracking	All the transactions and locations configured in the report filter. Note: The drill down is applicable for synthetic user (Business Process Monitor) data only.
Triage Raw Data > Transaction Breakdown component		
Performance Analysis > Transaction Breakdown component		

End User Management Report	Transaction Management Report	Data included in the Transaction Management Report
RUM Transaction Summary	Transaction Summary	Data for the specific transaction selected in the RUM Transaction Summary report in End User Management.
	Aggregated Topology	

Note: The data displayed in the Transaction Management Transaction Tracking report is raw data, whereas the data displayed in the End User Management reports is aggregated data, except in reports that use raw data (for example, the RUM Session Analyzer and Session Details reports).

Enabling the Drilldown from End User Management to Transaction Management

By default, the drill down from End User Management reports to Transaction Management reports is not enabled. The drill down is enabled only if you have:

- Configured an Analyzer in the TransactionVision deployment environment to process Real User Monitor events. See "Enabling an Analyzer for RUM" in *Using Transaction Management*.
- Assigned the TransactionVision default RUM communication link to that same Analyzer. See "Default Communication Links" in *Using Transaction Management*.
- Configured at least one Real User Monitor Engine to connect to the TransactionVision Analyzer configured to process Real User Monitor events. This involves using the Configuration drop-down menu on the Real User Monitor Engine Web console to access the TV Connection Settings. For details, see "TransactionVision Connection Settings" in the *Real User Monitor Administration* PDF.
- Real User Monitor has detected Transaction Management data for the requested page/action.

Viewing HP Network Node Manager Data From Real User Monitor Reports

If you have configured a link in HP Business Service Management to an HP Network Node Manager server, you can drill down to view HP Network Node Manager data from some of the End User Management reports. In HP Network Node Manager you can see trace route information between a source (client) machine and destination (server) machine, which can help you identify the root cause of network problems and pinpoint common network problems. For details on working with the HP Network Node Manager, see the HP Network Node Manager documentation.

This section includes:

- ▶ "End User Management Reports With Drilldown to HP Network Node Manager" on page 668
- ▶ "Enabling the Drilldown from End User Management to HP Network Node Manager" on page 670

End User Management Reports With Drilldown to HP Network Node Manager

The following table lists the End User Management reports from which you can drill down to view HP Network Node Manager data and describes the relevant source and destination machines for which trace route data is displayed:

Real User Monitor Report	Source and Destination Machines
Action Over Time Report (for details, see "Action Over Time Report" on page 772).	The source and destination IP addresses with the worst network time for the selected action. If more than one action is included in the filter, the first action is used.
Action Raw Data Report (for details, see "Action Raw Data Report" on page 781).	The source and destination IP addresses with the worst network time for the selected action.

Real User Monitor Report	Source and Destination Machines
RUM Action Summary Report (for details, see "RUM Action Summary Report" on page 842).	The source and destination IP addresses with the worst network time for the selected action.
RUM End User Group Over Time Report (for details, see "RUM End User Group Over Time Report" on page 870).	The source and destination IP addresses for the request-response with the worst network time in the selected application. If more than one end-user group is included in the filter, the first end-user group is used. Note: You can drill down to HP Network Node Manager from this report only when it is generated for TCP applications, or Web applications with TCP data.
RUM End User Group Summary Report (for details, see "RUM End User Group Summary Report" on page 882).	The source and destination IP addresses for the request-response with the worst network time from the selected application. Note: You can drill down to HP Network Node Manager from this report only when it is generated for TCP applications, or Web applications with TCP data.
RUM Tier Summary Report (for details, see "RUM Tier Summary Report" on page 902).	The source and destination IP addresses for the request-response with the worst network time in the selected application.
RUM Transaction Summary Report (for details, see "RUM Transaction Summary Report" on page 911).	The source and destination IP addresses with the worst network time for the selected transaction.
Session Details Report (for details, see "Session Details Report" on page 918).	The action server and session client IP addresses.

Real User Monitor Report	Source and Destination Machines
Tiers Over Time Report (for details, see "Tiers Over Time Report" on page 942).	The source and destination IP addresses for the request-response with the worst network time in the selected application.
Transaction Over Time Report (for details, see "Transaction Over Time Report" on page 955).	The source and destination IP addresses with the worst network time for the selected transaction. If more than one transaction is included in the filter, the first transaction is used.

Enabling the Drilldown from End User Management to HP Network Node Manager

To configure a link in HP Business Service Management to an HP Network Node Manager server, select **Admin > Platform > Setup and Maintenance > Infrastructure Settings**:

- Select **Foundations**.
- Select **Integrations with other applications**.
- In the **HP NNM** table, locate **HP NNM Integration URL**. Change the value to the protocol, host, and port number of the HP Network Node Manager server.

HP Network Node Manager uses Lightweight Single Sign-On (LW-SSO.) You must configure Business Service Management for LW-SSO so that it can access HP Network Node Manager, and the two systems must share a common key. If HP Network Node Manager and Business Service Management reside on different domains, you must update their LW-SSO configurations to accept multiple domains. For details on LW-SSO, see "Lightweight Single Sign-On Strategy" in *Platform Administration*.

Tasks

How to Customize End User Management Reports

You can customize some aspects of the End User Management reports.

Note: The steps in the task are optional and can be performed in any order.

This task includes the following steps:

- "Configure transaction ordering" on page 671
- "Configure transaction coloring" on page 671
- "Modify the Default Number of Rows Displayed in a Table" on page 672
- "Modify the Number of Rows Returned from the Database" on page 672
- "Additional Customization Options" on page 673

Configure transaction ordering

You can specify the order in which you want transactions that are part of an application to appear in the following End User Management reports: Performance Matrix, Performance Status, and Metrics Over Time (in the legend). For user interface details, see "Business Process Monitor Application Reports Configuration Page" on page 184.

Configure transaction coloring

You can modify the colors used to represent transactions in the Metrics Over Time report. For user interface details, see "Business Process Monitor Application Reports Configuration Page" on page 184.

Modify the Default Number of Rows Displayed in a Table

By default, each table in a report displays a maximum of 20 rows. You can configure Business Service Management to display a different number of rows in a table, in the Infrastructure Settings Manager.

To modify the default number of rows displayed in a table, select **Admin > Platform > Setup and Maintenance > Infrastructure Settings**:

- ▶ Select **Applications**.
- ▶ Select **End User/System Availability Management**.
- ▶ In the **End User/System Availability Management - Data** table, locate the **Max Table Rows** parameter. Change the value to the required number.

Modify the Number of Rows Returned from the Database

By default, the maximum number of rows that are returned from the database for End User Management reports is 200. You can configure Business Service Management to return a different number of rows from the database, in the Infrastructure Settings Manager.

To modify the default number of rows returned from the database, select **Admin > Platform > Setup and Maintenance > Infrastructure Settings**:

- ▶ Select **Applications**.
- ▶ Select **End User/System Availability Management**.
- ▶ In the **End User/System Availability Management - Data** table, locate the **Max rows returned from the database in EUM Reports** parameter. Change the value to the required number.

Note: Reports that display data over time may return more than the configured maximum number of rows, if not enough data is retrieved from the database for the report's time period.

Additional Customization Options

For details on additional report customization options, see "Customizing Reports" in *Reports*.

How to Enable Snapshot on Error When Recording Scripts

This task describes how to enable snapshot on error when recording HP Virtual User Generator and QuickTest Professional (QTP) scripts.

To enable the generation of snapshots when an error occurs in HP Virtual User Generator:

- 1** In the HP Virtual User Generator Run-Time Settings dialog box, select the **General: Miscellaneous** node.
- 2** In the Error Handling section, check that **Generate snapshot on error** is selected.
- 3** Click **OK** to close the Run-Time Settings dialog box.

To enable the generation of snapshots when an error occurs in QuickTest Professional:

- 1** In the Options dialog box, select **Run > Screen Capture**.
- 2** In the **Save still image capture to results** box, select **For errors**.
- 3** Click **OK** to close the Options dialog box.

Reference

End User Management Reports User Interface

This section includes:

- ▶ Active Filters Dialog Box on page 675
- ▶ Applications Dialog Box on page 689

Active Filters Dialog Box

This dialog box enables you to set filters on specific report components, which helps you pinpoint problem areas, or on specific areas that you have already determined to be problematic.

To access	Click the Active Filters link in any of the End User Management reports.
Important information	<ul style="list-style-type: none"> ▶ The Active Filters dialog box includes all the filters available for End User Management reports. Only the filters that are valid for the report from which you access the Active Filters dialog box are displayed. ▶ Active filters are saved across reports. For concept details, see "Drilling Down Within Reports" on page 651. ▶ Specific properties in a filter tab that are not supported by the selected report are disabled. ▶ In the user interface element tables described for the different filters, <report entities> represents the main entity of the report for which you are setting active filters. For example, in the End User Groups filter tab, there is an element with the description Show only <report entities> with poor average performance. If you are configuring this filter for the RUM Transaction Summary report, the element is actually displayed as Show only transactions with poor average performance, but if you are configuring the filter for the RUM Action Summary report, the element is displayed as Show only actions with poor average performance.
See also	"Report Settings Overview" on page 633

The Active Filters dialog box includes the following filter tabs and areas:



- ▶ "Common Filter Elements" on page 676
- ▶ "Actions" on page 678

- "BPM Errors" on page 679
- "BPM Custom Attributes" on page 680
- "End-User Groups" on page 681
- "Events" on page 682
- "Locations" on page 683
- "Servers" on page 683
- "Session Properties" on page 684
- "Tiers" on page 686
- "Transactions" on page 687
- "User Properties" on page 688
- "WebTrace Destinations" on page 689

Common Filter Elements

The following table lists the elements that are common to all the filters that contain a hierarchical CI tree:

User interface elements are described below:

UI Elements (A–Z)	Description
	Select All. Click to select all the available CIs in the tree for inclusion in the filter.
	Clear All. Click to clear the check boxes of all the CIs in the tree.

UI Elements (A–Z)	Description
Browse Views tab	<p>Click the Browse Views tab to display the hierarchical tree of CIs relevant to the specific filter, as well as other relevant filter settings. Select the required CIs and settings.</p> <p>Note: When you select all the CIs under a parent CI (for example, all the transactions in a business transaction flow) the parent CI is automatically selected. When you clear all the CIs under a parent CI, the parent CI is automatically cleared.</p>
Search CIs tab	<p>Click the Search CIs tab to search for CI names that contain a specific string, or for CIs of a specific CI type. Search results are displayed in the lower part of the search tab. Right-click a CI in the search results table to open a Shortcut menu and click:</p> <p>Select in tree. Displays the hierarchical tree with the CI's check box selected.</p> <p>Locate in tree. Displays the hierarchical tree with the CI visible (that is, if the tree is too long for all of it to be visible without scrolling, the area that includes the CI is displayed).</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The search is made on the hierarchical tree of relevant CIs displayed in the Browse Views tab. ▶ The search is not case sensitive. ▶ When searching for a CI name, you can use the asterisk (*) wildcard in your string to match one or more words of text. ▶ In the Locations filter, location names in the hierarchical tree include extra text showing for what they are configured (RUM for Real User Monitor and BPM for Business Process Monitor). To find a location name, you must either enter the name in full including this extra text, or use the asterisk (*) wildcard.

Actions

This filter enables you to filter the data included in the report according to specific actions that you select.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A–Z)	Description
<Actions tree>	<p>Displays the configured actions for the applications selected for the report. Select the check box for the actions you want to include in the filter.</p> <p>The hierarchy of the tree is applications > tiers > action folders > actions.</p>
Show only configured actions	<p>Select this check box to include only the actions that are configured in End User Management Administration for the selected applications. Select specific actions you want to include from the Action tree, or leave the Action tree completely unselected to include all the actions you configured for the selected applications.</p> <p>Clear this check box to include both configured and unconfigured actions.</p> <p>Default value: Not selected</p>
Show only <report entities> with low average availability	<p>Select this check box to show the <report entities> that include only actions whose average availability is less than the action availability threshold you configured for them in End User Management Administration.</p> <p>Default value: Not selected</p>
Show only <report entities> with poor average performance	<p>Select this check box to show the <report entities> that include only actions whose total time is less than the action time threshold you configured for them in End User Management Administration.</p> <p>Default value: Not selected</p>

UI Elements (A–Z)	Description
Show only <report entities> with poor average server performance	Select this check box to show the <report entities> that include only actions whose average server time is less than the server time threshold you configured for them in End User Management Administration. Default value: Not selected

BPM Errors

This filter enables you to filter the data included in the report according to specific Business Process Monitor error IDs or categories.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A–Z)	Description
<Error category tree>	Displays the valid error categories, as defined in LoadRunner. Select the check box for the categories you want to include in the filter.
Error ID	Enter an error ID number by which to filter the data.

BPM Custom Attributes

This filter enables you to filter the data included in the report according to custom attributes you configure for Business Process Monitors in End User Management Administration.

User interface elements are described below:

UI Elements (A–Z)	Description
Operator	Select the operator to use on a specific session property. Valid options are: <ul style="list-style-type: none"> ▶ equals. The custom attribute must equal the entry in the Value field. ▶ ignore. Do not use the custom attribute for filtering. ▶ starts with. The custom attribute must start with the entry in the Value field. Default value: ignore
Property	The names of all the custom attributes configured in End User Management Administration for the Business Process Monitors assigned to the selected applications for the report are listed.
Value	Enter the value to be used when filtering report data by the specific custom attribute.

End-User Groups

This filter enables you to filter the data included in the report according to specific end-user groups that you select, or for a range of IP addresses.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A–Z)	Description
<End-user group tree>	<p>Displays configured CI collections, end-user groups and subgroups. Select the check box for the CIs you want to include in the filter.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Unconfigured end-user groups are included in the tree as a group called Others. Select this group in the tree to include data in the report applicable to unconfigured end-user groups. An unconfigured end-user group is one that is not configured in End User Management Administration, but that is still detected and recognized by Real User Monitor. ▶ When you select an item in the hierarchical tree, a recursive selection of its children is also made.
IP between	<p>Choose this option to specify a range of IP addresses to include in the filter. Enter the starting and ending IP addresses of the required range.</p> <p>The filter result selects all the end-user subgroup ranges that are included in the specified IP range.</p>
Show only <report entities> with poor average performance	<p>Select this check box to show the <report entities> that include only end-user group subgroups with poor average performance. That is, end-user group subgroups whose latency is greater than the latency threshold you configured for the end-user group in End User Management Administration.</p>

Events

This filter enables you to filter the data included in the report according to specific events that you select.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A–Z)	Description
<Event tree>	<p>Displays the configured events for the applications selected for the report. Select the check box for the events you want to include in the filter.</p> <p>The hierarchy of the tree is applications > tiers > events (error events, informational events, and performance events).</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ When you select an item in the hierarchical tree, a recursive selection of its children is also made. ▶ If you do not select the checkboxes for any of the event classifications (error, informational, or performance) all event classifications are included. ▶ The filter uses an AND correlation between the <Event tree> and the event classification check boxes. Only events that match all the selected items are included in the filter.
Show all error events	Select this check box to select all error events for all the tiers included in the tree.
Show all informational events	Select this check box to select all informational events for all the tiers included in the tree.
Show all performance events	Select this check box to select all performance events for all the tiers included in the tree.

Locations

This filter enables you to filter the data included in the report according to specific locations that you select.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A–Z)	Description
<Location tree>	<p>Displays configured locations. Select the check box for the locations you want to include in the filter.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Each location entry in the tree includes a description of the monitor that monitors the location (Real User Monitor, Business Process Monitor, or both). ▶ When you select an item in the hierarchical tree, a recursive selection of its children is also made.

Servers

This filter enables you to filter the data included in the report according to specific hosts (servers) and software elements that you select.

User interface elements are described below:

UI Elements (A–Z)	Description
<Server tree>	<p>Displays the servers and running software elements reported by Real User Monitor. Select the check box for the servers and running software elements you want to include in the filter.</p>

UI Elements (A–Z)	Description
Show only <report entities> with low average application availability	Select this check box to show the <report entities> that include only running software elements with availability less than the average server availability threshold you configured for them in End User Management Administration. Note: This setting applies to Web (HTTP-Web and SOAP) based applications only.
Show only <report entities> with low average network availability	Select this check box to show the <report entities> that include only running software elements with network availability less than the server connection availability threshold you configured in the TCP settings of an application in End User Management Administration. Note: This settings applies to Web (HTTP-Web and SOAP) based applications for which you defined TCP settings, and TCP applications only.

Session Properties

This filter enables you to filter the sessions displayed in the report according to session status and session properties.

User interface elements are described below:

UI Elements (A–Z)	Description
Application	The name of the application for which the session property is configured.
Operator	Select the operator to use on a specific session property. Valid options are: <ul style="list-style-type: none"> ➤ equals. The session property must equal the entry in the Value field. ➤ ignore. Do not use the session property for filtering. ➤ starts with. The session property must start with the entry in the Value field. Default value: ignore

UI Elements (A–Z)	Description
Session Property	The names of all the session properties configured in End User Management Administration for the selected applications for the report are listed.
Session status	<p>Select the session status by which sessions are included in the report. Valid options are:</p> <ul style="list-style-type: none"> ▶ All. Include all session in the report. ▶ Active. Include only active sessions in the report. ▶ Closed. Include only closed sessions in the report. <p>Default value: All</p> <p>Note: Sessions are filtered for inclusion in the report by status AND session properties.</p>
Tier	The name of the application tier for which the session property is configured.
Value	Enter the value to be used when filtering sessions by the specific session property.

Tiers

This filter enables you to filter the data included in the report according to specific application tiers that you select.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A–Z)	Description
<Tiers tree>	Displays the configured tiers for the applications selected for the report. Select the check box for the tiers you want to include in the filter.
Group tiers by	Select a radio button to group the tiers tree by: <ul style="list-style-type: none"> ▶ Application. The hierarchical tree displays each selected application and its monitored tiers. ▶ Type. The hierarchical tree displays tier types and for each type, the relevant tiers for the selected applications. The tier name includes the application to which it belongs (in parentheses).

Transactions

This filter enables you to filter the data included in the report according to specific transactions that you select.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A–Z)	Description
<Transaction tree>	Displays the configured CI collections and transactions for the applications selected for the report. Select the check box for the CIs you want to include in the filter. Note: When you select an item in the hierarchical tree, a recursive selection of its children is also made.
Show <report entities> only for transactions hits with low availability	Select this check box to show the <report entities> that include only transactions whose average availability is less than the transaction availability threshold you configured in End User Management Administration.
Show <report entities> only for transactions with poor average net performance	Select this check box to show the <report entities> that include only transactions whose average net performance time is less than the net performance time threshold you configured in End User Management Administration.
Show <report entities> only for transactions with poor average performance	Select this check box to show the <report entities> that include only transactions whose average total transaction time is less than the total transaction time threshold you configured in End User Management Administration.
Show <report entities> only for transactions with poor average server performance	Select this check box to show the <report entities> that include only transactions whose average server time is less than the server time threshold you configured in End User Management Administration.

User Properties

This filter enables you to filter the data displayed in the report according to users, computers, and IP addresses.

Important information	If more than one field is used for filtering, all conditions must be met for data to be included in the report. That is, there is an AND relationship between the fields.
------------------------------	---

User interface elements are described below:

UI Elements (A–Z)	Description
Computer name	Enter the name of a computer by which to filter the data. Any computer whose name includes the text you enter is added to the filter. Note: You can use the asterisk (*) wildcard to represent any string of characters in the computer name.
IP Address	Enter an IP address by which to filter the data.
User name	Enter the name of a user by which to filter the data. Any user whose name includes the text you enter is added to the filter. Note: You can use the asterisk (*) wildcard to represent any string of characters in the user name.

WebTrace Destinations

This filter enables you to filter the data displayed in the report according to WebTrace destinations.

User interface elements are described below:


UI Elements (A–Z)	Description
<WebTrace tree>	<p>Displays the configured WebTraces for the applications selected for the report. Select the check box for the WebTraces you want to include in the filter.</p> <p>Note: The tree hierarchy includes WebTraces configured directly for applications, as well as business transaction flows with their configured WebTraces.</p>

Applications Dialog Box

This dialog box enables you to select the applications for which data is included in End User Management reports.

To access	Click the Applications link in any of the End User Management reports.
See also	"Report Settings Overview" on page 633

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A–Z)	Description
<p>Browse Views tab</p>	<p>Click the Browse Views tab to display a hierarchical tree of configured application and CI collection CIs. Select the check boxes for the CIs you want to include in the report.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Only applications that are valid for the report you are generating are enabled in the tree. For example, applications which are configured for Business Process Monitor only are disabled for reports that show real user data only. ▶ The type of data for which the application is configured is displayed next to the name—Real User Monitor (RUM), Business Process Monitor (BPM), or Both (RUM, BPM). ▶ For single application reports (for example, the Application Health report), you cannot select multiple applications. Check boxes for the applications and the Select All  button are not displayed. Select a single application by clicking the application name in the tree. ▶ When you select all the CIs under an application (for example, all the transactions in an application) the application CI is automatically selected. When you clear all the CIs under an application, the application CI is automatically cleared.

UI Elements (A–Z)	Description
Search CIs tab	<p>Click the Search CIs tab to search for CI names that contain a specific string, or for CIs of a specific CI type. Search results are displayed in the lower part of the search tab. Right-click a CI in the search results table to open a Shortcut menu and click Select in tree to display the hierarchical tree with the CI's check box selected.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The search is made on the hierarchical tree of relevant CIs displayed in the Browse Views tab. ▶ The search is not case sensitive. ▶ When searching for a CI name, you can use the asterisk (*) wildcard in your string to match one or more words of text. ▶ Application names in the hierarchical tree include extra text showing for what they are configured (RUM for Real User Monitor and BPM for Business Process Monitor). To find an application name, you must either enter the name in full including this extra text, or use the asterisk (*) wildcard.

Troubleshooting and Limitations

This section includes troubleshooting and limitations for End User Management reports.

Report Time Periods are Automatically Changed

If you select **Week**, **Month**, **Quarter**, **Year**, **Past Week**, **Past Month**, **Past Quarter**, or **Past Year** from the **View** box, the query is rounded to full days, 12 AM to 12 AM, based on the time zone set for the database (set by the database administrator in Platform Administration). The query is based only on aggregated data—not raw data—and can therefore be processed more quickly. The data is displayed according to the time zone set for the user, which is indicated on the right-hand side of the report title bar.

No Data is Displayed When Drilling Down to HP Diagnostics or Transaction Management From End User Management Reports

The inability to see data in HP Diagnostics or Transaction Management when you drill down from an End User Management report may be caused by the following:

- ▶ The Diagnostics server or TransactionVision sensor probe is not set to the same time as the Real User Monitor engine (including the resolution in minutes).

Tip: You can use the Network Time protocol (NTP) to ensure that the systems are synchronized.

- ▶ The relevant Diagnostics or Transaction Management data has been purged. For details on data retention, refer to:
 - ▶ *HP Diagnostics Installation and Configuration Guide*
 - ▶ *Using Transaction Management*

For details on drilling down to HP Diagnostics, see "Viewing HP Diagnostics Data From End User Management Reports" on page 661. For details on drilling down to Transaction Management, see "Viewing TransactionVision Data From End User Management Reports" on page 665.

Changes to the End User Management Monitoring Model are not Reflected in Reports

When you make changes to the End User Management monitoring model (such as adding, or renaming entities), it can take some time (up to approximately 20 minutes) until the changes are reflected in End User Management reports.

Historical Data is Displayed for a Different Entity Name

End User Management reports always use the current names of the entities in the End User Management monitoring model. If you change an entity's name, report data relevant to the old name is displayed as data for the new name. For example, if you change a location name from New York to NY, historical data for New York is now displayed as data for NY.

Drilldowns to Other Reports do not Drill Down for the Selected Row

When you drill down from an End User Management report that has multiple tabs, the target report (to which you drill) is not always generated for the row selected in the source report (from which you drill). This occurs if you sort the source report in one tab, but drill down to the target report from a different tab.

Workaround: Order the report in the tab from which you drill down to another report.

Aggregated Data May Not Include All Real User Monitor Samples

Real User Monitor samples reported during the first hour after you configured the first Real User Monitor application in End User Management Administration, may be not a part of hourly and daily aggregations and therefore may be missing in reports based on such aggregated data.

9

Status Reports

This chapter includes:

Concepts

- ▶ Status Reports Overview on page 696

Reference

- ▶ Status Reports User Interface on page 697

Concepts

Status Reports Overview

Status reports provide an overall view of your applications and enable you to understand general problematic areas, which you can investigate in more detail using the analysis reports.

Status reports include data collected by Business Process Monitors (synthetic user data) and Real User Monitors (real user data), and provide response time and availability data from application, transaction, and location perspectives.

You access status reports from the Status Reports tab in the End User Management application (Applications > End User Management > Status Reports). For user interface details, see "Status Reports User Interface" on page 697.

Reference


Status Reports User Interface

This section includes (in alphabetical order):

- Application Health Report on page 697
- Application Summary Report on page 711
- BPM Performance Over Time Report on page 717
- BPM Performance Status Report on page 726
- Location Summary Report on page 729
- RUM Global Statistics Report on page 739
- Status Snapshot on page 751

Application Health Report

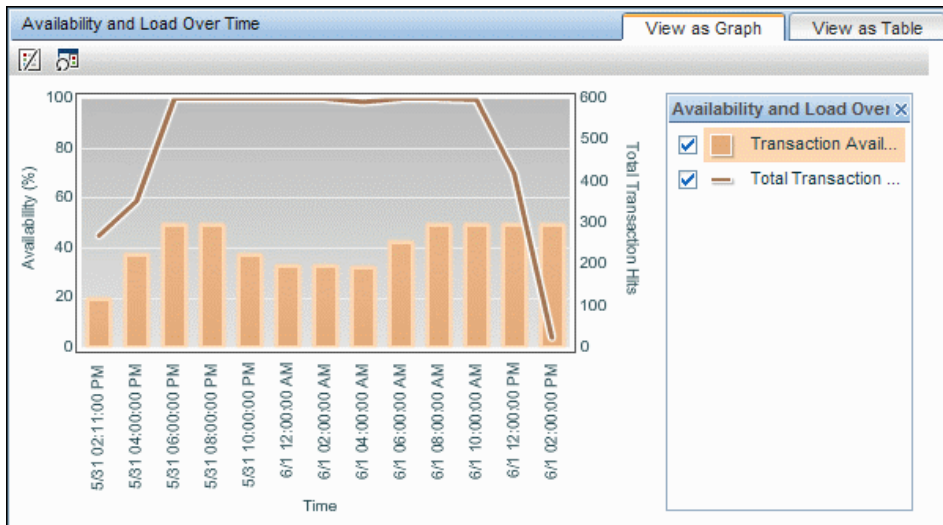
This report enables you to see the general status of a selected application by viewing different aspects of its performance, availability, load, and impact on end users. The report enables you to drill down to other reports that displays additional data that can help identify problems with the application.

To access	Use one of the following: <ul style="list-style-type: none"> ➤ Select Applications > End User Management > Status Reports > Application Health ➤ In the Application Summary report, select an application and click the Drill down to Application Health  button.
Important information	The components included in the report depend on the selected application and data types.

<p>Data type</p>	<ul style="list-style-type: none"> ▶ Synthetic user data ▶ Real user data
<p>Report settings</p>	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. Note: You cannot select the time granularity for this report. Default time units are used for the time period you configure for the report. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689. Note: You can generate this report for a single application only.

Availability and Load Over Time




This graph displays the total number of, and the percentage of available transaction hits, action hits, or connections (according to the selected application and data types) over the selected time period. The graph enables you to see the correlation between transaction availability and the number of transaction hits.




The following table describes what is shown in the graph, according to the different application and data types:

Data Type	Application Type	Measurements
Synthetic user	N/A	Transactions
Real user	HTTP	<ul style="list-style-type: none"> ▶ Actions ▶ Connections (if TCP is enabled for the application)
	TCP request-response	Connections
	TCP streaming	Connections

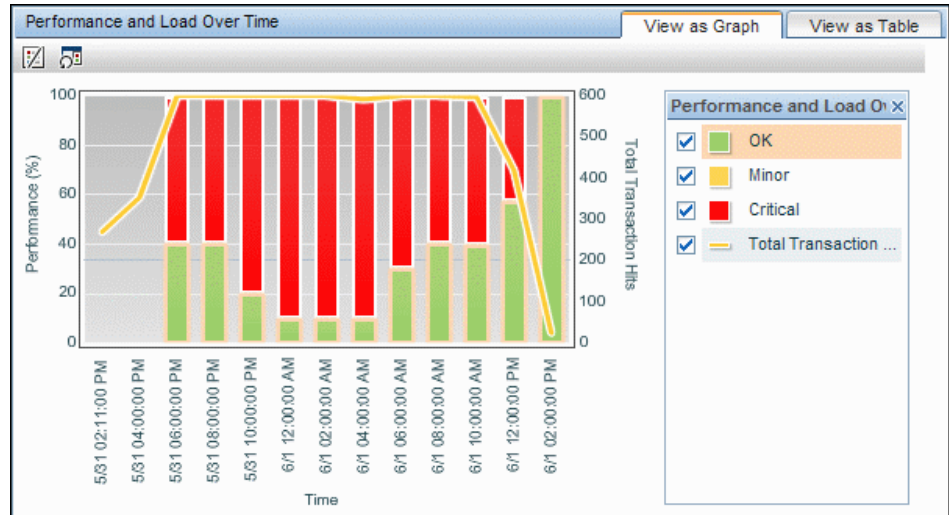
User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns -Table View	
	<p>"BPM Error Summary Report" on page 803 (for synthetic user data only).</p> <p>Graph view: Right-click a graph bar or data point that represents transactions and select Drill down to BPM Error Summary from the Shortcut menu.</p>
	<p>"RUM Event Summary Report" on page 892 (for real user data for http applications only).</p> <p>Graph view: Right-click a graph bar or data point that represents actions and click Drill down to RUM Event Summary from the Shortcut menu.</p>
	<p>"RUM Tier Summary Report" on page 902 (for real user data for TCP applications, or http applications with TCP enabled only).</p> <p>Graph view: Right-click a graph bar or data point that represents connections and click Drill down to RUM Tier Summary from the Shortcut menu.</p>

UI Elements	Description
	<p>"Application Health Report" on page 697 (for real user data for synthetic user transactions only).</p> <p>Graph view: Right-click a graph bar or data point that represents syntehtic user transaction availability and click Drill down to Application Health from the Shortcut menu.</p> <p>Note: Regenerates the Application Health report for synthetic user data for the selected application.</p>
Graph Elements	
<X-axis>	<p>Time. The time units for the selected time period.</p>
<Y-axis left>	<p>Availability (%). The percentage of available transaction hits, action hits, or connections from the total number of transaction hits, action hits, or connections. Available transaction hits, action hits, or connections are those whose status is OK or minor.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p> <p>Note: The availability percentages are denoted by graph bars.</p>
<Y-axis right>	<p>Total Hits/Connections. The total number of transaction hits, action hits, or connections.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p> <p>Note: The total number of hits or connections are denoted by connected data points.</p>

Performance and Load Over Time


This graph displays the total number of transaction hits, action hits, or requests (according to the selected application and data types) and the percentage of available hits or requests by status (OK, minor, or critical), over the selected time period. The graph enables you to see the correlation between the transaction/action/request performance and the number of transaction/action hits or requests.



The following table describes what is shown in the graph, according to the different application and data types:

Data Type	Application Type	Measurements
Synthetic user	N/A	Transactions
Real user	http	Actions
	TCP request-response	Requests
	TCP streaming	N/A

User interface elements are described below (unlabeled elements are shown in angle brackets):






UI Elements	Description
Drilldowns -Table View	
	<p>"RUM Tier Summary Report" on page 902</p> <p>Graph view: Right-click a graph bar or data point and click Drill down to RUM Tier Summary from the Shortcut menu.</p>
Graph Elements	
<X-axis>	Time. The time units for the selected time period.
<Y-axis left>	<p>Performance (%).</p> <p>The percentage of transaction hits (for synthetic user data) or action hits (for real user data) by status, from the total number of available hits. The performance is broken down according to status—OK, minor, and critical.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p> <p>Note: The performance percentages are denoted by stacked bars.</p>
<Y-axis right>	<p>Total Transaction Hits/Action Hits/Requests. The total number of transaction hits, action hits, or requests.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p> <p>Note: The total number of hits or requests are denoted by connected data points.</p>

Business Summary

This report displays the overall status of an application by availability and performance and also by location, over a period of time. The report uses the data from the transactions included in the selected application.

Name	Availability			Performance			Volume
	(%)	During Period	Locations	(%)	During Period	Locations	
data_upgrade_profile	79.98%			75.02%			6,788
tx_5	100.00%			100.00%			1,358
tx_15	99.92%			0.00%			1,357
failed	0.00%			0.00%			1,357
ok	100.00%			100.00%			1,358
tx_10	99.92%			100.00%			1,357

User interface elements are described below (unlabeled elements are shown in angle brackets>):

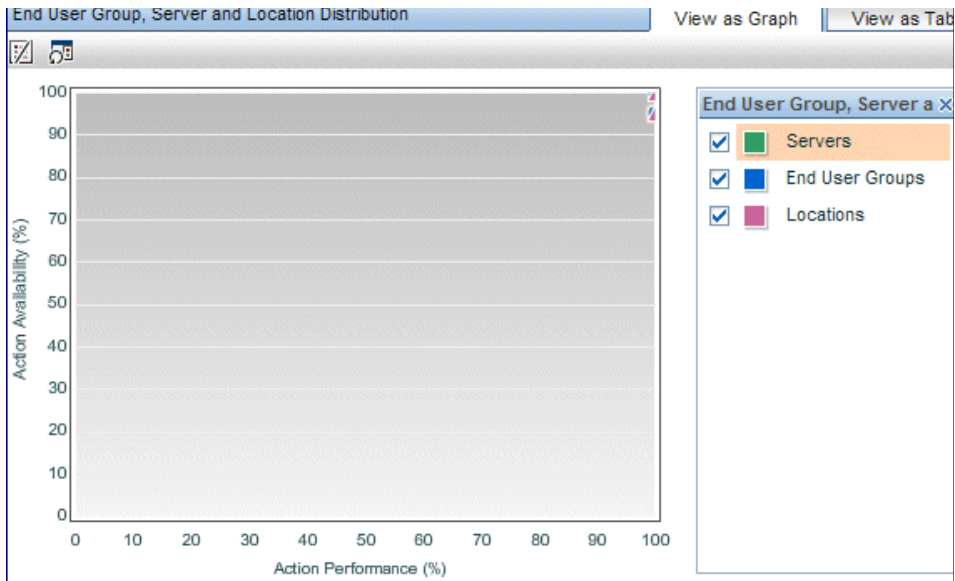
UI Elements	Description
Drilldowns	
	"BPM Error Summary Report" on page 803 (for synthetic user data only).
	"RUM Event Summary Report" on page 892 (for real user data for http applications only).
	"RUM Transaction Summary Report" on page 911 (for real user data only).
	"Performance Analysis Report" on page 829.
	"Location Summary Report" on page 729.
Report Columns	
Name	A tree of the selected application's business transaction flows. Expand a business transaction flow to display its included transactions.
Volume	The total number of transaction hits. Note. For parent business transaction flows, the volume is the total of all its included transactions.

UI Elements	Description
Availability	
%	<p>The percentage of available transaction runs out of all the transaction runs for the transaction in the business transaction flow, for the entire report time period.</p> <p>Note: This column is colored according to the status of the transaction availability threshold configured in End User Management Administration.</p>
During Period	<p>Each cell represents the default time unit into which the report is broken down and is colored according to the availability status for that time. For concept details on how the statuses are calculated and colored, see "Status Aggregation Rules Overview" on page 625.</p> <p>Note: Right-click a time unit cell to display a Shortcut menu and click Drill down to Application Health to regenerate the report with a higher time resolution. For example, if you click a cell that displays data for a two-hour time period, the time resolution changes to single hours for the specific two-hour period.</p>
Locations	<p>This cell is a horizontal, stacked bar that shows the availability status of the locations for the application. The proportion of good locations from the total number of locations is colored green, and the proportion of bad locations is colored red. Good locations are those with a status of OK and minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ➤ When you view the report as a table, the Locations column displays the percentage of locations with good availability. ➤ Right-click a cell value in this column to open a Shortcut menu and click Drill down to Location Summary to drill down to the Location Summary report. For user interface details, see "Location Summary Report" on page 729.


UI Elements	Description
Performance	
Response Time (sec)	<p>The average response time of transaction runs for the entire report time period.</p> <p>Note: This column is colored according to the status of the transaction response time threshold configured in End User Management Administration.</p>
During Period	<p>Each cell represents the default time unit into which the report is broken down and is colored according to the performance status for that time. For concept details on how the statuses are calculated and colored, see "Status Aggregation Rules Overview" on page 625.</p> <p>Note: Right-click a time unit cell to display a Shortcut menu and click Drill down to Application Health to regenerate the report with a higher time resolution. For example, if you click a cell that displays data for a two-hour time period, the time resolution changes to single hours for the specific two-hour period.</p>
Locations	<p>This cell is a horizontal, stacked bar that shows the availability status of the locations for the application. The proportion of good locations from the total number of locations is colored green, and the proportion of bad locations is colored red. Good locations are those with a status of OK and minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ➤ When you view the report as a table, the Locations column displays the percentage of locations with good availability. ➤ Right-click a cell value in this column to open a Shortcut menu and click Drill down to Location Summary to drill down to the Location Summary report. For user interface details, see "Location Summary Report" on page 729.



End User Group, Server, and Location Distribution

This graph displays the performance and availability of the servers, end-user groups, and locations for the selected application.



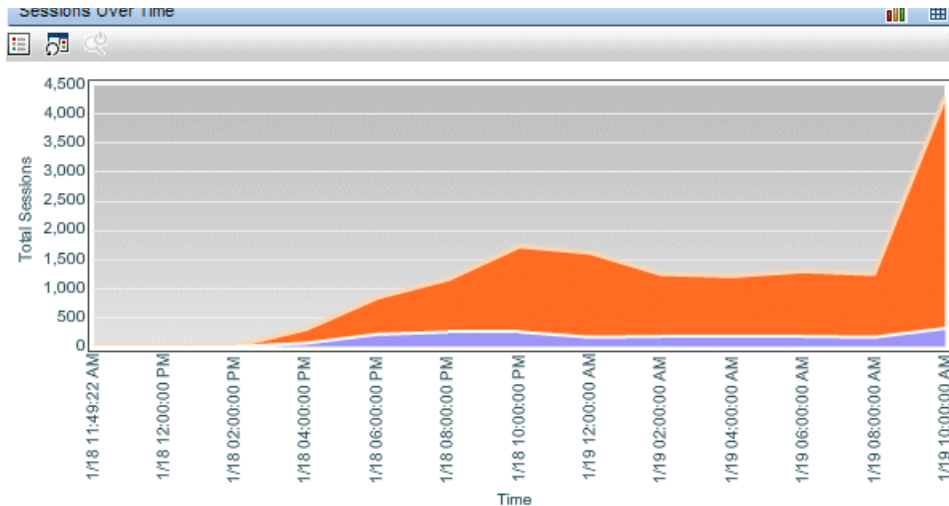
User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns -Table View	
	"RUM Application Infrastructure Summary Report" on page 851 (for servers). Graph view: Right-click a data point and click Drill down to RUM Application Infrastructure Summary from the Shortcut menu.

UI Elements	Description
	<p>"RUM End User Group Summary Report" on page 882 (for Real User Monitor end-user groups).</p> <p>Graph view: Right-click a data point and click Drill down to RUM End User Group Summary from the Shortcut menu.</p>
	<p>"Location Summary Report" on page 729 (for locations).</p> <p>Graph view: Right-click a data point and click Drill down to Location Summary from the Shortcut menu.</p>
Graph Elements	
<X-axis>	<p>Performance (%).</p> <p>The percentage of transaction hits (for synthetic user data), action hits (for real user data), or requests (for real user TCP request-response type application data) with a status of OK or minor, from the total number of available hits.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>
<Y-axis>	<p>Availability (%). The percentage of available transaction hits (for synthetic user data), action hits (for real user data), or connections (for real user TCP request-response type application data) from the total number of hits or connections.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>

Sessions/Connections Over Time


This graph displays the average number of sessions or connections for the application (according to the selected application type) for the selected time period and out of those, the percentage of sessions or connections with availability or performance problems.



The following table describes what is shown in the graph, according to the different application and data types:

Data Type	Application Type	Measurements
Synthetic user	N/A	N/A
Real user	http	Sessions
	TCP request-response	Connections
	TCP streaming	Connections

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
Drilldowns -Table View	
	"RUM Session Analyzer Report" on page 896 Graph view: Right-click an area's border and click Drill down to RUM Session Analyzer from the Shortcut menu.
Graph Elements	
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	Total Sessions/Connections. The average number of sessions/connections for the selected application and of those, the percentage of sessions that experienced availability or performance problems, or the percentage of unsuccessful connections. The numbers are denoted by colored areas.

Alerts Count Over Time

This graph displays, for the selected application, the number of alerts that occurred over the specified time range, organized by time and severity.

Important information	<ul style="list-style-type: none"> ➤ For data to be displayed, alerts must be configured for the application. For task details, see "How to Create EUM Alert Schemes" on page 482. ➤ For user interface details of the Alerts Over Time graph, see "Alerts Count Over Time Report" on page 1018. <p>Note: The drilldown capabilities described in the Alerts Count Over Time report are not available in the Alerts Count Over Time component of the Application Health report.</p>
------------------------------	--

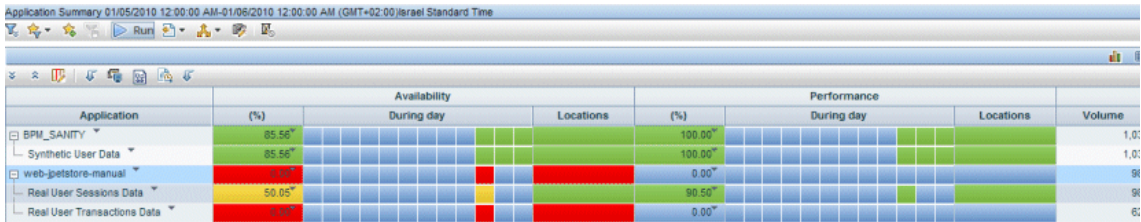
Alerts Count Summary

This graph displays, for the selected application, a summary of the number of alerts that occurred over the specified time range, organized by severity.

Important information	<ul style="list-style-type: none">▶ For data to be displayed, alerts must be configured for the application. For task details, see "How to Create EUM Alert Schemes" on page 482.▶ For user interface details of the Alerts Summary graph, see "Alerts Count Summary Report" on page 1021. <p>Note: The drilldown capabilities described in the Alerts Count Summary report are not available in the Alerts Count Summary component of the Application Health report.</p>
------------------------------	---

Application Summary Report



This report displays the overall status of your applications by availability and performance, and also by location, over a period of time. The report uses the data from the transactions included in the selected applications, as well as real user session and connection data. The Application Summary report provides a snapshot of those applications with performance and availability problems and enables you to drill down to other reports to display additional data to help pinpoint the problems.



Application	Availability (%)	Availability				Performance				Volume
		During day				During day				
		Locations			Locations					
BPM_SANITY	85.56%									1,0
Synthetic User Data	85.56%									1,0
web-jetstore-manual	0.00%									9
Real User Sessions Data	50.05%									9
Real User Transactions Data	0.00%									6

To access







Use one of the following:

- ▶ Select **Applications > End User Management > Status Reports > Application Summary**
- ▶ In the **Location Summary** report > **Details** tab > **Summary** table, select a row and click the **Drill down to Application Summary**  button.
- ▶ In the **Status Snapshot > Least Available Applications** component:
 - ▶ **Table view:** Select a row and click the **Drill down to Application Summary**  button.
 - ▶ **Graph view:** Right-click a bar and select **Drill down to Application Summary** from the Shortcut menu.

Data type	<ul style="list-style-type: none"> ➤ Synthetic user data ➤ Real user data ➤ Both
Report settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. Note: You cannot select the time granularity for this report. Default time units are used for the time period you configure for the report. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689.

Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns	
	"Application Health Report" on page 697
	"Location Summary Report" on page 729
	"RUM Tier Summary Report" on page 902 (enabled for real user data only)
	"RUM Transaction Summary Report" on page 911 (enabled for real user transaction data only)
	"RUM Application Infrastructure Summary Report" on page 851 (enabled for real user data only)
	"RUM Session Summary Report" on page 899 (enabled for real user data only)

UI Elements	Description
Report Columns	
Application	<p>A tree of the selected applications. Expand an application to display its included data sources, which can be:</p> <ul style="list-style-type: none"> ➤ Synthetic user data ➤ Real user session data ➤ Real user transaction data <p>Note:</p> <ul style="list-style-type: none"> ➤ Real user session data is not affected by the transaction active filter and all relevant session data is included, even though other data in the report may be filtered for specific transactions. ➤ If you include synthetic user data only, you cannot expand the applications as by default, synthetic user data is the only data source available. ➤ In the table view, there is no summary row for an application and each data source for an application is a separate row in the table, with columns indicating the application name and the data source. ➤ In the graph view, click the triangle in a cell and then click Drill to Application Health, to drill down to the Application Health report for the specific application. For user interface details, see "Application Health Report" on page 697.
Volume	<p>Volume. The total number of transactions or sessions (according to the data type).</p> <p>Note. In an application summary row, the volume is the same as the included data type with the highest volume.</p>

UI Elements	Description
Availability	
%	<p>The percentage of available transaction runs, connections, or sessions out of all the transaction runs, connections, or sessions for the application, for the entire report time period.</p> <p>Note:</p> <ul style="list-style-type: none"> ➤ This column is colored according to the availability status for the selected time period. ➤ In the graph view, click the triangle in a cell and then click Drill down to Application Health, to drill down to the Application Health report for the specific application. For user interface details, see "Application Health Report" on page 697.
During <time period>	<p>Each cell represents the default time unit into which the report is broken down and is colored according to the availability status for that time. For concept details on how the statuses are calculated and colored, see "Status Aggregation Rules Overview" on page 625.</p> <p>Note: Click a time unit cell to drill down to a higher time resolution for a specific application. For example, if you click a cell that displays data for a two-hour time period in the row for the myapp application, the time resolution changes to single hours for the specific two-hour period and only data for the myapp application is displayed.</p>

UI Elements	Description
Locations	<p>This cell is a horizontal, stacked bar that shows the availability status of the locations for the application. The proportion of good locations from the total number of locations is colored green, and the proportion of bad locations is colored red. Good locations are those with a status of OK and minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ When you view the report as a table, the Locations column displays the percentage of locations with good availability. ▶ Right-click a cell value in this column to open a Shortcut menu and click Location Summary to drill down to the Location Summary report. For user interface details, see "Location Summary Report" on page 729.
Performance	
%	<p>The percentage of transaction runs, connections, or sessions whose response time was within their configured thresholds, out of all the available transaction runs, connections, or sessions for the application, for the entire report time period.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This column is colored according to the performance status for the selected time period. ▶ In the graph view, click the triangle in a cell and then click Drill to Application Health, to drill down to the Application Health report for the specific application. For user interface details, see "Application Health Report" on page 697.

UI Elements	Description
<p>During <time period></p>	<p>Each cell represents the default time unit into which the report is broken down and is colored according to the performance status for that time. For concept details on how the statuses are calculated and colored, see "Status Aggregation Rules Overview" on page 625.</p> <p>Note: Click a time unit cell to drill down to a higher time resolution for a specific application. For example, if you click a cell that displays data for a two-hour time period in the row for the myapp application, the time resolution changes to single hours for the specific two-hour period and only data for the myapp application is displayed.</p>
<p>Locations</p>	<p>This cell is a horizontal, stacked bar that shows the performance status of the locations for the application. The proportion of good locations from the total number of locations is colored green, and the proportion of bad locations is colored red. Good locations are those with a status of OK and minor.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ When you view the report as a table, the Locations column displays the percentage of locations with good performance. ▶ Right-click a cell value in this column to open a Shortcut menu and click Location Summary to drill down to the Location Summary report. For user interface details, see "Location Summary Report" on page 729.

BPM Performance Over Time Report

The BPM Performance Over Time report displays a matrix of the distribution of average transaction response times—organized by transaction or location—over a specified period of time. Additional components display different aspects of a selected transaction or of the transactions for a selected location. The report gives you the ability to investigate in more detail, transaction hits for selected transactions or locations.

If you group the report by location and select one location from the Performance Matrix component, you can view transaction performance for the selected location from different angles. If you group the report by transaction, and select one transaction from the Performance Matrix component, you can view the performance of the transactions from all locations, or from a specific location. By using the active filter to filter the report by BPM custom attributes, you can gain flexibility when investigating specific transactions' performance by using a common denominator other than location.

To access	Select Applications > End User Management > Status Reports > BPM Performance Over Time
------------------	--

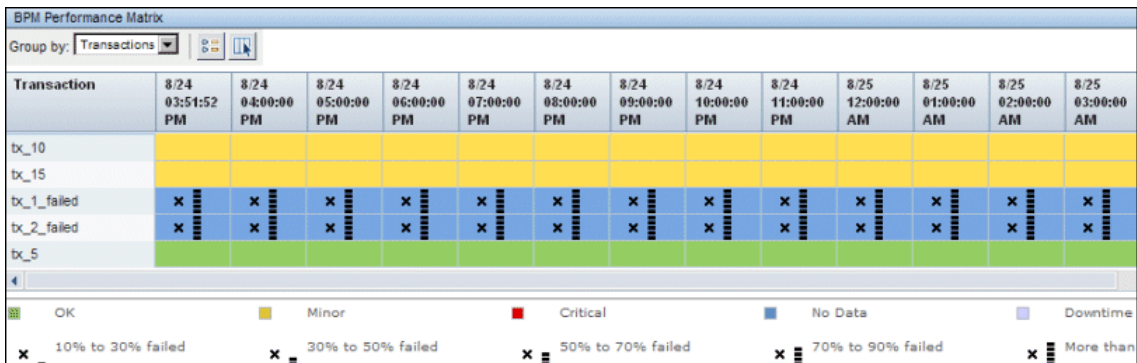
<p>Important information</p>	<p>All the components in this report (except the Performance Matrix component) display data for the transaction or location you select in the Performance Matrix component. When you generate the report, the first row in the Performance Matrix component is selected by default.</p> <p>When data for a transaction is displayed, the data is based on all the hits of the selected transaction, in all locations. When data for a location is displayed, the data is based on all the hits of all transactions, in the selected location.</p>
<p>Data type</p>	<p>Synthetic user data</p>
<p>Report settings</p>	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

Performance Matrix

The Performance Matrix component displays a distribution of average transaction response times—organized by transaction or location—over a specified period of time.

This component helps you pinpoint and characterize specific problem areas related to average transaction response time and transaction availability. By breaking down the table by transaction or location across different time frames, you can identify where and when average transaction response times are too slow and/or when there are too many failed transactions. For example, you may determine that response times of transactions running from a particular location are consistently in the poor range. This could indicate a problem with the network connections in that location.

The report's color-coded cells enable you to analyze average transaction response times at a glance and get a quick snapshot of overall transaction health. For example, if most of the cells in the report are green, then average response times are generally OK. If most of the cells are red, then average response times are generally critical.



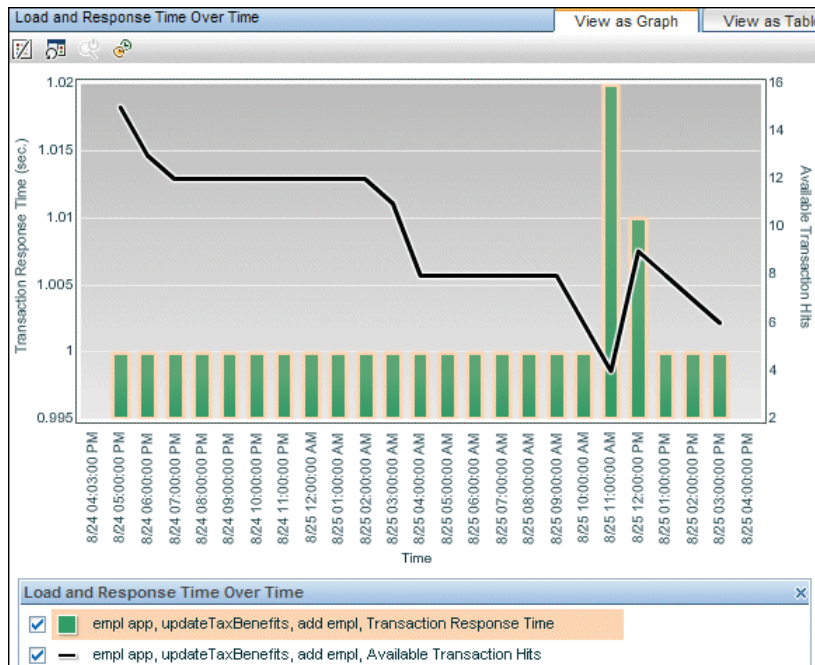
User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
Component Settings	
Group by	Select whether to display the data grouped by transaction or location. Default value: Transaction
Report Columns (A-Z)	
<Time units>	Each column represents a time division unit for the time range that you defined when generating the report.
Application	The application in which the transaction is included. Note: <ul style="list-style-type: none"> ➤ This column is displayed only when the report is generated for more than one application. Otherwise, it is hidden. ➤ This column is applicable only when you group the data by transaction.
Business Transaction Flow	The business transaction flow in which the transaction is included. Note: <ul style="list-style-type: none"> ➤ This column is hidden by default. ➤ This column is applicable only when you group the data by transaction.
Location	The location name. Note: This column is applicable only when you group the data by location.
Transaction	The transaction name. Note: This column is applicable only when you group the data by transaction.

UI Elements	Description
Report Rows	
<Rows>	There is a row for each transaction or location, depending on the way you choose to view the data. Click a transaction or location name to display data for that transaction or location only.
Data Cells	
<Data cells>	<p>The report's color-coding corresponds to that of the transaction threshold settings—green for OK, yellow for minor, red for critical, and blue for no data.</p> <p>When one or more transactions fail or exceed their outlier value within the tracking period represented by one cell in the table, a black X is displayed in the cell. In addition to the black X, 1 to 5 horizontal bars are used to signify transaction failure or outlier values. For details on the transaction failure and outlier values used in the report, see "Transaction Failures and Outlier Values" on page 725.</p> <p>HP Business Service Management classifies transactions as outliers if they do not complete within a specified time range. For details on setting transaction thresholds and outlier values in End User Management Administration, see "Set Transaction Thresholds Page" on page 165.</p> <p>Tooltip: Hold the cursor over a cell to display a tooltip with additional information relevant to the data.</p> <p>Note: Click a cell that contains data to regenerate the report for a specific transaction or location and with a higher time resolution. For example, if you click a cell that displays data for a two-hour time period, the time resolution changes to single hours for the specific two-hour period. The highest time resolution you can display is for a five minutes, with each cell showing data for a single minute.</p>

Load and Response Time Over Time

This component displays the average transaction response time and the number of available transaction hits over time, for the transaction or location selected in the Performance Matrix component. Since not all transactions have complete breakdown data (for example, when the report is grouped by transaction the breakdown may not show response times, or when grouped by location only partial breakdown data (aggregated data for transactions that have breakdown times) may be displayed), the data in this component helps complement the data in the Performance Matrix component.



User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis left>	<p>Transaction Response Time (sec). The average response time, in seconds, for all the transaction runs of the selected transaction, or in the selected location.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p> <p>Note: The transaction response times are denoted by graph bars.</p>
<Y-axis right>	<p>Available Transaction Hits. The number of available transaction hits for the selected transaction or location.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p> <p>Note: The total number of available hits are denoted by connected data points.</p>

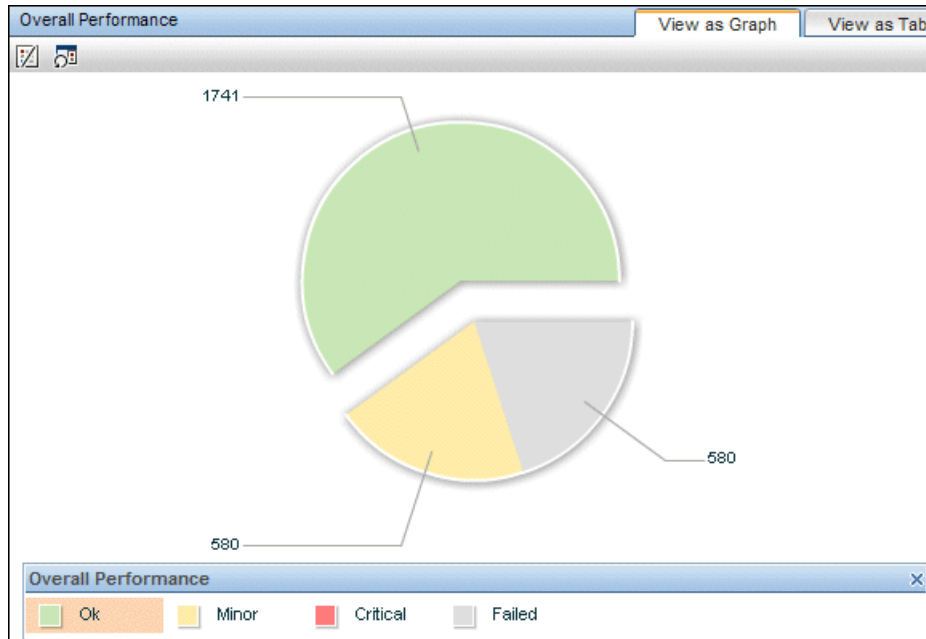
Load and Response Time Breakdown Over Time

This component displays the average transaction response time broken down by category and the number of transaction hits over time, for the transaction or location selected in the Performance Matrix component.

For user interface details, see "Transaction Breakdown" on page 972.

Overall Performance

This component displays the number of transaction hits broken down by transaction status (OK, minor, critical, or failed), for the transaction or location selected in the Performance Matrix component.



User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<Pie chart slices>	Each pie chart slice represents a different transaction status (OK, minor, critical, or failed) and the number of transactions with this status during the report's time period is indicated.

Errors Vs. Availability Over Time

This component displays the transaction availability and the number of errors over time, for the transaction or location selected in the Performance Matrix component.

For user interface details, see "Errors Vs. Availability Over Time" on page 805.

Error Log

This component displays a detailed log of the errors that occurred for the transaction or location selected in the Performance Matrix component, over the report's time period.

For user interface details, see "Error Log" on page 812.

Transaction Failures and Outlier Values

The following table lists the icons used to denote transaction failure and outlier values in the Performance Matrix report.


Icon	Description
x	Less than 10% of the transactions failed or exceeded the outlier value.
x -	Between 10% to 30% of the transactions failed or exceeded the outlier value.
x =	Between 30% to 50% of the transactions failed or exceeded the outlier value.
x ≡	Between 50% to 70% of the transactions failed or exceeded the outlier value.
x ≡≡	Between 70% to 90% of the transactions failed or exceeded the outlier value.
x ≡≡≡	Over 90% of the transactions failed or exceeded the outlier value.

You use the black Xs and horizontal bars to analyze the frequency of failed and outlier transactions. For example, if many of the cells display black Xs, transactions are consistently failing or exceeding their outlier value over time. If black Xs appear only at certain times, but with 5 horizontal bars (over 90 percent failure rate), there may be a problem with server availability during specific time periods.

BPM Performance Status Report

This report displays a high level overview of application performance status, by listing the performance status of the transactions that are configured for the application. You can view the data by application, transaction, or location, enabling you to identify problematic transactions or locations that need further investigation. The report displays the percentage of transaction runs for each threshold status, as well as the percentage of failed runs and, if configured, the percentage of outliers. The report also displays transaction average response time.


BPM Performance Status										
Group by: Application										
Application	Response Time (sec.)			OK (%)	Minor (%)	Critical (%)	Failed (%)	Outlier (%)	Total Runs	
	Average	Minimum	Maximum							
aviadi_bpm_app	8.36	0.00	23.54	42.53	28.61	28.59	0.24	0.03	12,976	
	8.36	0.00	23.54	42.53	28.61	28.59	0.24	0.03	12,976	

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Applications > End User Management > Status Reports > BPM Performance Status ▶ In the Performance Analysis report, select a transaction or location and click the Drill down to BPM Performance Status  button.
Data type	Synthetic user data

See also	"Set Transaction Thresholds Page" on page 165
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689. ▶ Group by. Select whether to display the data by application, or grouped by transaction or location. Default value: Application

Report Content





User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns	
	"Performance Raw Data Report" on page 836
Report Columns (A-Z)	
Hold the cursor over a cell to display a tooltip with additional information relevant to the data.	
Application	The application name. Note: This column is displayed only when you group the report by application or transaction.
Average Response Time (sec)	The average transaction response time, in seconds.
Business Transaction Flow	The name of the business transaction flow that includes the transaction. Note: This column is applicable only when you view the data grouped by transaction, and it is hidden by default.
Critical (%)	The percentage of transaction runs whose status was critical.

UI Elements	Description
Failed (%)	The percentage of transaction runs that failed.
Maximum Response Time (sec)	The maximum transaction response time, in seconds.
Minimum Response Time (sec)	The minimum transaction response time, in seconds.
Minor (%)	The percentage of transaction runs whose status was minor.
OK (%)	The percentage of transaction runs whose status was OK.
Outlier (%)	<p>The percentage of transaction runs that were outliers. Outliers are transactions whose response time exceeds a defined time range.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ You can specify whether outlier transactions are treated as failed transactions or ignored completely in reports. For user interface details, see "Default Transaction Settings Page" on page 150. If you configure outlier transactions to be ignored, a minus sign (-) is displayed in this column, but a tooltip displays the number of transaction runs that were outliers. ▶ Outlier transactions are not included in the number of total runs displayed in the report.
Total Runs	The total number of transaction runs.

Location Summary Report

This report displays the performance and availability status of applications by end-user location, enabling you to see at a glance if any locations are problematic.

<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ➤ Select Applications > End User Management > Status Reports > Location Summary ➤ In the Application Summary report, select an application and click the Drill down to Location Summary  button. ➤ In the Application Health report: <ul style="list-style-type: none"> ➤ In the Business Summary component, select a transaction and click the Drill down to Location Summary  button. ➤ In the Location Distribution table, select a location and click the Drill down to Location Summary  button. ➤ In the Location Distribution graph, right-click a location data point and select Drill down to Location Summary from the Shortcut menu. ➤ In the Status Snapshot report: <ul style="list-style-type: none"> ➤ In the Least Available Locations table, select a location and click the Drill down to Location Summary  button. ➤ In the Least Available Locations graph, right-click a bar and select Drill down to Location Summary from the Shortcut menu.
<p>Data type</p>	<ul style="list-style-type: none"> ➤ Synthetic user data ➤ Real user data ➤ Both



<p>See also</p>	<p>"Location Manager" in <i>Platform Administration</i>.</p>
<p>Report settings</p>	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689. ➤ Show status according to. Select a radio button to configure whether the status of the icons (denoted by different colors) displayed in the geographical map is calculated based on performance, availability, or both. Note: The status of the icons is determined by the worst included status.

Details Tab - Summary Table

The summary table displays key performance and availability data by location.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ Locations are displayed in a hierarchical tree and each parent location displays the aggregated data of its children. If a parent location is itself directly monitored (for example, if you configure a Business Process Monitor for that location, or if Real User Monitor resolves an IP address to that location), the displayed data will be greater than the total of its children's data as it also includes the parent location's own data. <ul style="list-style-type: none"> Example: The location USA has three children—New York, California, and Washington. For each of the children one transaction was monitored for a selected application. In addition, two transactions were monitored for the application in the location USA. One transaction is displayed for each of the children, but the total displayed for the location USA is five. The breakdown is included in the performance and availability tooltips. ▶ The actual columns displayed in the Summary table depend on the report options you select. ▶ From the Summary table, you can drill down to various reports for more detailed information to investigate specific problems. ▶ The Availability, Performance, and Latency columns are color-coded, based on their relevant thresholds configured in End User Management Administration. For concept details, see "Status Aggregation Rules Overview" on page 625.
-------------------------------------	--

User interface elements are described below:

UI Elements	Description
Drilldowns	
	"Application Summary Report" on page 711
	"Performance Analysis Report" on page 829 (for synthetic user data only).
Report Columns	
Geographical Coordinates	<p>A check mark denotes that geographical coordinates have been configured for the location in the Location Manager. For details, see "Location Manager" in <i>Platform Administration</i>.</p> <p>Note: This column is hidden by default.</p>
Location	A hierarchical tree of the selected locations.
Synthetic User Transactions	
Availability (%)	The percentage of transaction runs for all the transactions included in the selected Business Process Monitor applications in each location, for which there were no availability problems.
Critical (%)	<p>The percentage of transaction runs with Critical status, out of all the transaction runs of the transactions included in the selected Business Process Monitor applications in each location.</p> <p>Note: This column is hidden by default, when real user data is also included in the report</p>
Minor (%)	<p>The percentage of transaction runs with Minor status, out of all the transaction runs of the transactions included in the selected Business Process Monitor applications in each location.</p> <p>Note: This column is hidden by default, when real user data is also included in the report.</p>

UI Elements	Description
OK (%)	<p>The percentage of transaction runs with OK status, out of all the transaction runs of the transactions included in the selected Business Process Monitor applications in each location.</p> <p>Note: This column is hidden by default, when real user data is also included in the report.</p>
Performance (%)	<p>The percentage of transaction runs with a status less than Critical, out of all the transactions included in the selected Business Process Monitor applications in each location.</p>
Volume	<p>The total number of runs of all the transactions included in the selected Business Process Monitor applications in each location.</p>
Real User Transactions	
Availability (%)	<p>The percentage of transaction runs for all the transactions included in the selected Real User Monitor applications in each location, for which there were no availability problems.</p>
Performance (%)	<p>The percentage of transaction runs with a status less than Critical, out of all the transactions included in the selected Real User Monitor applications in each location.</p>
Volume	<p>The total number of hits of all the transactions included in the selected Real User Monitor applications in each location.</p>
<p>Real User Sessions</p> <p>Note: Session data is not displayed when synthetic user data is included in the report.</p>	



UI Elements	Description
<p>Availability (%)</p>	<p>The average percentage of sessions for the selected Real User Monitor applications in each location, for which there were no availability problems (that is, none of the actions included in the session had availability problems).</p> <p>The availability is calculated for each session for each sample (that is, for each five minute period) so a session can be counted any number of times depending on how long it is open during the report time period.</p> <p>Example: If you generate the report for a one hour time period and a specific session is open during that entire hour, the session availability is calculated for twelve sessions (one for each five minute sample of the specific session) and the availability percentage is the average of the twelve availability calculations.</p>
<p>Performance (%)</p>	<p>The average percentage of sessions for the selected Real User Monitor applications in each location, for which there were no performance problems (that is, none of the actions included in the session had performance problems).</p> <p>The performance is calculated for each session for each sample (that is, for each five minute period) so a session can be counted any number of times depending on how long it is open during the report time period.</p> <p>Example: If you generate the report for a one hour time period and a specific session is open during that entire hour, the session performance is calculated for twelve sessions (one for each five minute sample of the specific session) and the performance percentage is the average of the twelve performance calculations.</p>
<p>Volume</p>	<p>The total number of open sessions for the selected Real User Monitor applications in each location during the report time period.</p>

Details Tab - Transaction Threshold Breaches

This component displays details of transactions included in the selected applications that breached their total time threshold defined in End User Management Administration, for the locations selected in the Summary table.

Important information	Data for a parent location does not include data from its children and is only the data relating directly to the parent location.
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):



UI Elements (A-Z)	Description
Drilldowns -Table View	
	"Performance Analysis Report" on page 829 (for synthetic user data only). Graph view: Right-click a pie chart slice and select Drill down to Performance Analysis in the Shortcut menu.
	"RUM Event Summary Report" on page 892 (for real user data only). Graph view: Right-click a pie chart slice and select Drill down to RUM Event Summary in the Shortcut menu.
Pie Chart	
<Pie chart slices>	Color-coded slices represent the different locations at which the threshold breaches occurred. A legend describes the color coding used in the chart. Tooltip: Hold the cursor over a slice of the pie chart to display a tooltip with additional information relevant to that slice. Note: Up to 10 different slices can be displayed per chart. If there are more than 10 locations to be displayed, the ones with the least number of threshold breaches are grouped together in a slice called others .

Details Tab - Transactions with Errors

This component displays details of the selected applications' transactions that had errors, for the locations selected in the Summary table.

Important information	Data for a parent location does not include data from its children and is only the data relating directly to the parent location.
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
Drilldowns -Table View	
	"BPM Error Summary Report" on page 803 (for synthetic user data only). Graph view: Right-click a pie chart slice and select Drill down to BPM Error Summary in the Shortcut menu.
	"RUM Event Summary Report" on page 892 (for real user data only). Graph view: Right-click a pie chart slice and select Drill down to RUM Event Summary in the Shortcut menu.
Pie Chart	
<Pie chart slices>	Color-coded slices represent the different locations in which transactions with errors occurred. A legend describes the color coding used in the chart. Tooltip: Hold the cursor over a slice of the pie chart to display a tooltip with additional information relevant to that slice. Note: Up to 10 different slices can be displayed per chart. If there are more than 10 locations to be displayed, the ones with the least number of failures are grouped together in a slice called others .










Geographical Map Tab

This tab displays a geographical map showing the high level status of the selected applications at the selected locations. The color-coded icons provide quick visual feedback on the monitored locations. For details on working with and navigating the geographical map, see "Geographical Map Component User Interface" in *Using Service Health*.



<p>Important information</p>	<ul style="list-style-type: none"> ➤ The geographical map is not automatically refreshed periodically and the Last update label and data (that is included in the geographical map in Service Health) is not displayed. ➤ Only locations configured with geographical coordinates are displayed on the map.
-------------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<p><Location status icons></p>	<p>For each selected location, an icon that shows the type of application it represents, as well as the status of the application at the location, is displayed. The icons are:</p> <ul style="list-style-type: none"> ➤  OK Business Process Monitor application ➤  OK Real User Monitor application ➤  OK Both ➤  Minor Business Process Monitor application ➤  Minor Real User Monitor application ➤  Minor Both ➤  Critical Business Process Monitor application ➤  Critical Real User Monitor application ➤  Critical Both <p>Tooltip: Place your cursor over an icon to display a tooltip that includes (according to the report options you select):</p> <ul style="list-style-type: none"> ➤ The location name ➤ Synthetic user data performance status ➤ Synthetic user data availability status ➤ Real user data performance status ➤ Real user data availability status <p>Note:</p> <ul style="list-style-type: none"> ➤ If more than one monitor of the same type (Business Process Monitor or Real User Monitor) is displayed for a location (that is, if a number of monitors have the same geographical data), the performance and availability status displayed is that of the worst monitor included. ➤ If a number of locations share the same geographical data, the tooltip includes a section with the relevant data for each separate location.

RUM Global Statistics Report

This report displays general action, end-user, location, and broken link data that is not related to the specific actions, end-users, and locations that you define for Real User Monitor in End User Management Administration. For details on configuring monitoring settings for RUM Global Statistics report data, see "Statistics Collection Area" on page 344.

To access	Select Applications > End User Management > Status Reports > RUM Global Statistics
Important information	<ul style="list-style-type: none"> ▶ The data displayed in the components is based on all data collected from the selected applications, and not on the specific actions, end-user groups, and locations configured for them. The data is collected according to the statistics collection settings defined for the applications in End User Management Administration. ▶ The Broken Links component is viewable only as a table. ▶ By default, a maximum of ten items (actions, end user subgroups, or locations) are displayed in each component of the report. To modify the maximum number of items displayed, select Admin > Platform > Setup and Maintenance > Infrastructure Settings: <ul style="list-style-type: none"> ▶ Select Applications. ▶ Select End User/System Availability Management. ▶ In the End User/System Availability Management - Data table, locate the Maximum number of items displayed in Global Statistics components setting. Change the value to the number you want. ▶ End-user subgroup components display data for front-end tiers only, and are not affected by tier filtering.
Data type	Real user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

Most Active End User Subgroups

This component displays data for the most active end-user subgroups—that is, the end-user subgroups with the highest number of action hits or bandwidth, depending on the configuration you made for the application in End User Management Administration.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ In calculating the most active end-user subgroups, Real User Monitor takes into account which end-user subgroups were most active during each one-hour interval and the number of intervals for which the end-user subgroups were most active. ▶ If you select multiple applications of which some are configured to measure end-user activity by action hits and others by bandwidth, the most active end-user subgroups are displayed based on action hits. ▶ By default, this component is displayed as a graph.
-------------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	<p>End User Subgroup. The names and IP addresses of the most active end-user subgroups.</p>
<Y-axis>	<p>Action Hits. The total number of action hits generated by each end-user subgroup for the entire amount of time that it was most active. Bars indicate the total number of hits for each end-user subgroup.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Slowest End User Subgroups

This component displays data for the end-user subgroups that experienced the highest average network latency.

Important information	<ul style="list-style-type: none"> ▶ In calculating the slowest end-user subgroups, Real User Monitor takes into account which end-user subgroups were slowest during each five-minute interval and the number of intervals for which the end-user subgroups were slowest. ▶ By default, this component is displayed as a graph.
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	End User Subgroup. The names and IP addresses of the slowest end-user subgroups.
<Y-axis>	<p>Latency (ms). The average network latency, in milliseconds, for each end-user subgroup. Bars indicate the latency for each end-user subgroup.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Most Active Locations

This component displays data for the most active locations—that is, the locations with the highest number of action hits or bandwidth, depending on the configuration you made for the application in End User Management Administration.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ In calculating the most active locations, Real User Monitor takes into account which locations were most active during each one-hour interval and the number of intervals for which the locations were most active. ▶ If you select multiple applications of which some are configured to measure location activity by action hits and others by bandwidth, the most active locations are displayed based on action hits. ▶ By default, this component is displayed as a graph.
-------------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Location. The names of the most active locations.
<Y-axis>	<p>Action Hits. The total number of action hits generated by each location for the entire amount of time that it was most active. Bars indicate the total number of hits for each location.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Slowest Locations

This component displays data for the locations that experienced the highest average network latency.

Important information	<ul style="list-style-type: none"> ▶ In calculating the slowest locations, Real User Monitor takes into account which locations were slowest during each five-minute interval and the number of intervals for which the locations were slowest. ▶ By default, this component is displayed as a graph.
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):


UI Elements	Description
<X-axis>	Location. The names of the slowest locations.
<Y-axis>	<p>Latency (ms). The average network latency, in milliseconds, for each location. Bars indicate the latency for each location.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Most Popular Actions

This component displays data for the actions that received the highest number of hits.

Important information	<ul style="list-style-type: none"> ▶ In calculating the most popular actions, Real User Monitor takes into account which actions were most popular during each one-hour interval and the number of intervals for which the actions were most popular. ▶ By default, this component is displayed as a table.
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):


UI Elements	Description
	<p>Define Action. In the table view, click to open the Real User Monitor Application <Actions> page in a new window, where you can add and define a new action for an application. When you access the New Action dialog box from the Real User Monitor Application <Actions> page, the selected action's description or URL is automatically entered in the dialog box. For user interface details, see "<Action> Dialog Box" on page 278.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The Define Action button is only available in the table view. ▶ The Define Action button is enabled only for selected actions that are not yet defined in End User Management Administration.
<X-axis>	<p>Action. The descriptions or URLs of the most popular actions.</p>
<Y-axis>	<p>Action Hits. The total number of requests that each action received for the entire amount of time that it was most popular. Bars indicate the total number of hits for each action.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Actions with Slowest Server Times

This component displays data for the actions with the slowest server time, from those actions whose average server time is greater than the server time threshold you configured for the action in End User Management Administration.

Important information	<ul style="list-style-type: none">▶ In calculating the actions with the slowest server time, Real User Monitor takes into account which actions had the slowest server time during each five-minute interval, and the number of intervals for which the actions were slowest.▶ It is possible that an action included in the Actions with Slowest Server Time component has a number of hits that would seem to qualify it for inclusion in the Most Popular Actions table, but it is not included. This is due to the different aggregation schedule between the Slowest Actions (aggregated every five minutes) and the Most Popular Actions (aggregated every hour).▶ By default, this component is displayed as a table.
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):


UI Elements	Description
	<p>Define Action. In the table view, click to open the Real User Monitor Application <Actions> page in a new window, where you can add and define a new action for an application. When you access the New Action dialog box from the Real User Monitor Application <Actions> page, the selected action's description or URL is automatically entered in the dialog box. For user interface details, see "<Action> Dialog Box" on page 278.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The Define Action button is only available in the table view. ▶ The Define Action button is enabled only for selected actions that are not yet defined in End User Management Administration.
<X-axis>	<p>Action. The descriptions or URLs of the most popular actions.</p>
<Y-axis>	<p>Server Time (sec). The average amount of time, in seconds, that it took the server to process the requests for each action. Bars indicate the server time for each action.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Actions with Most Errors

This component displays data for the actions on which the most errors occurred.

<p>Important information</p>	<ul style="list-style-type: none"> ▶ In calculating the actions with most errors, Real User Monitor takes into account which actions had the most errors during each five-minute interval and the number of intervals for which the actions had most errors. ▶ By default, this component is displayed as a table.
-------------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
	<p>Define Action. In the table view, click to open the Real User Monitor Application <Actions> page in a new window, where you can add and define a new action for an application. When you access the New Action dialog box from the Real User Monitor Application <Actions> page, the selected action's description or URL is automatically entered in the dialog box. For user interface details, see "<Action> Dialog Box" on page 278.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The Define Action button is only available in the table view. ▶ The Define Action button is enabled only for selected actions that are not yet defined in End User Management Administration.
<X-axis>	<p>Action. The descriptions or URLs of the most popular actions.</p>
<Y-axis>	<p>Errors. The total number of errors that occurred on each action. Bars indicate the total number of errors for each action.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Broken Links

This component displays data for the broken links encountered on specific host machines that you configure for Real User Monitor in End User Management Administration, experienced most frequently by end-users.

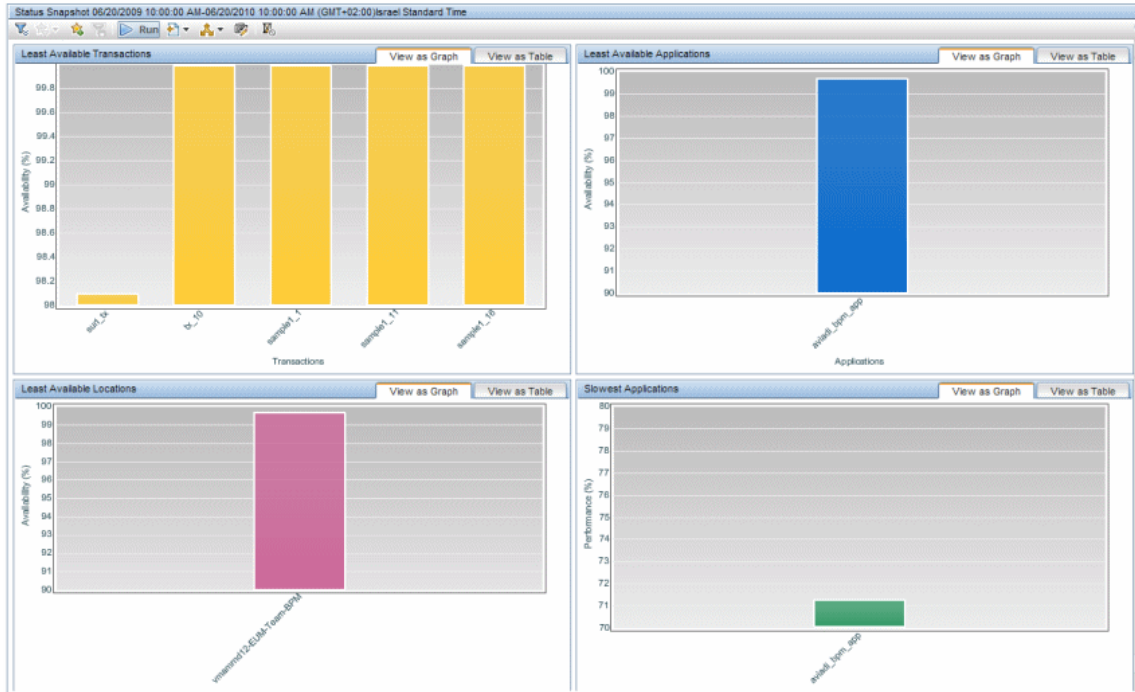
Important information	<ul style="list-style-type: none"> ▶ This component is viewable only as a table. ▶ In calculating the most frequent broken links, Real User Monitor takes into account which broken links were most frequent during each five-minute interval and the number of intervals for which the broken links were most frequent.
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A-Z)	Description
# of Occurrences	The total number of occurrences of each broken link for the entire amount of time that it was considered a frequent broken link.
Action Description	The descriptions of the broken actions, or URLs of the broken pages.
Application	The application in which the broken link was experienced.
First Occurrence	The time at which an end-user group first experienced the broken link.
Last Occurrence	The time at which an end-user group last experienced the broken link.
Referring Description	The action description, or page URL, from which each broken link was accessed.
Tier	The application tier in which the broken link was experienced.

Status Snapshot

This report displays a summary of the five least available transactions, locations, and applications, as well as the five slowest applications, for the selected time period.




To access	Select Applications > End User Management > Status Reports > Status Snapshot
Important information	Real user session data is not affected by the transaction active filter and all relevant session data is included, even though other data in the report may be filtered for specific transactions.

Data type	<ul style="list-style-type: none"> ➤ Real user data ➤ Synthetic user data ➤ Both
Report settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689.


Least Available Transactions

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
Drilldowns - Table View	
	<p>"Performance Analysis Report" on page 829</p> <p>Graph view: Right-click a bar and select Drill down to Performance Analysis from the Shortcut menu, to drill down to the Performance Analysis report for that transaction.</p>
Graph Elements	
<X-axis>	Transactions. The names of the five worst transactions.
<Y-axis>	<p>Availability (%). The percentage of availability.</p> <p>Bars indicate the availability percentage for a specific transaction.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>


Least Available Locations

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
Drilldowns - Table View	
	"Location Summary Report" on page 729 Graph view: Right-click a bar and select Drill down to Location Summary from the Shortcut menu, to drill down to the Location Summary report for that location.
Graph Elements	
<X-axis>	Locations. The names of the five worst locations.
<Y-axis>	Availability (%). The percentage of availability. Bars indicate the availability percentage for a specific location. Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.

Least Available Applications


User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
Drilldowns - Table View	
	"Application Summary Report" on page 711 Graph view: Right-click a bar and select Drill down to Application Summary from the Shortcut menu, to drill down to the Application Summary report for that application.

UI Elements	Description
Graph Elements	
<X-axis>	<p>Applications. The names of the five worst applications.</p> <p>Note: When displaying real user data, the applications are chosen according to the worst transactions or sessions and the applicable data source is displayed in the tooltip.</p>
<Y-axis>	<p>Availability (%). The percentage of availability.</p> <p>Bars indicate the availability percentage for a specific application.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Slowest Applications

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
Drilldowns - Table View	
	<p>"Application Summary Report" on page 711</p> <p>Graph view: Right-click a bar and select Drill down to Application Summary from the Shortcut menu, to drill down to the Application Summary report for that application.</p>
Graph Elements	
<X-axis>	<p>Applications. The names of the five slowest applications.</p> <p>Note: When displaying real user data, the applications are chosen according to the worst transactions or sessions and the applicable data source is displayed in the tooltip.</p>

UI Elements	Description
<Y-axis>	<p>Performance (%). The percentage of transaction hits or sessions with a performance status of OK or Minor, from the total number of available hits or sessions.</p> <p>Bars indicate the performance percentage for a specific application.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

10

Analysis Reports

This chapter includes:

Concepts

- ▶ Analysis Reports Overview on page 758
- ▶ Snapshot on Error on page 758
- ▶ Analyzing the Breakdown Over Time Component on page 760
- ▶ Viewing Session Details in the RUM Session Analyzer Report on page 763
- ▶ Determining How the Real User Monitor Snapshot Applet Retrieves Snapshots on page 764
- ▶ Action Classifications in Action Reports on page 765

Reference

- ▶ Parsing Supported Protocols on page 766
- ▶ Analysis Reports User Interface on page 767

Concepts

Analysis Reports Overview

Analysis reports provide a focused view of your applications and related entities, such as transactions, actions, running software, end-user groups, and so forth. You use analysis reports for troubleshooting specific problems and to help you determine their root cause.

You access analysis reports from the Analysis Reports tab in the End User Management application (**Applications > End User Management > Analysis Reports**). For user interface details, see "Analysis Reports User Interface" on page 767.

Snapshot on Error

When recording scripts with HP Virtual User Generator or QuickTest Professional (QTP), you can enable the Snapshot on Error option. For task details, see "How to Enable Snapshot on Error When Recording Scripts" on page 673. Once enabled, during a script run HP Business Service Management saves a snapshot of a page as it appears when an error occurs during the script run.

HP Business Service Management supports Snapshot on Error for the following HP Virtual User Generator protocols:

- ▶ **Web protocols.** General_Js, HTTP, OracleWebJS, PS8, PS8WebJs, QTWeb, SAP-Web, SapJS, Siebel-Web, SOAP, WebJS, and WinSockWeb.
- ▶ **Non-Web protocols.** Citrix_ICA, General-Vba, General-Vbs, SAPGUI, and Tulip.

You can access the recorded snapshot from the Error Log. There are two ways to access the snapshot:



- Click the **View Snapshot** button to display the screen that is saved at the time of error. For Web protocols, the snapshot opens a new browser window and displays a page built from the HTML code that is saved at the time of error. Page resources, such as images, are displayed by linking to the original Web site—resources are not saved by HP Business Service Management. For non-Web protocols, an image is displayed in the browser window.



- Click the **Download Snapshot** button to download the snapshot in zipped format to a local or network drive. This method is recommended for viewing the actual HTML code of the saved page, for example, if the HTML code contains scripts which can be harmful if run. For Web protocols, to view the snapshot in a browser after unzipping it, you may need to add the BASE element to the HTML code specifying the original URL of the recorded Web site. This is necessary to see page resources if the original HTML page did not contain a BASE element. In addition, you may need to add the original URL to other HTML elements such as anchor tags and image source tags.

For details on the Error Log, see "Error Log" on page 812.

Note: When HP Business Service Management records a snapshot for scripts recorded using one of the Web protocols, it saves only HTML code. Resources such as images and JavaScript are not saved. Thus, errors that occur due to missing resources may be difficult to trace later on from the snapshot, especially in cases where the missing resource problem has been fixed. For example, if an image resource is missing during a script run, causing an error to be recorded, but the missing image problem is later fixed, the image is present when you open the snapshot of the page.

For additional information, see "Configuring Snapshot on Error" in the *Business Process Monitor Administration* PDF.

Analyzing the Breakdown Over Time Component

The Breakdown Over Time component in the Triage and Performance Analysis reports helps you determine whether poor transaction response times are being caused by network or server problems, or by client delays, and enables you to pinpoint exactly when the problems are occurring. Using the time range selector and active filters, you can highlight the exact time and source of a poorly performing transaction.

For details on the Triage report, see "Triage Report" on page 966. For details on the Performance Analysis report, see "Performance Analysis Report" on page 829.

For details on the breakdown categories used in the report, see "Understanding Transaction Breakdown in Reports" on page 635.

This section also includes:

- ▶ "Working with Breakdown Over Time Component Data" on page 760
- ▶ "Correlating Breakdown Over Time Component Data with Other HP Business Service Management Reports" on page 762

Working with Breakdown Over Time Component Data

The Breakdown Over Time report's color-coded graph enables you to quickly differentiate between retry time, DNS resolution time, connect time, SSL handshake time (if relevant), time to first buffer, download time, and client time.

You can cross-reference data for a specific transaction from the Transaction Performance component in the Performance Analysis report with breakdown over time component data (use active filters to isolate the specific transaction as the breakdown over time component is not filtered according to the selected row in the Transaction Performance component, but according to all transactions selected in the report's filter) to quickly spot the time of day at which a problem is occurring. Once you have ascertained the time at which the problem is occurring, you determine whether the problem is being caused by network, server, or client delays. Depending on the source of the delay, you then view additional reports to isolate the root-cause of the problem.

For example, you might use the Transaction Performance component to determine that download time is higher than usual for a transaction named Search_Flights. You could generate the Breakdown Over Time report, filtered to the transaction Search_Flights, to determine the exact hour at which download time was slow. You could then view the BPM WebTrace report for the same time period to determine whether there were problems with the network during this time period. In addition, if you are monitoring your servers using SiteScope monitors, you could check server performance during the same time period.

Alternatively, you can use the Breakdown Over Time component to spot ongoing or recurring performance problems. Depending on whether the delays are server-, network-, or client-related, you then view additional reports to isolate the cause of the problem.

For example, you might notice that download time is consistently high over the course of several hours or days. Using the active filters, you could isolate the download time delays to a specific transaction. You could then drill to the Performance Raw Data report, and view the performance of each of the transaction instances. For each instance you can view the performance of the transaction pages (in the Transaction Response Time Breakdown component). For each page, drill down to view a Page Component Breakdown report, which displays a breakdown for every element on the Web page accessed by the transaction. In doing so, you might find that a particular page component is causing the page to download slowly, for example, a large image or Java applet that was recently added to the Web site.

Correlating Breakdown Over Time Component Data with Other HP Business Service Management Reports

You can cross-reference transaction breakdown data with data in other HP Business Service Management reports. For example:

- ▶ To analyze the source of high download time, you can analyze server performance in System Availability Management reports to pinpoint potential server-side problems. For concept details, see "System Availability Management Reports" in *Using System Availability Management*.
- ▶ To analyze the source of slow network times, click anywhere in the transaction breakdown bar except the Retry Time, Time to First Buffer, Server Time to First Buffer, or Download segments to open the WebTrace report for the current time period. To ensure meaningful correlation between the transaction breakdown data and the WebTrace data, it is recommended that you configure WebTrace to access the same servers that your transactions are accessing. For details on the WebTrace report, see "BPM WebTrace Report" on page 1002. For details on configuring WebTraces, see "WebTrace Dialog Box" on page 240.
- ▶ To trace the cause of retry time, move to the Error Summary report using the same filter (a drilldown is available from the Transaction Performance component). The Error Summary report shows the distribution of errors by location, category, type and more and enables you to drill down to the Error Log, which details all the errors. For details on the error log, see "Error Log" on page 812.

Note: To view errors in the Error Summary report and the Error Log, you must have enabled transaction breakdown error reporting for the application. For user interface details, see "Default Transaction Breakdown" on page 153.

- To analyze the source of slow server time to first buffer or download times, click the appropriate segment to open HP Diagnostics (a licensed version of HP Diagnostics is required for this drill down). For details about HP Diagnostics, see the *HP Diagnostics User's Guide*.

Viewing Session Details in the RUM Session Analyzer Report

When you view session details from the RUM Session Analyzer report, the report is regenerated and contains the most current data for the selected session. This means that if the session was still open when the RUM Session Analyzer report was originally generated, the data included in the Session Detail page is more up to date, and may differ from that included in the RUM Session Analyzer report for the same session.

When viewing session details, all the actions that are included in all monitored application sessions that started on the same day as the application session for which you are viewing data, and that are part of the entire application server session, are displayed. For example, in End User Management Administration you configure three applications. My_application_A consists of page_1, page_2, and page_3, my_application_B consists of page_4, page_5, and page_6, and my_application_C consists of page_7, page_8, and page_9. You log in to Business Service Management and at 11:59 PM you hit page_1. After midnight (that is, when the date has changed) you hit all the other pages. You then log out of Business Service Management. You run the RUM Session Analyzer report for my_application_B and the session described above is included in the report and shows 3 page hits (page_4, page_5, and page_6), but when you drill down to view session details, all the pages from my_application_B and my_application_C are displayed and not only the pages for my_application_B. The pages for my_application_A are not displayed as the application session was started on the previous day to the requested application (my_application_B).

Note:

- ▶ Events displayed when viewing session details are the events that occurred only on the actions configured in End User Management Administration as being part of the application.
 - ▶ When clicking on the breadcrumb to return to the RUM Session Analyzer report, the report is not regenerated and the original RUM Session Analyzer report is redisplayed.
-

Determining How the Real User Monitor Snapshot Applet Retrieves Snapshots

By default, the Real User Monitor Snapshot applet communicates with the Real User Monitor engine through the HP Business Service Management Gateway Server to retrieve snapshots. This enables the Real User Monitor Snapshot applet to work properly when there is no network communication between a client machine and the Real User Monitor engine. You can configure HP Business Service Management so that the Real User Monitor Snapshot applet communicates directly with the Real User Monitor engine to retrieve snapshots. You configure this for each individual engine. For user interface details, see "Edit Real User Monitor Engine Properties Dialog Box" on page 463.

Action Classifications in Action Reports

Real User Monitor correlates monitored actions in the following order:

- ▶ **Configured actions.** If Real User Monitor can correlate the monitored action to an action that you have configured in End User Management Administration, data is recorded and reported for that specific action. For details on configuring actions in End User Management Administration, see "<Action> Dialog Box" on page 278.
- ▶ **Meaningful actions.** If Real User Monitor cannot correlate the monitored action to an action configured in End User Management Administration, it tries to create a meaningful name for the action. If successful, data is recorded and reported for the action under the name that Real User Monitor created. For details on meaningful names, see "Configuring Meaningful Page Names" in the *Real User Monitor Administration* PDF.
- ▶ **By classification.** For actions that cannot be correlated to a configured action in End User Management Administration, and for which a meaningful action name cannot be created, Real User Monitor looks for common classifications. A classification is a commonly repeated pattern in action requests (for example, the same SQL query in which only a specific parameter value may vary in each request). If Real User Monitor successfully correlates an action to a classification, data is recorded and reported for the action under that classification description. For details on classifications in Real User Monitor, see "Real User Monitor Automatic Transaction Tracking" in the *Real User Monitor Administration* PDF.

Note: You enable classification per application in End User Management Administration. For user interface details, see "Real User Monitor Application Data Collection Page" on page 336.

- ▶ **Undefined actions.** All other actions that cannot be correlated to a configured action, a meaningful action name, or a classification, are reported as undefined actions.

Reference

Parsing Supported Protocols

Real User Monitor supports the following protocols for parsing. In the TCP Requests Analyzer report, enhanced snippets and request names are displayed for these protocols. For user interface details, see "TCP Requests Analyzer Report" on page 937.

- ▶ FTP (File Transfer Protocol)
- ▶ IMAP (Internet Message Access Protocol)
- ▶ LDAP (Lightweight Directory Access Protocol)
- ▶ MySQL Database Server
- ▶ Microsoft SQL Server
- ▶ POP3 (Post Office Protocol)
- ▶ SMTP (Simple Mail Transfer Protocol)

Analysis Reports User Interface


This section includes (in alphabetical order):

- Action Details Page on page 768
- Action Over Time Report on page 772
- Action Raw Data Report on page 781
- Application Infrastructure by Action Report on page 785
- Application Infrastructure by Transaction Report on page 789
- Application Infrastructure Over Time Report on page 796
- BPM Error Summary Report on page 803
- BPM Response Time by Percentile Report on page 809
- Error Log on page 812
- Event Analysis Report on page 815
- Event Log on page 819
- Metrics Over Time Report on page 820
- Page Component Breakdown Report on page 827
- Performance Analysis Report on page 829
- Performance Raw Data Report on page 836
- RUM Action Summary Report on page 842
- RUM Application Infrastructure Summary Report on page 851
- RUM End User Group by Action Report on page 860
- RUM End User Group by Transaction Report on page 863
- RUM End User Group Over Time Report on page 870
- RUM End User Group Summary Report on page 882
- RUM Event Summary Report on page 892
- RUM Session Analyzer Report on page 896
- RUM Session Summary Report on page 899

- ▶ RUM Tier Summary Report on page 902
- ▶ RUM Transaction Summary Report on page 911
- ▶ Session Details Report on page 918
- ▶ Session Replay Page on page 924
- ▶ TCP Poor Requests Summary Report on page 932
- ▶ TCP Requests Analyzer Report on page 937
- ▶ Tiers Over Time Report on page 942
- ▶ Transaction Over Time Report on page 955
- ▶ Triage Report on page 966
- ▶ Triage Raw Data Report on page 976
- ▶ Unconfigured End Users Report on page 979

Action Details Page

This page displays general data for a selected action.

To access	In the Session Details or Action Raw Data report, select an action and click the View Action Details  button.
Important information	The Action Details page opens in a new window.
Data type	Real user data

Action Description Area

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Protocol attributes>	A list of attributes that are specific to the application's protocol.

UI Elements (A-Z)	Description
Action description	The action description. Note: For pages, the action description is the page URL.
Action name	The name configured for the action in End User Management Administration, or N/A if the action has not been configured.
Copy description	Click to copy the action description to your clipboard.
Host	The name of the server on which the action was located.

Action Parameters Area

This area displays the names and values of any parameters defined in the application protocol's template in End User Management Administration.

Connection Details Area

User interface elements are described below:

UI Elements (A-Z)	Description
Client IP	The IP address of the client machine from which the action was hit.
Client name	The name of the client machine from which the action was hit.
Client port	The port of the client machine from which the action was hit.
Running software	The software element on which the action was located.
Server IP	The IP address of the server on which the action was located.
Server name	The name of the server on which the action was located.
Server port	The port on the server that was accessed for the action hit.

General Area

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Protocol information>	A list of additional information that is specific to the action's protocol.
Received traffic (KB)	The amount of traffic, in kilobytes, received from the server for the action.
Sent traffic (KB)	The amount of traffic, in kilobytes, sent to the server for the action.
Start time	The date and time the action was hit.
Stopped action hit	Displays whether or not the action was stopped by the end-user.
Total requests	The total number of requests sent for the action.
Total traffic (KB)	The total amount of traffic (both sent and received), in kilobytes, for the action.

Performance Area

User interface elements are described below:

UI Elements (A-Z)	Description
Client time (sec)	The amount of time, in seconds, that the action was active on the client machine.
Connect time (sec)	The amount of time, in seconds, that it took to establish an initial connection to the server from the first request sent for the action.
Network time (sec)	The amount of time, in seconds, that the action was active on the network.

UI Elements (A-Z)	Description
Retransmit time (sec)	The amount of time, in seconds, that passed from the moment a request was started for the action, until the moment an error message is returned. Note: Retransmit time only relates to errors that execute a retry after the error.
Server time (sec)	The amount of time, in seconds, that it took the server to process the request for the action.
Server time to first buffer (sec)	The amount of time, in seconds, that passed from the receipt of ACK of the initial request (usually GET for an http request) until the first buffer is successfully received back from the Web server.
SSL handshake time (sec)	The amount of time, in seconds, taken to establish an SSL connection for the action. Note: SSL handshake time is applicable only for https communications.
Total time (sec)	The total amount of time, in seconds, from when the action was requested until it finished.


Events Area

User interface elements are described below:

UI Elements (A-Z)	Description
Description	The event description
Event Name	The event name


Action Over Time Report

This report comprises four components that display the availability, performance, load, response time, and events for a selected action, over the course of time. The report enables you to investigate the behavior over time of a problematic action in the RUM Action Summary report.

To access	In the RUM Action Summary Report , select an action and click the Action Over Time Report  button.
Important information	<ul style="list-style-type: none"> ➤ When you view a component as a graph, you can drill down to a higher time resolution by clicking a data point or bar. For example, if you click a bar that displays data for a day, the time resolution changes to hours for the specific day. When you drill down to a higher time resolution, all the components in the graphs are updated for the new time resolution. ➤ If active filters are used to add more than one action to the report, the displayed data is the average of all the included actions. ➤ Hold the cursor over a data point or bar to display a tooltip with additional information relevant to the data.
Data type	Real user data
See also	<ul style="list-style-type: none"> ➤ "Analysis Reports Overview" on page 758 ➤ "Real User Monitor Application <Actions> Page" on page 321 ➤ "RUM Action Summary Report" on page 842
Report settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689.

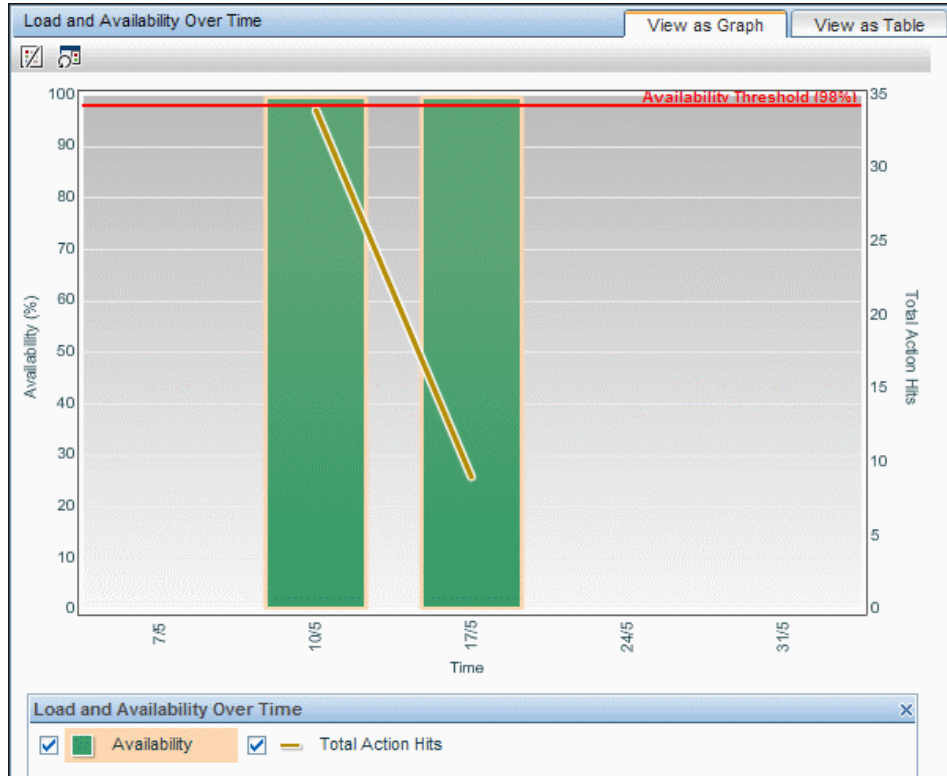
General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
	<p>"Action Over Time Report" on page 772. In any table, select a row and click the Drill down to Action Over Time button to drill down to a higher time resolution. For example, if you drill down from a report that displays data for a day, the time resolution changes to hours for the specific day.</p> <p>Note: You cannot drill down to a resolution higher than five minutes.</p> <p>Graph view: Right-click a bar or data point to display a Shortcut menu and click Drill down to Action Over Time from the Shortcut menu.</p>

Load and Availability Over Time

This graph displays the total number of action hits and the percentage of available action hits over the selected time period. The graph enables you to see the correlation between action availability and the number of action hits.



User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A–Z)	Description
<X-axis>	Time. The time units for the selected time period.

UI Elements (A–Z)	Description
<Y-axis> (left)	Availability (%) . The percentage of available action hits from the total number of action hits.
<Y-axis > (right)	Total Action Hits . The total number of action hits.
Availability threshold	The availability threshold you configured for the action in End User Management Administration. Note: This element is displayed only when you select a single action for the report.

Load and Performance Over Time

This graph displays the total number of action hits, the percentage of available action hits, and the number of available actions hits whose total time was less than or equal to the action’s total time threshold, over the selected time period. The graph enables you to see the correlation between the action performance and the number of action hits.

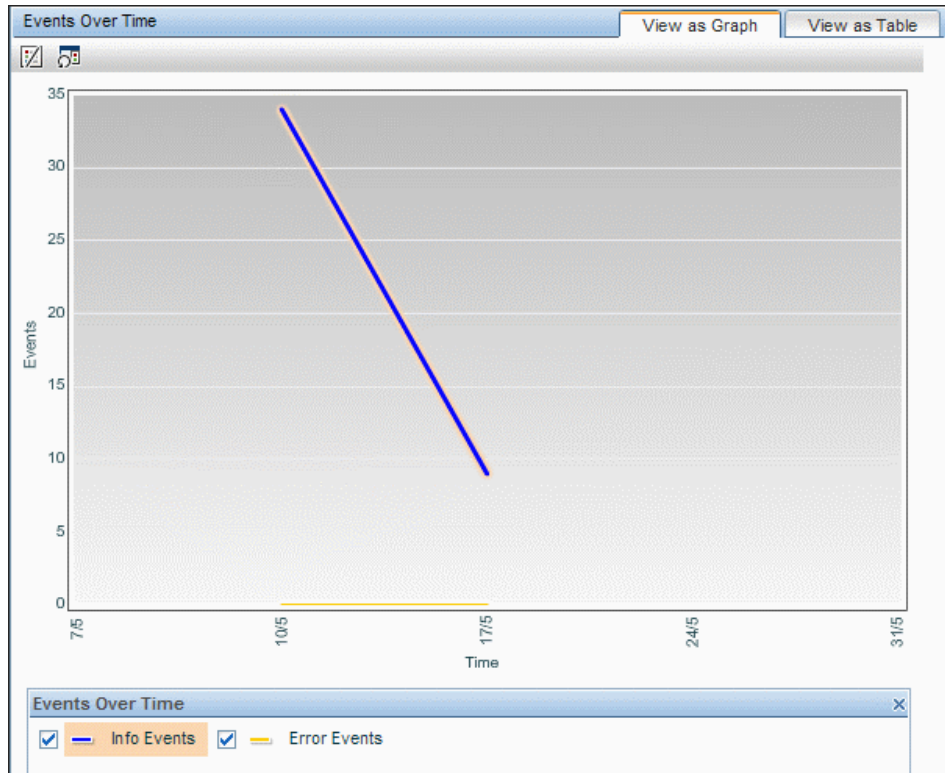


User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A–Z)	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis> (left)	<p>Performance (%).</p> <ul style="list-style-type: none"> ▶ The percentage of available action hits whose total time was less than or equal to the total time threshold you configured for the action in End User Management Administration. ▶ The percentage of available action hits whose total time was greater than the total time threshold you configured for the action in End User Management Administration. <p>Note: The performance percentages are denoted by stacked bars.</p>
<Y-axis> (right)	<p>Total Action Hits. The total number of action hits.</p> <p>Note: The total action hits are denoted by connected data points.</p>

Events Over Time

This graph displays the total number of events that occurred on the action over the selected time period. The graph enables you to determine in what time period the most, or least, number of events occurred.



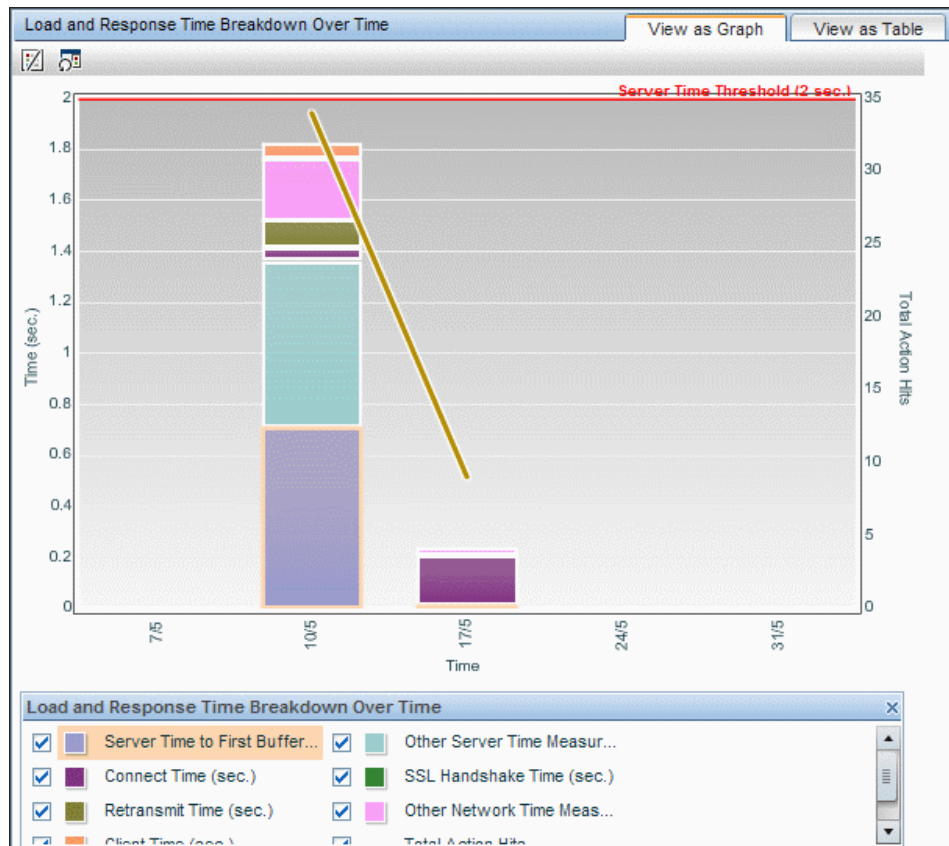
User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A–Z)	Description
<X-axis>	Time. The time units for the selected time period.




UI Elements (A–Z)	Description
<Y-axis>	<p>Events. The number of error events and the number of information events that occurred on the action.</p> <p>Note: Error and information events are each represented by a different set of data points.</p>

Load and Response Time Breakdown Over Time

This graph displays the total number of action hits and the average response time broken down by categories, over the selected time period. The graph enables you to see the correlation between the total response times and the number of action hits.




User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
Drilldowns -Table View	
	<p>Drill down to Transaction Tracking. Click to view Transaction Management’s Transaction Tracking report, where you can see detailed information of the actions within the session. For concept details, see "Viewing TransactionVision Data From End User Management Reports" on page 665.</p> <p>Graph view: Right-click a data point or bar and click Drill down to Transaction Tracking from the Shortcut menu.</p>
	<p>Drill down to Diagnostics. Click to drill down to HP Diagnostics for a specific action. For concept details, see "Viewing HP Diagnostics Data From End User Management Reports" on page 661.</p> <p>Graph view: Right-click a data point or bar and click Drill down to Diagnostics from the Shortcut menu.</p>
	<p>Drill down to NNM. Click to drill down to HP Network Node Manager. For concept details, see "Viewing HP Network Node Manager Data From Real User Monitor Reports" on page 668.</p> <p>Graph view: Right-click a data point or bar and click Drill down to NNM from the Shortcut menu.</p>
Graph Elements	
<X-axis>	Time. The time units for the selected time period.
<Y-axis> (left)	<p>Time (sec). The total action time in seconds, as well as the time of each breakdown category that comprise the total time.</p> <p>Note: The total action time is denoted by a bar. Each colored segment in the bar denotes the time of a different breakdown category. For details on the breakdown categories used in the report, see "Overview of HP Real User Monitor Performance Measurements" in the <i>Real User Monitor Administration</i> PDF.</p>

UI Elements	Description
<Y-axis> (right)	<p>Total Action Hits. The total number of action hits.</p> <p>Note: The total action hits are denoted by connected data points.</p>
Action time threshold	<p>The action time threshold you configured for the action in End User Management Administration.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This element is displayed only when you select a single action for the report. ▶ This element is not displayed if the configured action time threshold is greater than the fourth highest action time measurement displayed in the graph.
Server time threshold	<p>The server time threshold you configured for the action in End User Management Administration.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This element is displayed only when you select a single action for the report. ▶ This element is not displayed if the configured server time threshold is greater than the fourth highest action time measurement displayed in the graph.




Action Raw Data Report


This report displays raw data (that is, non aggregated data) for a single action, enabling you to see all the hits for a specific action ID or action description (for an undefined action).


To access	In the RUM Action Summary report, select an action and click the Drill down to Action Raw Data  button.
------------------	--

Important information	The data included in the Action Details page is available in the Action Raw Data report as columns that are hidden by default. You can select the columns to display them in the report. When you export data from the Action Raw Data report, this data is included in the exported file even if the columns are not displayed. For user interface details, see "Action Details Page" on page 768.
Data type	Real user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns	
	"Action Details Page" on page 768
	<p>View Snapshot. Click to open the Session Replay page, where you can view a snapshot of a selected action. For user interface details, see "Session Replay Page" on page 924.</p> <p>Note: If no snapshot exists for the selected action, this button is disabled.</p>
	<p>Drill down to NNM. Click to drill down to HP Network Node Manager. For concept details, see "Viewing HP Network Node Manager Data From Real User Monitor Reports" on page 668.</p>

UI Elements	Description
Actions	
	<p>Define Action. Click to open the Real User Monitor Application <Actions> page in a new window, where you can add and define a new action for an application. When you access the New Action dialog box from the Real User Monitor Application <Actions> page, the selected action's description or URL, attributes, and parameters are automatically entered in the dialog box. For user interface details, see "<Action> Dialog Box" on page 278.</p> <p>Note: The Define Action button is enabled only for selected actions that are not yet defined in End User Management Administration.</p>
<p>Report Columns (A-Z)</p> <p>Hold the cursor over a cell to display a tooltip with additional information relevant to the data.</p>	
Action	The name of the action that was hit, as defined by you in End User Management Administration, or for an undefined action, its action description.
Application	The application in which the action is defined. This field is colored blue for actions included in the selected application session.
Client	The name, or if there is no name the IP address, of the client that hit the action.
Client time (sec)	The amount of time, in seconds, that the action was active on the client machine.


UI Elements	Description
Events	<p>Displays an icon and the name of events that occurred on the action, based on the events you defined for the action in End User Management Administration. If there are multiple events on an action, the icon of the most severe event is displayed and the string "Multiple events" is displayed instead of the event name.</p> <p>Note: The order of severity of event types is errors and informational events.</p> <p>Tooltip: For single errors, the event type is displayed and for multiple errors, the event names are displayed.</p>
Has Snapshot	<p>Indicates whether or not a snapshot exists for the action. If a snapshot exists, you can click the View Snapshot  button to display it.</p>
Network Time (sec)	<p>The amount of time, in seconds, that the action was active on the network.</p>
Running Software	<p>The running software in which the action was hit.</p>
Server	<p>The name, or if there is no name the IP address, of the server on which the action was hit.</p>
Server Time (sec)	<p>The amount of time, in seconds, that it took the server to process the request for the action.</p> <p>Note: This column is color-coded based on the server time threshold you configured for the action in End User Management Administration, or that you configured for the tier for undefined actions.</p>
Start Time	<p>The date and time the action was hit.</p>
Total Time (sec)	<p>The total amount of time, in seconds, from when the action was requested until it finished.</p> <p>Note: This column is color-coded based on the total time threshold you configured for the action in End User Management Administration, or that you configured for the tier for undefined actions.</p>
Total Traffic (KB)	<p>The total amount of network traffic (action traffic and TCP layer overhead traffic), in kilobytes, for the action.</p>

Application Infrastructure by Action Report

This report displays data for a selected action (configured for Real User Monitor in End User Management Administration), broken down by infrastructure running software (for example, application server, database, services running on the server, and so forth). Each measurement in the report is for the action for specific running software. The report enables you to investigate the status of infrastructure elements, by looking at the actions that occurred on them.



You access the Application Infrastructure by Action report by drilling down to it from the RUM Action Summary report for an action with bad measurements. You can then see on which infrastructure elements the action occurred and how it performed on each element. This indicates which infrastructure elements may be causing problems.

Application Infrastructure by Action 06/20/2009 10:00:00 AM-06/20/2010 10:00:00 AM (GMT+02:00)Israel Standard Time														
Name	IP Address	Availability (%)	Performance (%)	Total Time (sec.)	Server Time (sec.)	Server Time to First	Network Time (sec.)	Client Time (sec.)	Error Events	Info Events	Total Action Hits	Requests per Action Hit	Total Traffic (KB)	
192.0.0.5	192.0.0.5	100.00	100.00	3.00	2.98	0.00	0.02	0.00	0	0	12,065	1.00	0.2	
Web Server	192.0.0.5	100.00	100.00	3.00	2.98	0.00	0.02	0.00	0	0	12,065	1.00	0.2	
192.0.0.3	192.0.0.3	100.00	100.00	3.00	2.98	0.00	0.02	0.00	0	0	12,065	1.00	0.2	
Web Server	192.0.0.3	100.00	100.00	3.00	2.98	0.00	0.02	0.00	0	0	12,065	1.00	0.2	
192.0.0.1	192.0.0.1	100.00	100.00	3.00	2.98	0.00	0.02	0.00	0	0	12,065	1.00	0.2	
Web Server	192.0.0.1	100.00	100.00	3.00	2.98	0.00	0.02	0.00	0	0	12,065	1.00	0.2	
192.0.0.4	192.0.0.4	100.00	100.00	3.00	2.98	0.00	0.02	0.00	0	0	12,065	1.00	0.2	
Web Server	192.0.0.4	100.00	100.00	3.00	2.98	0.00	0.02	0.00	0	0	12,065	1.00	0.2	
192.0.0.2	192.0.0.2	100.00	100.00	3.00	2.98	0.00	0.02	0.00	0	0	12,065	1.00	0.2	
Web Server	192.0.0.2	100.00	100.00	3.00	2.98	0.00	0.02	0.00	0	0	12,065	1.00	0.2	

<p>To access</p>	<p>In the RUM Action Summary Report, select an action and click the Drill down to Application Infrastructure by Action Report  button.</p>
<p>Important information</p>	<ul style="list-style-type: none"> ➤ The Availability, Performance, Total Time, and Server Time columns are color-coded, based on the action's relevant thresholds configured in End User Management Administration. <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor (not valid for Availability) ➤ Red. Critical ➤ Blue. No data ➤ Lavender. Downtime (valid only when the report is generated for a single application)
<p>Data type</p>	<p>Real user data</p>
<p>See also</p>	<ul style="list-style-type: none"> ➤ "Analysis Reports Overview" on page 758 ➤ "Real User Monitor Application <Actions> Page" on page 321 ➤ "RUM Action Summary Report" on page 842
<p>Report settings</p>	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689. ➤ Group by. Select whether to display the data by running software, or to group the data by the servers on which the running software is located. Default value: Running software (ungrouped)

Report Content


User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns	
	Drill down to Transaction Tracking. Click to view Transaction Management's Transaction Tracking report, where you can see detailed information of the actions within the session. For concept details, see "Viewing TransactionVision Data From End User Management Reports" on page 665.
	Drill down to Diagnostics. Click to drill down to HP Diagnostics for a specific action. For concept details, see "Viewing HP Diagnostics Data From End User Management Reports" on page 661.
Report Columns (A-Z)	
Hold the cursor over a cell to display a tooltip with additional information relevant to the data.	
Availability	The percentage of available action hits on the running software or server.
Client time	The average amount of time, in seconds, that the action's requests were delayed on the client machine.
Error events	The number of error events that occurred on the action, based on the error events you defined for the action, or application, in End User Management Administration.
Info events	The number of informational events that occurred on the action, based on the informational events you defined for the action, or application, in End User Management Administration.
IP Address	The IP address of the server of running software element on which the action occurred.
Name	The name of the server or running software element on which the action occurred.

UI Elements	Description
Network time	The average amount of time, in seconds, that the action's requests were delayed on the network. Connect, SSL handshake, and retransmit times are also included in the total network time.
Performance	The percentage of action hits for which the action's total time was less than or equal to the action's total time threshold defined in End User Management Administration. Note: If an action is unavailable, its data is not included in the performance calculations.
Requests per action hit	The average number of requests sent for each action hit.
Running Software	The name of the running software element on which the action occurred.
Server time	The average amount of time, in seconds, that it took the server to process the requests for the action. This column is color-coded, based on the action's server time in relation to the server time threshold you defined in End User Management Administration.
Server Time to First	The average amount of time, in seconds, from when a server received a request for the action, until it started sending the response.
Total action hits	The total number of hits the action received.
Total time	The average total time, in seconds for the action. This column is color-coded, based on the action's total time in relation to the total time threshold you defined in End User Management Administration.
Total traffic	The average amount of network traffic (action traffic and TCP layer overhead traffic), in kilobytes, for the action.


Application Infrastructure by Transaction Report

This report displays general, availability, and performance data for each server or running software element on which the transaction you selected in the RUM Transaction Summary report ran. For details on configuring Real User Monitor transactions in End User Management Administration, see "Business Transaction Real User Monitor Configuration Page" on page 291.

To access	Select Applications > End User Management > Analysis Reports > RUM Transaction Summary . Select a transaction and click the Drill down to Application Infrastructure by Transaction  button.
Important information	<p>The Availability, Total Time, Net Time, and Total Server Time columns are color-coded, based on the relevant thresholds configured in End User Management Administration. (Availability is based on action thresholds and total time and server time are based on tier thresholds.) The following are the valid statuses:</p> <ul style="list-style-type: none"> ▶ Green. OK ▶ Yellow. Minor (not valid for Availability) ▶ Red. Critical ▶ Blue. No data ▶ Lavender. Downtime (valid only when the report is generated for a single application)
Data type	Real user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689. ▶ Group by. Select whether to display the data grouped by running software or server. Default value: Running Software <p>Note: When grouped by server, click on a server to expand a hierarchical tree of its running software elements.</p>

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
	"Application Infrastructure Over Time Report" on page 796

Highlights Tab

The Highlights tab displays selected data from the other tabs in the report and enables you to view key information at one time, without having to move from tab to tab.

Important information	<p>The Availability (%), Total Time, Net Time, and Total Server Time columns and tooltips are color-coded, based on the relevant thresholds configured for them in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ▶ Green. OK ▶ Yellow. Minor (not valid for Availability) ▶ Red. Critical ▶ Blue. No data ▶ Lavender. Downtime (valid only when the report is generated for a single application)
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A–Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Availability (%)	<p>The percentage of transaction runs for a server or running software element, for which there were no availability problems.</p> <p>Note: If a transaction is unavailable, its data is not included in the transaction performance calculations.</p>

UI Elements (A–Z)	Description
Net Time (sec)	The net time, in seconds, of the transaction (that is, server time + network time + client time of all the actions included in the transaction), for a server or running software element.
Running Software	The running software element. Note: This column is displayed when you group the report by running software (the default setting).
Runs	The total number of run instances for the transaction, for a server or running software element.
Server	The server name or IP address. Note: This column is displayed when you group the report by running software (the default setting).
Server/Running Software	The server name or the running software element, according to the entity in the hierarchical tree. Note: This column is displayed when you group the report by server.
Total Server Time (sec)	The total server time of all the actions included in the transaction, for a server or running software element.
Total Time (sec)	The average of the overall transaction time (from the start of the first action to the end of the last action), in seconds, for a server or running software element.
Transaction Size (KB)	The total size, in kilobytes, of all the actions in the transaction, for a server or running software element.

Availability Tab

The Availability tab displays the transaction availability for each configured transaction that was monitored.

Important information	<p>The Availability (%) column and tooltip are color-coded, based on the relevant threshold configured for the transaction in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Red. Critical ➤ Blue. No data ➤ Lavender. Downtime (valid only when the report is generated for a single application)
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A–Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Availability (%)	<p>The percentage of transaction runs for a server or running software element, for which there were no availability problems.</p> <p>Note: If a transaction is unavailable, its data is not included in the transaction performance calculations.</p>
Runs	The total number of run instances for the transaction, for a server or running software element.
Server	<p>The server name or IP address.</p> <p>Note: This column is displayed when you group the report by running software (the default setting).</p>
Server/Running Software	<p>The server name or the running software element, according to the entity in the hierarchical tree.</p> <p>Note: This column is displayed when you group the report by server.</p>

UI Elements (A–Z)	Description
Running Software	The running software element. Note: This column is displayed when you group the report by running software (the default setting).
Unavailable Runs	The total number of transaction run instances for which availability problems occurred, for a server or running software element.

Performance Tab

The Performance tab displays data about the duration of each configured transaction that was monitored.

Important information	<p>The Total Time and Net Time, and Total Server Time columns and tooltips are color-coded, based on the relevant thresholds configured for the transaction in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ▶ Green. OK ▶ Yellow. Minor ▶ Red. Critical ▶ Blue. No data ▶ Lavender. Downtime (valid only when the report is generated for a single application)
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):



UI Elements (A–Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Client Time	The total time, in seconds, that each action included in the transaction was delayed on the client machine. Note: This column is hidden by default.

UI Elements (A–Z)	Description
Connect Time (sec)	<p>The average amount of time, in seconds, that it took to establish an initial connection to the server from the first HTTP request sent.</p> <p>Note: This column is hidden by default.</p>
Net Time (sec)	<p>The net time, in seconds, of the transaction (that is, server time + network time + client time of all the actions included in the transaction).</p>
Retransmit Time (sec)	<p>The overall amount of time that passes from the moment an HTTP request is started until the moment an error message is returned.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Retransmit time only relates to errors that execute a retry after the error. ▶ This column is hidden by default.
Running Software	<p>The running software element.</p> <p>Note: This column is displayed when you group the report by running software (the default setting).</p>
Runs	<p>The total number of run instances for the transaction.</p>
Server	<p>The server name or IP address.</p> <p>Note: This column is displayed when you group the report by running software (the default setting).</p>
Server/Running Software	<p>The server name or the running software element, according to the entity in the hierarchical tree.</p> <p>Note: This column is displayed when you group the report by server.</p>
Server Time to First Buffer	<p>The amount of time that passes from the receipt of ACK of the initial HTTP request (usually GET) until the first buffer is successfully received back from the Web server.</p> <p>Note: The server time to first buffer measurement is a good indicator of Web server delay.</p>
Slow Runs	<p>The number of run instances whose total transaction time exceeded the configured total time threshold.</p>

UI Elements (A–Z)	Description
Slow Transaction Net Time (sec)	The average net transaction time, in seconds, of the transaction's runs that exceeded the net time threshold configured for the transaction.
Slow Transaction Server Time (sec)	The average server time, in seconds, of the transaction's runs that exceeded the server time threshold configured for the transaction.
Slow Transaction Total Time (sec)	The average total transaction time, in seconds, of the transaction's runs that exceeded the total time threshold configured for the transaction.
SSL Handshake Time (sec)	<p>The average amount of time taken to establish an SSL connection.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ SSL handshake time is applicable only for https communications. ▶ This column is hidden by default.
Think Time (sec)	The average think time for the transaction (that is, the time between page downloads which is calculated as transaction time - server time - network time - client time).
Total Network Time (sec)	The total time, in seconds, that each action included in the transaction was delayed on the network. Connection, SSL handshaking, and retransmit times are also included in the total network time.
Total Server Time (sec)	The total server time of all the actions included in the transaction.
Total Time (sec)	The average of the overall transaction time (from the start of the first action to the end of the last action), in seconds.


Application Infrastructure Over Time Report

This report displays details of the availability, traffic requests, throughput, and errors for a selected running software or server over the course of time.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ In the RUM Application Infrastructure Summary report, select a running software element or server and click the Drill down to Application Infrastructure Over Time  button. ▶ In the Application Infrastructure by Transaction report, select a transaction and click the Drill down to Application Infrastructure Over Time  button.
Important information	<ul style="list-style-type: none"> ▶ The component names in the report are determined by the grouping of the RUM Application Infrastructure Summary report—running software or server. ▶ The available components in the report depend on the types of the applications for which you generate the report. For concept details, see "Viewing Data for Different Application Tier Types in Real User Monitor Reports" on page 654. ▶ In table views, the Application Availability and Connection Availability columns are color-coded, based on the relevant thresholds configured in End User Management Administration. The following are the valid statuses: <ul style="list-style-type: none"> ▶ Green. OK ▶ Red. Critical ▶ Blue. No data
Data type	Real user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
	<p>"Application Infrastructure Over Time Report" on page 796. In any table, select a row and click the Drill down to Application Infrastructure Over Time button to drill down to a higher time resolution. For example, if you drill down from a report that displays data for a day, the time resolution changes to hours for the specific day.</p> <p>Note: You cannot drill down to a resolution higher than five minutes.</p> <p>Graph view: In any graph, right-click a bar or data point and click Drill down to Application Infrastructure Over Time from the Shortcut menu.</p>

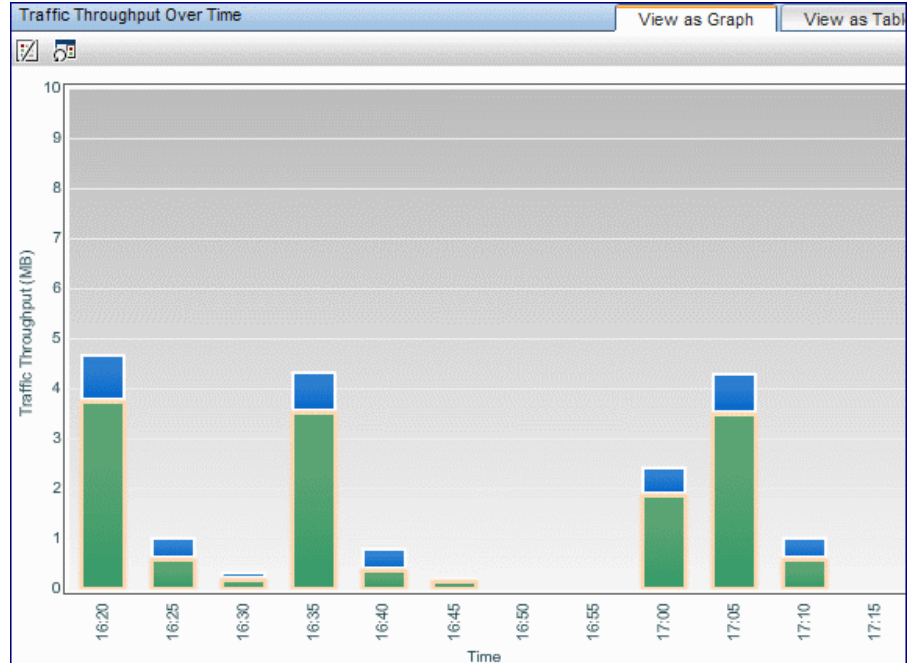
Running Software/Server Availability Over Time



User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	<p>Availability (%). Running software/server availability percentage units. Data points indicate:</p> <ul style="list-style-type: none"> ▶ The percentage of HTTP requests for which each running software/server was available at each point over the course of the defined time period. ▶ The percentage of total connections that were successful for each server at each point over the course of the defined time period. <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>
<Application Availability Threshold line>	The running software/server availability threshold that you configured in End User Management Administration.
<Connection Availability Threshold line>	The running software/server connection availability threshold that you configured for the application in End User Management Administration.
<Availability Threshold line>	If the application and connection availability thresholds are the same, they are displayed together as this one threshold line.

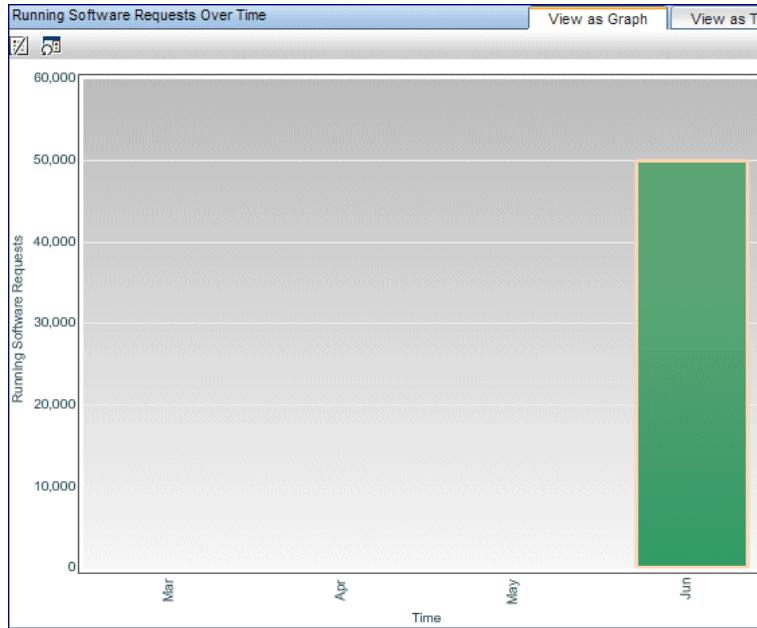
Traffic Throughput Over Time



User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	<p>Traffic Throughput (MB). The traffic throughput in megabytes.</p> <p>Stacked bars indicate the total traffic throughput for the applications on the running software/server at each point over the course of the defined time period, broken down to application traffic and TCP layer overhead.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

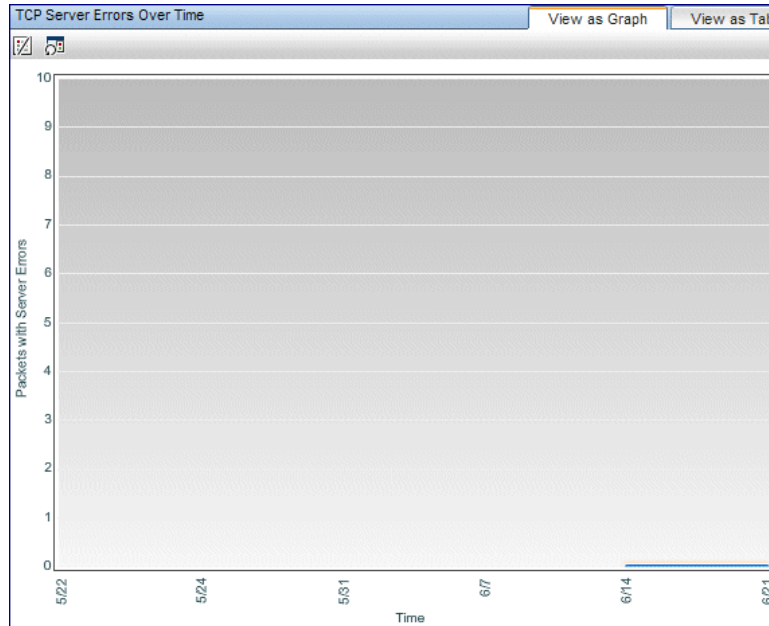
Running Software/Server Requests Over Time



User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	<p>Server Requests/Running Software Requests. The number of server/running software requests.</p> <p>Bars indicate the total number of requests for the applications on the server/running software, at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>

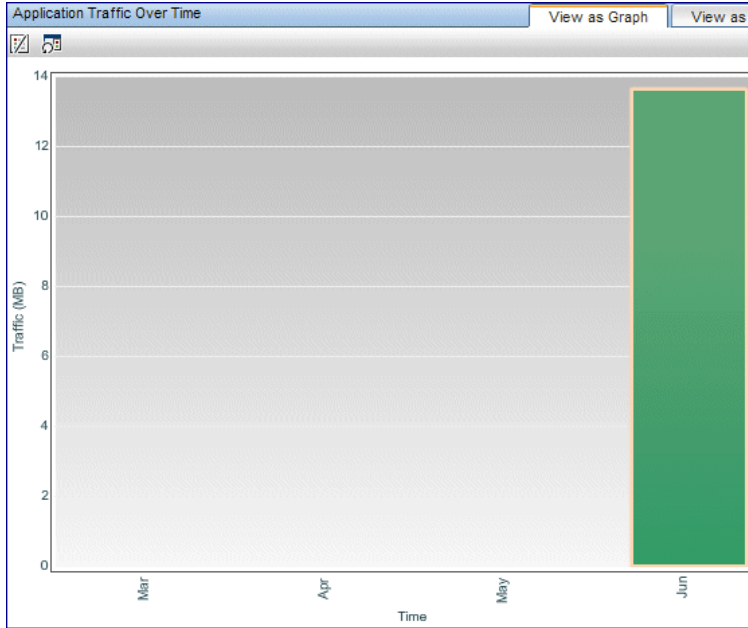
TCP Server Errors Over Time



User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	<p>Packets with Server Errors. The number of packets with server errors.</p> <p>Data points indicate:</p> <ul style="list-style-type: none"> ▶ The number of packets with Stuck Window errors at each point over the course of the defined time period. ▶ The number of packets with Zero Window errors at each point over the course of the defined time period. <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>

Application Traffic Over Time

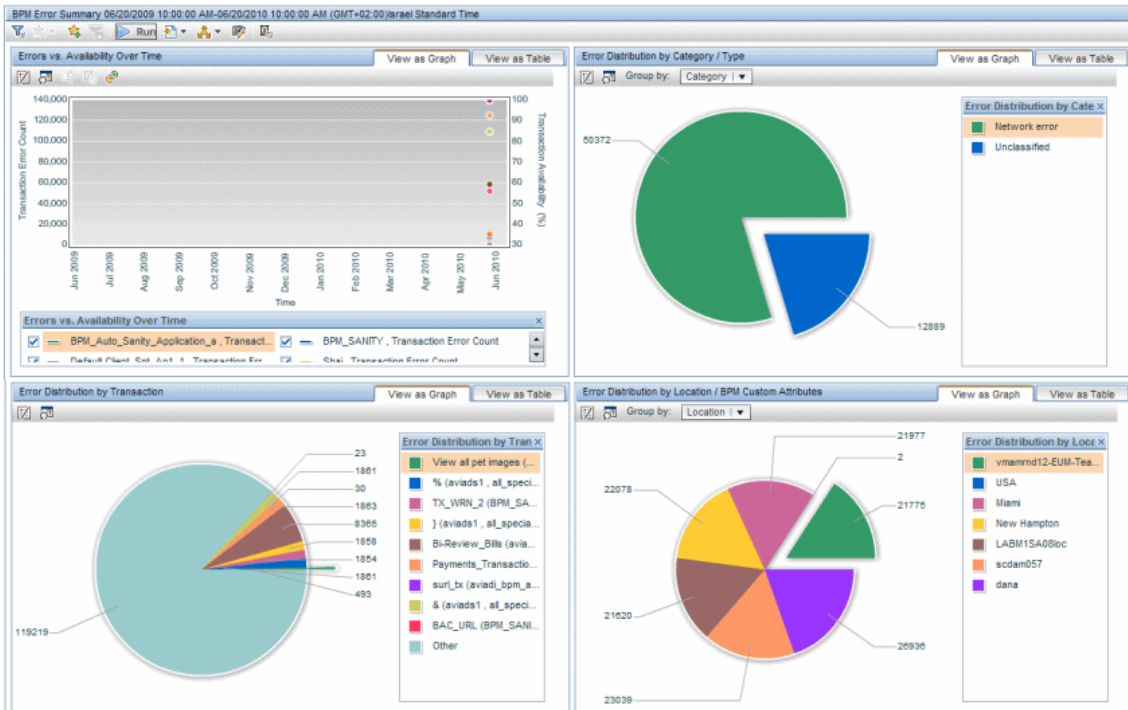






User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	<p>Traffic (MB). The amount of traffic in megabytes.</p> <p>Stacked bars indicate the total traffic throughput, in megabytes, for the applications on the running software element/server at each point over the course of the defined time period, broken down to plain traffic and SSL traffic.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

BPM Error Summary Report

This report displays summary data about the transaction errors that occurred during an application's runs in Business Process Monitor, over the specified time period. The data is displayed to show different aspects of the errors and enables you to drill down to view a particular aspect in more detail, such as for one location or one transaction. Since not all errors cause transactions to fail, the BPM Error Summary report includes errors for transactions that completed successfully as well as those that failed.




<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Applications > Analysis Reports > BPM Error Summary ▶ In the Performance Analysis report, select a transaction or location in the Transaction Performance component and click the Drill down to BPM Error Summary  button. ▶ In the Application Health report > Business Summary table, select an application or business transaction flow and click the Drill down to BPM Error Summary  button. ▶ In the Application Health report > Availability and Load Over Time component: <ul style="list-style-type: none"> ▶ Table view: Select a row and click the Drill down to BPM Error Summary  button. ▶ Graph view: Right-click a data point or bar and select Drill down to BPM Error Summary from the Shortcut menu. ▶ In the Location Summary report > Transactions with Errors component: <ul style="list-style-type: none"> ▶ Table view: Select a location and click the Drill down to BPM Error Summary  button. ▶ Graph view: Right-click a pie chart slice and select Drill down to BPM Error Summary from the Shortcut menu.
<p>Data type</p>	<p>Synthetic user data</p>
<p>Report settings</p>	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.


Errors Vs. Availability Over Time

UI Elements (A–Z)	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis> (left)	<p>Transaction Error Count. The number of errors that occurred.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>
<Y-axis> (right)	<p>Transaction Availability. Transaction availability percentage units.</p> <p>Data points indicate the percentage of available transactions at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>

Error Distribution by Category/Type



User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns - Table View	
	<p>"Error Log" on page 812</p> <p>Note: You cannot drill down to the Error Log for the Unclassified category.</p> <p>Graph view: Right-click a pie chart slice and select Drill down to Error Log from the Shortcut menu. The Error Log opens in a new window and includes the errors for the selected category or type.</p>

UI Elements	Description
	<p>Drill down to Error Distribution by Type. The component is regenerated and shows the error types that comprise the category from which you drilled down.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This option is available only when you view the component by category. ▶ You cannot drill down to view the Error Distribution by Type for the Unclassified category. <p>Graph view: Right-click a pie chart slice and select Drill down to Error Distribution by Type from the Shortcut menu.</p>
Graph Elements	
<Group by>	<p>Select whether to view the data grouped by category, or by error type.</p>
<Pie chart>	<p>Comprises color-coded slices representing the different error categories or types.</p> <p>Tooltip: Hold the cursor over a pie chart slice to display a tooltip with additional information relevant to the data.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Up to 10 different slices can be displayed per chart. If there are more than 10 categories or types to be displayed, the ones with the least number of events are grouped together in a slice called others. ▶ In the pie chart showing data by category, the unconfigured error types are grouped together in a slice called Unclassified.

Error Distribution by Transaction



User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
Drilldowns - Table View	
	<p>"Error Log" on page 812. The Error Log opens in a new window and includes the errors for the selected transaction.</p> <p>Graph view: Right-click a pie chart slice and select Drill down to Error Log from the Shortcut menu.</p>
	<p>Drill down to Error Distribution by Transaction. Click to regenerate the BPM Error Summary report for the selected transaction.</p> <p>Graph view: Right-click a pie chart slice and select Drill down to Error Distribution by Transaction from the Shortcut menu.</p>
Graph Elements	
<Pie chart>	<p>Comprises color-coded slices representing the different transactions for the selected applications.</p> <p>Tooltip: Hold the cursor over a pie chart slice to display a tooltip with additional information relevant to the data.</p> <p>Note: Up to 10 different slices can be displayed per chart. If there are more than 10 transactions to be displayed, the ones with the least number of events are grouped together in a slice called others.</p>

Error Distribution by Location/BPM Custom Attributes

Important information	<p>After you configure custom attributes and assign them to Business Process Monitors in End User Management Administration, you must wait for the database to refresh (usually approximately ten minutes) before they are available in the report. For user interface details on configuring custom attributes for Business Process Monitors, see "Manage Custom Attributes Dialog Box" on page 465.</p>
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns - Table View	
	<p>"Error Log" on page 812. The Error Log opens in a new window and includes the errors for the selected location or Business Process Monitors with the selected custom attribute.</p> <p>Graph view: Right-click a pie chart slice and select Drill down to Error Log from the Shortcut menu.</p>
	<p>Drill down to Error Distribution by Location/BPM Custom Attributes. Click to regenerate the BPM Error Summary report for the selected location or Business Process Monitors with the selected custom attribute.</p> <p>Graph view: Right-click a pie chart slice and select Drill down to Error Distribution by Location/BPM Custom Attributes from the Shortcut menu.</p>
Graph Elements	
<Group by>	<p>Select whether to view the data grouped by location, or by Business Process Monitor custom attributes.</p>

UI Elements	Description
<Pie chart>	<p>Comprises color-coded slices representing the different locations or custom attributes.</p> <p>Tooltip: Hold the cursor over a pie chart slice to display a tooltip with additional information relevant to the data.</p> <p>Note: Up to 10 different slices can be displayed per chart. If there are more than 10 locations or custom attributes to be displayed, the ones with the least number of events are grouped together in a slice called others.</p>

BPM Response Time by Percentile Report

This report displays, for the defined time range, the specific response time value that all measured response time values are equal to or below, for the 10th to 100th percentile. For the 10th to the 90th percentile data is shown in 10% increments, and for the 90th to 100th percentile in 1% increments. Each point on the graph, or cell in the table, shows the percentage of transactions whose response time was less than or equal to the response time for the corresponding percentile group.

The BPM Response Time by Percentile data helps you identify response time problems and pinpoint their source. The data enables you to determine whether the highest or lowest response times are not typical of response times in general. For example, if the top 10 percent of transaction response times are significantly higher (for example, because they ran during a server reboot), there would be a sharp increase in the chart slope between the 90th and 100th percentile.

The data also enables you to spot response time trends. For example if the slope of the line suddenly increases at the 50th percentile point, something has caused transaction response times to significantly increase during that time period.

By filtering the data by transaction or location across different time frames, you can identify exactly where and when transaction response times are too slow.



To access	Select Applications > End User Management > Analysis Reports > BPM Response Time by Percentile
Data type	Synthetic user data

<p>Important information</p>	<ul style="list-style-type: none"> ➤ To improve the report's performance, displayed transaction response times are up to 50 milliseconds less than real transaction response times. ➤ When viewed as a table, the columns for the 91st to the 94th percentiles, and the 96th to the 99th percentiles, are hidden by default. You can select these columns to display them. ➤ The graph tooltips and table cells are colored to show the status of the transaction based on the average response time compared to the current transaction time threshold you configured in End User Management Administration. For concept details, see "Status Aggregation Rules Overview" on page 625. The valid statuses are: <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor ➤ Red. Critical ➤ Tooltip: Hold the cursor over a data point or cell to display a tooltip with additional information relevant to the data.
<p>Report settings</p>	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689. ➤ Group by. Select whether to display the data grouped by transaction or location. Default value: Transaction



Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets):



UI Elements (A–Z)	Description
<X-axis>	Percentile. Displays the percentiles, in 10% increments.
<Y-axis>	Response Time. The response time, in seconds.

Error Log

This report displays a detailed log of the errors that occurred in selected Business Process Monitor transactions, during a given time period.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ➤ In the Performance Raw Data report select a row and click the Drill down to Error Log  button. (You can also drill down directly from the Errors column in the report.) ➤ In the BPM Error Summary report: <ul style="list-style-type: none"> ➤ Table View. Select a row in the table and click the Drill Down to Error Log Report  button. ➤ Graph View. Click a slice in one of the error distribution pie charts and then click Error Log. ➤ The Error Log is a default component in the Triage Raw Data report.
Data type	Synthetic user data
Report settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689.

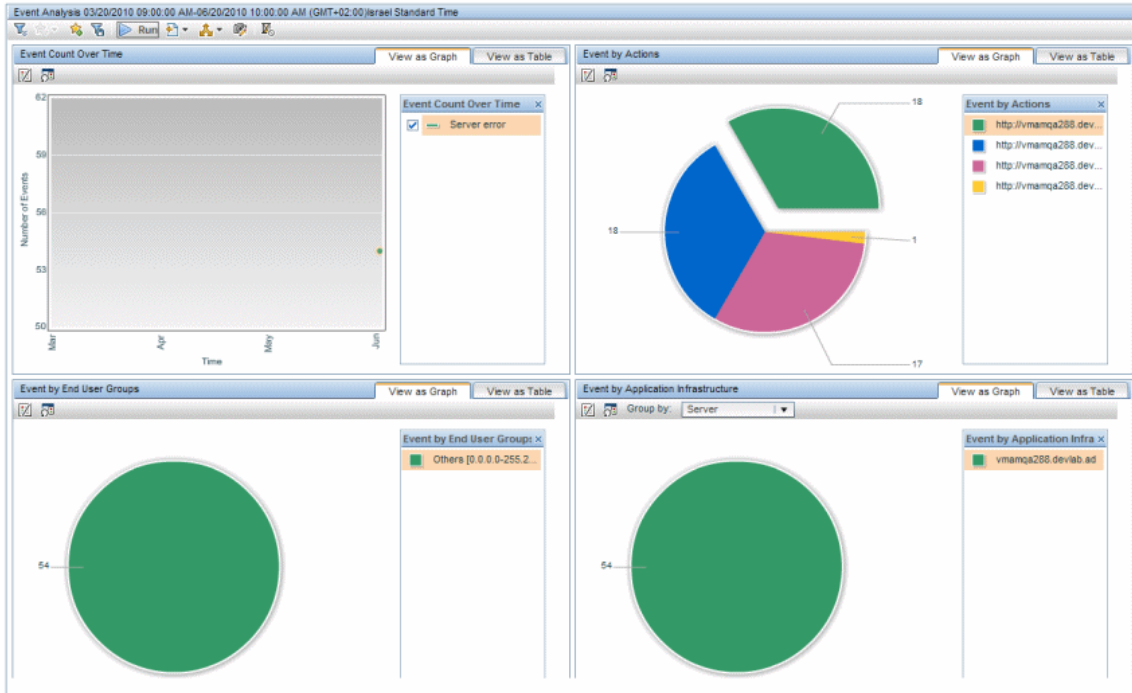
User interface elements are described below (unlabeled elements are shown in angle brackets):


UI Elements	Description
Drilldowns - Table View	
	<p>View Snapshot Button. Click to open a snapshot of the error in a new browser window. For concept details, see "Snapshot on Error" on page 758.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The snapshot is of the first error that occurred in the transaction, even if more than one error occurred. ▶ This button is enabled if the original Business Process Monitor script is configured to save snapshots. For details, see "Advanced Configuration Options" in the <i>Business Process Monitor Administration PDF</i>
	<p>Download Snapshot Button. Click to download a copy of the snapshot to a .zip file. For concept details, see "Snapshot on Error" on page 758.</p> <p>Note: This button is enabled if the original Business Process Monitor script is configured to save snapshots. For details, see "Advanced Configuration Options" in the <i>Business Process Monitor Administration PDF</i></p>
Report Columns (A-Z)	
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Application	<p>The name of the application in which the error occurred.</p> <p>Note: This column is displayed only when you select multiple applications for the report.</p>
Business Transaction Flow	<p>The name of the business transaction flow in which the error occurred.</p> <p>Note: This column is hidden by default.</p>
Error Line	The line in the file referenced in the File Name column at which the error occurred.

UI Elements	Description
Error Message	The error message that HP Business Service Management generates at the time of the error. Note: For user-defined errors (error type -17999), HP Business Service Management displays the user message.
Error Name	The error name.
File Name	The name of the file in the script directory containing the script steps that were running when the error occurred.
Location	The name of the location of the transaction that is in error.
Snapshot	Displays a check mark if there is a snapshot of the error, or a minus sign if there is no snapshot of the error.
Time	The time that the error occurred.
Transaction	The name of the transaction that is in error.

Event Analysis Report

This report displays data for a selected event type, broken down by actions, by end-user groups and by servers. The report also displays the Event Count Over Time report for the selected event type.



<p>To access</p>	<p>In the RUM Event Summary report</p> <ul style="list-style-type: none"> ▶ Table view: Select the row of the event type for which you want to drill down and click the Drill down to Event Analysis  button. ▶ Graph view: Right-click a pie chart slice or graph data point and select Drill down to Event Analysis from the Shortcut menu.
<p>Data type</p>	<p>Real user data</p>
<p>Report settings</p>	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.



Event Count Over Time

UI Elements (A–Z)	Description
<Drilldown>	<p>"Event Analysis Report" on page 815. Regenerate the Event Analysis report with a higher time resolution. For example, if you click a data point or cell that displays data for an hour, the time resolution changes to five minute intervals for the specific hour. To regenerate the report:</p> <ul style="list-style-type: none"> ▶ Table view: Click a data cell value. ▶ Graph view: Right-click a data point and select Drill down to Event Analysis from the Shortcut menu. <p>Note: When you drill down to a higher time resolution, all the components in the Event Analysis report are updated for the new time resolution.</p>
<X-axis>	<p>Time. The time units for the selected time period.</p>
<Y-axis>	<p>Number of Events. The number of events that occurred.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>

Event by Actions, End-User Groups, or Running Software X


There is a different component (pie chart or table) for each type of data displayed.

User interface elements are described below (unlabeled elements are shown in angle brackets):


UI Elements	Description
Drilldowns - Table View	
	<p>"Event Analysis Report" on page 815 (in the Event by Actions component only). Select an action and click the Drill down to Event Analysis button, to regenerate the Event Analysis report for the specific action.</p> <p>Graph view: Right-click a pie chart slice and select Drill Down to Event Analysis from the Shortcut menu</p>
	<p>"Event Log" on page 819</p> <p>Graph view: Right-click a pie chart slice and select Drill down to Event Log from the Shortcut menu.</p>
Graph Elements	
<Pie chart>	<p>Comprises color-coded slices representing the different pages, end-user groups, or running software on which the events occurred.</p> <p>Tooltip: Hold the cursor over a pie chart slice to display a tooltip with additional information relevant to the data.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Up to 10 different slices can be displayed per chart. If there are more than 10 actions, end-user groups, or running software to be displayed, the ones with the least number of events are grouped together in a slice called others. ▶ In the pie chart showing data by actions, events that occurred in a session and that are not related to a specific action description or URL, are grouped together in a slice called Session Events.

Event Log

This report displays a log of the occurrences of a specific event type for a selected time frame.

To access	<ul style="list-style-type: none"> ▶ In the Event Analysis report <ul style="list-style-type: none"> ▶ Table view: Click the Drill down to Event Log  button. ▶ Graph view: Right-click a pie chart slice to display a and then click Drill down to Event Log in the Shortcut menu.
Data type	Real user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements: (A-Z)	Description
Drilldowns	
	"Session Details Report" on page 918
Report Columns	
Time	The date and time that the event occurred.
Application	The application in which the event occurred.
Event Name	The event name as you configured in End User Management Administration.
Tier	The application tier in which the event occurred.

UI Elements: (A-Z)	Description
Server	The name or IP address of the server on which the event occurred.
Action Name	The name of the action on which the event occurred.
End User	The name or IP address of the end-user group that hit the action on which the event occurred. Tooltip: Hold the cursor over an End User cell to display a tooltip with additional information relevant to the end user.
Event Details	The actual event data (for example, an actual response time or an http status code).

Metrics Over Time Report

This report enables you to select one or more metrics for selected applications and to view their behavior over a period of time. By selecting multiple metrics, you can compare their behavior to discover possible correlations between them.

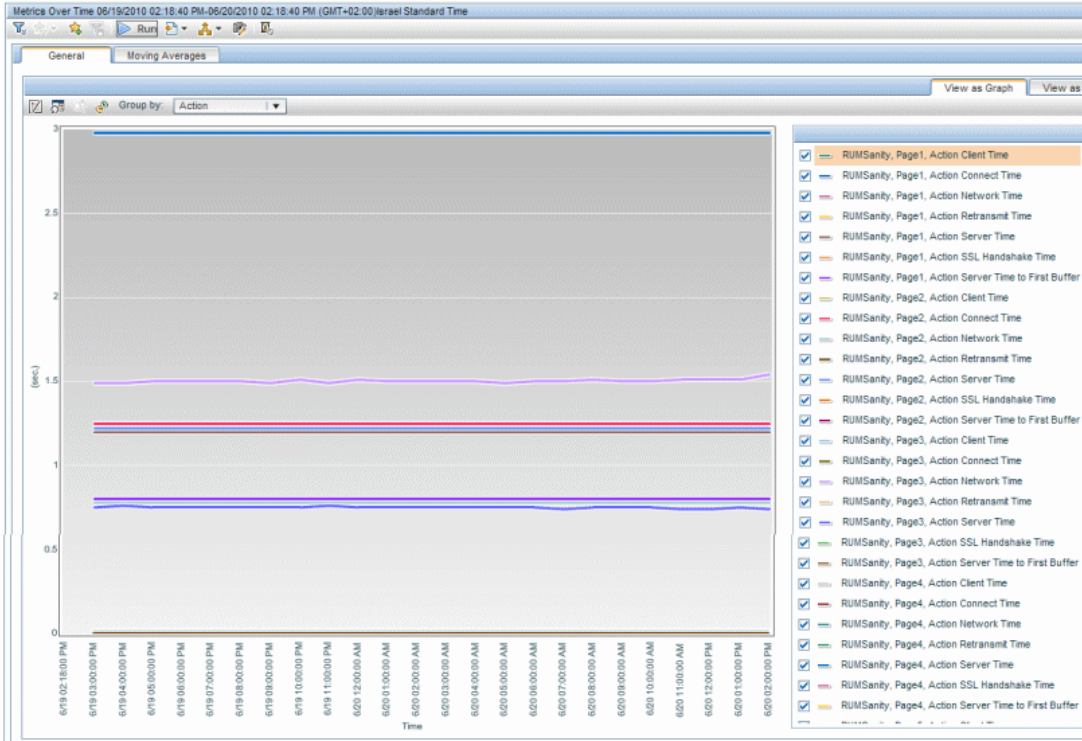
The report comprises the following two components (graphs or tables):

- ▶ **General.** Displays data for the actual metric behavior over the selected time period.
- ▶ **Moving Averages.** Displays both the actual metric data, as well as additional data based on a moving average of the previous three data measurements.

For example, the following table shows the values for both the actual metric behavior and the moving averages for the total number of transactions for an application, for the time period of a week which is broken down into days:

Included in Report Time Perios	Date	Actual Metric Value	Moving Average (based on 3 previous measurements)
	March 1st.	7	NA
	March 2nd.	5	NA
	March 3rd.	6	NA
✓	March 4th.	9	$6 ((7+5+6) / 3)$
✓	March 5th.	7	$6.67 ((5+6+9) / 3)$
✓	March 6th.	5	$7.33 ((6+9+7) / 3)$
✓	March 7th.	11	$7 ((9+7+5) / 3)$
✓	March 8th.	8	$7.67 ((7+5+11) / 3)$
✓	March 9th.	8	$8 ((5+11+8) / 3)$
✓	March 10th.	6	$9 ((11+8+8) / 3)$

You can also view data for up to four different time comparisons.



To access

Select **Applications > End User Management > Analysis Reports > Metrics Over Time**

Data type	Real user data Synthetic user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689. ▶ Metrics. Click to open the Metrics dialog box, where you select the metrics you want to include in the report. For user interface details, see "Metrics Dialog Box" on page 826. Note: You can only select metrics that between them, use up to two different units of measure. ▶ Group by. Select how to group the data. The available options depend on the metrics you select for the report. If a selected metric is valid in more than one entity, the different entities are the available Group by options. For example, if you select Total Transactions as a metric for the report and Total Transactions is a metric for applications, end-user groups, and locations, then the available Group by options are applications, end-user groups, and locations. Note: <ul style="list-style-type: none"> ▶ The Group by setting is only available after you have generated the report. ▶ Only groupings that are common to all the selected metrics are available as Group by options.

Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis> (left)	The first unit of measurement for the selected metrics.

UI Elements	Description
<Y-axis > (right)	The second unit of measurement for the selected metrics, if applicable.
<Data lines>	<p>Data lines indicate the metric measurement at each point over the course of the defined time period. There is a data line for each selected metric for each selected application.</p> <p>In the Moving Averages graph there are two data lines for each metric for each application. The first displays the actual metric behavior and the second displays the moving averages metric behavior.</p> <p>If you view time comparison data, there is an additional data line for each metric for each application, for each time comparison (you can view a maximum of four time comparisons).</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data. When applicable, the tooltip is colored to indicate the metric status. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor ➤ Red. Critical

UI Elements	Description
<Legend>	<p>The legend describes the color coding used in the graphs. Legend names comprise the Group by setting, the application name, the transaction name (when applicable), the sample type, and the metric.</p> <p>Note:</p> <ul style="list-style-type: none">▶ When you view the Moving Averages graph, there are two data lines for each metric displayed. The first is for the actual metric behavior and the second is for the moving averages metric behavior. The legend name for the moving averages data line is the same as for the regular data line, with the addition of (MA) at the end.▶ When you view time comparisons, there is an additional data line for each metric for each time comparison (you can view a maximum of four time comparisons). The legend name for the time comparisons is the same as for the actual metric data line, with the addition of the time comparison name at the end.

Metrics Dialog Box


User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
<p>Browse Views tab</p>	<p>Click the Browse Views tab to display a hierarchical tree of the metrics available for the selected applications. Select the check boxes for the metrics you want to include in the report.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Only metrics that are valid for the selected applications are included in the tree. ▶ The tree shows the entities included in the selected applications (for example, transactions, actions, and so forth) and their available metrics. Only the actual metrics are enabled for selection. ▶ The metrics are grouped by data type according to the selected applications. That is, metrics for synthetic user data and metrics for real user data. The same metric may appear in each data type. ▶ You can only select metrics that between them, use up to two different units of measure (for example, percentage and kilobytes).

UI Elements	Description
Search CIs tab	<p>Click the Search CIs tab to search for entity names in the tree that contain a specific string, or for CIs of a specific CI type.</p> <p>Search results are displayed in the lower part of the search tab. Right-click an entry in the search results table to open a Shortcut menu and click:</p> <p>Select in tree. Displays the hierarchical tree with the entity's check box selected.</p> <p>Locate in tree. Displays the hierarchical tree with the entity visible (that is, if the tree is too long for all of it to be visible without scrolling, the area that includes the entity is displayed).</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The search is made on the hierarchical tree displayed in the Browse Views tab. ▶ The search is not case sensitive. ▶ When searching for an entity name, you can use the asterisk (*) wildcard in your string to match one or more words of text.

Page Component Breakdown Report

This report displays a component breakdown for a selected Business Process Monitor transaction's page in the Performance Raw Data report.





To access	In the Performance Raw Data report > Transaction Response Time Breakdown component, select a page and click the Drill down to Page Component Breakdown Report  button.
Data type	Synthetic user data
See also	"Performance Raw Data Report" on page 836
Report settings	Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i> .

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements: (A-Z)	Description
Action Descriptor	The page name.
Average Size (KB)	The average size, in kilobytes, of the page component.
Component URL	The URL of the page component.
Net Time (sec)	The net time of the page component, in seconds.
Total Time Distribution	<p>Each color coded segment of the bar represents a different category of the page component, as described in the legend. The size of the segment is proportionate to the average category time in relation to the page component's total time.</p> <p>Note: When viewed as a table, the total time is broken down into individual page component categories, with a column for each category that shows the page component time for the category.</p>

Performance Analysis Report

This report displays the high level performance of Business Process Monitor or Real User Monitor applications, broken down by transactions or locations. The report includes transaction time breakdown and error information.

<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Applications > End User Management > Analysis Reports > Performance Analysis ▶ In the Status Snapshot report > Least Available Transactions component: <ul style="list-style-type: none"> ▶ Table view: Select a row and click the Drill down to Performance Analysis  button. ▶ Graph view: Right-click a bar and select Drill down to Performance Analysis from the Shortcut menu. ▶ In the Triage report > Transaction by Location table, select a row and click the Drill down to Performance Analysis  button. ▶ In the Location Analysis report > Summary table, select a row and click the Drill down to Performance Analysis  button. ▶ In the Location Analysis report > Transaction Threshold Breaches component: <ul style="list-style-type: none"> ▶ Table view: Select a row and click the Drill down to Performance Analysis  button. ▶ Graph view: Right-click a pie chart slice and select Drill down to Performance Analysis from the Shortcut menu.
<p>Important information</p>	<p>When you select a row in the Transaction Performance component of the report, the Threshold Breaches by Transaction and Threshold Breaches by Location components are automatically updated to display data for the selected transaction or location.</p>

Data type	<ul style="list-style-type: none"> ➤ Real user data ➤ Synthetic user data <p>Note: You must select either real user data or synthetic data. You cannot view both types of data at the same time.</p>
See also	"Analysis Reports Overview" on page 758
Report Settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689.

Transaction Performance

This report displays a color-coded bar that breaks down the selected applications' transaction times into categories, enabling you to determine whether poor transaction response times are being caused by network or server problems, or by client delays. For details on the breakdown categories used in the report, see "Understanding Transaction Breakdown in Reports" on page 635.

The report further displays, for the selected time frame, additional transaction data such as the size (in KB) of all actions in the transaction, availability, number of runs, and number of errors.





You can obtain further insight into the cause of transaction problems by correlating transaction breakdown data with other HP Business Service Management reports. For concept details, see "Correlating Transaction Breakdown Summary Data with Other HP Business Service Management Reports" on page 653.

Transaction Name	Application	Total Time (sec.)	Total Time Distribution	Availability (%)	Runs	Runs Breaching Thresholds (%)	Average Size (KB)	Errors
trans_1	Default Client_Snt_Ap2_1	3.99		100.00	18	0.00	0.00	0
trans_10	Default Client_Snt_Ap2_1	4.00		100.00	19	0.00	0.00	0
trans_2	Default Client_Snt_Ap2_1	4.00		100.00	18	0.00	0.00	0
trans_3	Default Client_Snt_Ap2_1	4.00		100.00	18	0.00	0.00	0
trans_4	Default Client_Snt_Ap2_1	4.00		100.00	18	0.00	0.00	0
trans_5	Default Client_Snt_Ap2_1	5.00		100.00	18	0.00	0.00	0
trans_6	Default Client_Snt_Ap2_1	6.00		100.00	18	0.00	0.00	0
trans_7	Default Client_Snt_Ap2_1	1.00		100.00	18	0.00	0.00	0
trans_8	Default Client_Snt_Ap2_1	2.00		100.00	19	0.00	0.00	0
trans_9	Default Client_Snt_Ap2_1	3.00		100.00	19	0.00	0.00	0
tx_10	Default Client_Snt_Ap1_1	10.00		100.00	18	0.00	0.00	0
tx_10	Default Client_Snt_Ap1_1	10.00		100.00	19	0.00	0.00	0
tx_15	Default Client_Snt_Ap1_1	15.00		100.00	19	0.00	0.00	0
tx_15	Default Client_Snt_Ap1_1	15.00		100.00	18	0.00	0.00	0
tx_1_failed	Default Client_Snt_Ap1_1	3.00		82.86	105	0.00	0.00	10
tx_1_failed	Default Client_Snt_Ap1_1	3.00		89.95	189	0.00	0.00	10
tx_2_failed	Default Client_Snt_Ap1_1	-		0.00	18	0.00	0.00	10
tx_2_failed	Default Client_Snt_Ap1_1	-		0.00	19	0.00	0.00	10
tx_5	Default Client_Snt_Ap1_1	5.00		10.00	105	0.00	0.00	0
tx_5	Default Client_Snt_Ap1_1	4.99		17.00	102	0.00	0.00	0
		4.64		69.31	795	0.00	0.00	40

Client Time (ms.)	Download time (ms.)	SSL Handshaking Time (ms.)	Connection time (ms.)
DNS time (ms.)	Retry time (ms.)	Server Time to First buffer (ms.)	Network Time to First buffer (ms.)
Time to First Buffer (ms.)	Critical	OK	Minor
No Data	Downtime		

<p>Important information</p>	<p>The time displayed in the Total Time and the Total Time Breakdown columns may differ. This is because the Total Time column includes data for all transaction runs whereas, the Total Time Breakdown column includes data only for runs that include breakdown data.</p>
<p>Report settings</p>	<p>Group by. Select whether to display the data by transaction, or grouped by location. Depending on the selected option, each row in the report represents either one transaction over all locations, or all the transactions for one location.</p> <p>Default value: Transaction</p>

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
Drilldowns	
	"Performance Raw Data Report" on page 836
	"BPM Performance Status Report" on page 726
	"BPM Error Summary Report" on page 803 (for synthetic user data only)
	Drill down to Diagnostics (for synthetic user data only). Click to drill down to HP Diagnostics Synthetic Transactions view. For concept details, see "Viewing HP Diagnostics Data From End User Management Reports" on page 661.
Report Columns (A-Z)	
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Application	The name of the application that includes the transaction. Note: This column is displayed only when you select multiple applications for the report.
Availability (%)	The average percentage of availability for all the selected applications' transaction runs.
Average Size (KB)	The average size, in kilobytes, of all the components in all the selected applications' transaction runs.
Business Transaction Flow	The name of the business transaction flow that includes the transaction. Note: This column is hidden by default.

UI Elements	Description
Errors	<p>The number of transaction errors in all the selected applications' transaction runs. Click the value to drill down to the following reports:</p> <ul style="list-style-type: none"> ▶ BPM Error Summary report for Business Process Monitor transactions. For user interface details, see "BPM Error Summary Report" on page 803. ▶ RUM Event Summary report for Real User Monitor transactions. For user interface details, see "RUM Event Summary Report" on page 892.
Location Name	<p>The location name.</p> <p>Note: The location name is displayed only when you group the report by location.</p>
Net Time (sec)	<p>The average net time, in seconds, for all the selected application's transaction runs.</p> <p>Note: Valid for Real User Monitor transactions only.</p>
Runs	<p>The total number of transaction runs.</p>
Runs Breaching Thresholds (%)	<p>The percentage of transaction runs in which the transaction threshold was breached.</p>
Server Time (sec)	<p>The average total server time, in seconds, for all the selected applications' transaction runs.</p> <p>Note: Valid for Real User Monitor transactions only.</p>
Total Time (sec)	<p>The average total time, in seconds, for all the selected applications' transaction runs.</p> <p>Note: Valid for Business Process Monitor transactions only.</p>

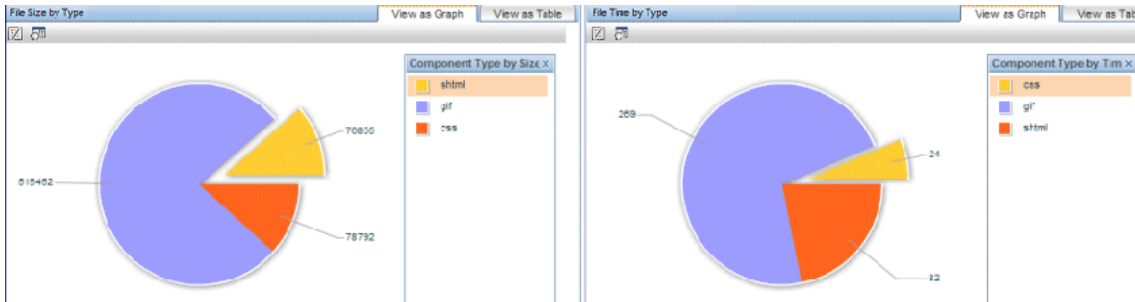
UI Elements	Description
Total Time Distribution	<p>Each color coded segment of the bar represents a different category of the transaction, as described in the legend. The size of the segment is proportionate to the average category time in relation to the average total time of all the selected applications' transaction runs.</p> <p>Note: When viewed as a table, the total time is broken down into individual transaction categories, with a column for each category that shows the average transaction time for the category. For details on the Business Process Monitor breakdown categories used in the report, see "Understanding Transaction Breakdown in Reports" on page 635. For details on the Real User Monitor breakdown categories used in the report, see "Overview of HP Real User Monitor Performance Measurements" in the <i>Real User Monitor Administration</i> PDF.</p>
Transaction Name	<p>The transaction name.</p> <p>Note: The transaction name is displayed only when you group the report by transaction.</p>

Transaction Breakdown

This report displays the average response time for all the transactions displayed in the Performance by Transaction component, broken down into categories, as well as the number of transaction hits, over time. For user interface details, see "Transaction Breakdown" on page 972.

Threshold Breaches by Location/Transaction

These reports display the distribution of performance (total time threshold breaches) by location/transaction, enabling you to gain a better understanding of the location/transaction with the most breaches.



Important information




- ▶ The reports are dynamically updated according to the row selected in the Performance by Transaction component, so the information displayed is for the selected location/transaction only, unless the summary line is selected.
- ▶ When you view the reports for a selected transaction, the Threshold Breaches by Transaction pie chart includes one slice (transaction) only. When you view the reports for a selected location, the Threshold Breaches by Location pie chart includes one slice (location) only.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<Pie chart>	<p>When you view the report as a graph, a pie chart is displayed with each slice representing a different location/transaction.</p> <p>Tooltip: The transaction or location name and the number of breaches.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The color coding is described in the legend. ▶ Up to 10 different slices can be displayed in the chart. If there are more than 10 locations/transactions to be displayed, the ones with the least number of breaches are grouped together in a slice called others.

Performance Raw Data Report

This report displays performance and availability raw data (that is, non aggregated data) for a single transaction or location.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ In the Performance Analysis report > Transaction Performance component, select a transaction or location and click the Drill down to Performance Raw Data  button. ▶ In the BPM Performance Status report, select a transaction and click the Drill down to Performance Raw Data  button. ▶ In the RUM Transaction Summary report, select a transaction and click the Drill to Performance Raw Data  button.
------------------	--

Data type	<ul style="list-style-type: none"> ➤ Real user data ➤ Synthetic user data
Report Settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689.

Transaction Performance

This component displays a color-coded bar that breaks down the selected transaction's response times into categories, enabling you to determine whether poor transaction response times are being caused by network or server problems, or by client delays. For details on the breakdown categories for Business Process Monitor, see "Understanding Transaction Breakdown in Reports" on page 635. For details on the breakdown categories for Real User Monitor, see "Overview of HP Real User Monitor Performance Measurements" in the *Real User Monitor Administration* PDF.



The report further displays, for the selected time frame, additional transaction data such as the average size (in KB) of all pages or actions in the transaction, number of runs, location, running software and server name (for Real User Monitor transactions), and server IP address and number of errors (for Business Process Monitor transactions).

You can obtain further insight into the cause of transaction problems by correlating transaction breakdown data with other HP Business Service Management reports. For concept details, see "Correlating Transaction Breakdown Summary Data with Other HP Business Service Management Reports" on page 653.

Time ▲	Transaction	Server IP	Total Time (sec.)	Total Time Distribution	Total Size (KB)	Errors
2/14/10 1:51 PM	ERR_WRN_TX_2	16.59.64.172	326		723.00	
2/14/10 2:06 PM	ERR_WRN_TX_2	16.59.64.172	305		723.00	
2/14/10 2:21 PM	ERR_WRN_TX_2	16.59.64.172	292		723.00	
2/14/10 2:36 PM	ERR_WRN_TX_2	16.59.64.172	309		723.00	
2/14/10 2:51 PM	ERR_WRN_TX_2	16.59.64.172	327		723.00	
2/14/10 3:06 PM	ERR_WRN_TX_2	16.59.64.172	313		723.00	

Important information	Total time and server time (for real user data) are in seconds, whereas distribution times are in milliseconds.
------------------------------	---

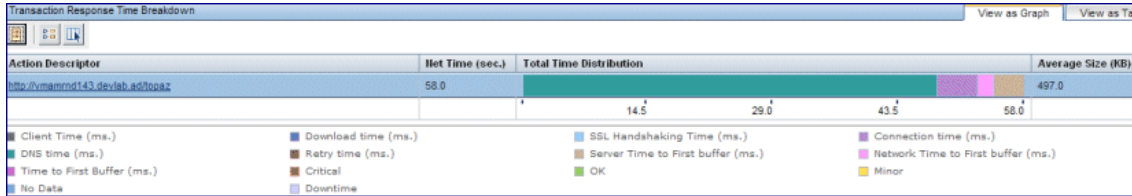
User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns	
	"Error Log" on page 812 (for synthetic user data only).
	Drill down to Diagnostics (for synthetic user data only). Click to drill down to HP Diagnostics Synthetic Transactions view. For concept details, see "Viewing HP Diagnostics Data From End User Management Reports" on page 661.
Report Columns (A-Z)	
Average Size (KB)	The average size, in kilobytes, of all the transaction components.
Errors	The number of errors in the transaction run. Click the value to drill down to the Error Log report. For user interface details, see "Error Log" on page 812. Note: Valid for Business Process Monitor transactions only.
Location	The location of the transaction.
Net Time (sec)	The net time, in seconds, of the transaction (that is, server time + network time + client time of all the actions included in the transaction). Note: Valid for Real User Monitor transactions only.
Running Software Name	The running software element on the server for the transaction. Note: Valid for Real User Monitor transactions only.

UI Elements	Description
Server IP	The IP address of the server on which the transaction ran. Note: Valid for Business Process Monitor transactions only.
Server Name	The name of the server for the transaction. Note: Valid for Real User Monitor transactions only.
Server Time	The server time of the transaction, in seconds. Note: Valid for Real User Monitor transactions only.
Time	The time of the transaction run.
Total Time (sec)	The total time of the transaction run, in seconds. Note: Valid for Business Process Monitor transactions only.
Total Time Distribution	Each color coded segment of the bar represents a different category of the transaction, as described in the legend. The size of the segment is proportionate to the average category time in relation to the transaction's total time. Note: When viewed as a table, the total time is broken down into individual transaction categories, with a column for each category that shows the transaction time for the category.
Transaction	The transaction name.


Transaction Response Time Breakdown

This component displays the response time for the pages (synthetic user data) or actions (real user data) of the transaction selected in the Transaction Performance component, broken down into categories, as well as their net time and average size.



Important information	Net time is in seconds, whereas distribution times are in milliseconds.
------------------------------	---

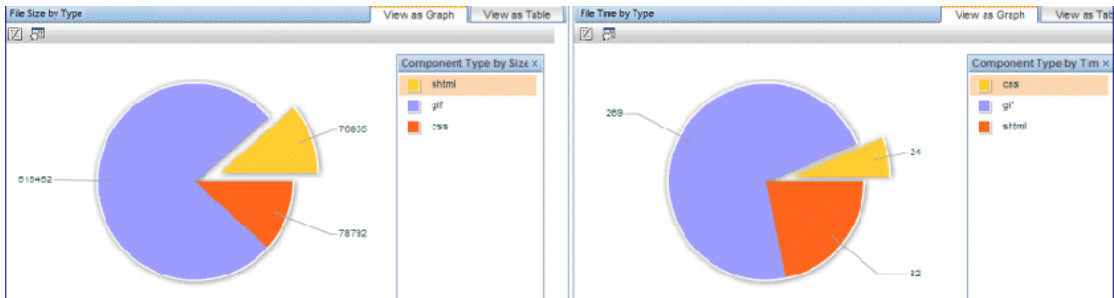
User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns	
	"Page Component Breakdown Report" on page 827 (for synthetic user data only). The report opens in a new window.
Report Columns (A-Z)	
Action Description	The action description.
Server Time (sec)	The server time of the action, in seconds. Note: Valid for Real User Monitor transactions only.
Size (KB)	The average size, in kilobytes, of the action.
Total Time (sec)	The total time of the action, in seconds.

UI Elements	Description
Total Time Distribution	<p>Each color coded segment of the bar represents a different category of the action, as described in the legend. The size of the segment is proportionate to the average category time in relation to the action's total time.</p> <p>Note: When viewed as a table, the total time is broken down into individual transaction categories, with a column for each category that shows the action time for the category.</p>

File Size/Time by Type

These components display the size and download time of the pages (synthetic user data) or actions (real user data) of the transaction selected in the Transaction Performance component, broken down by type.



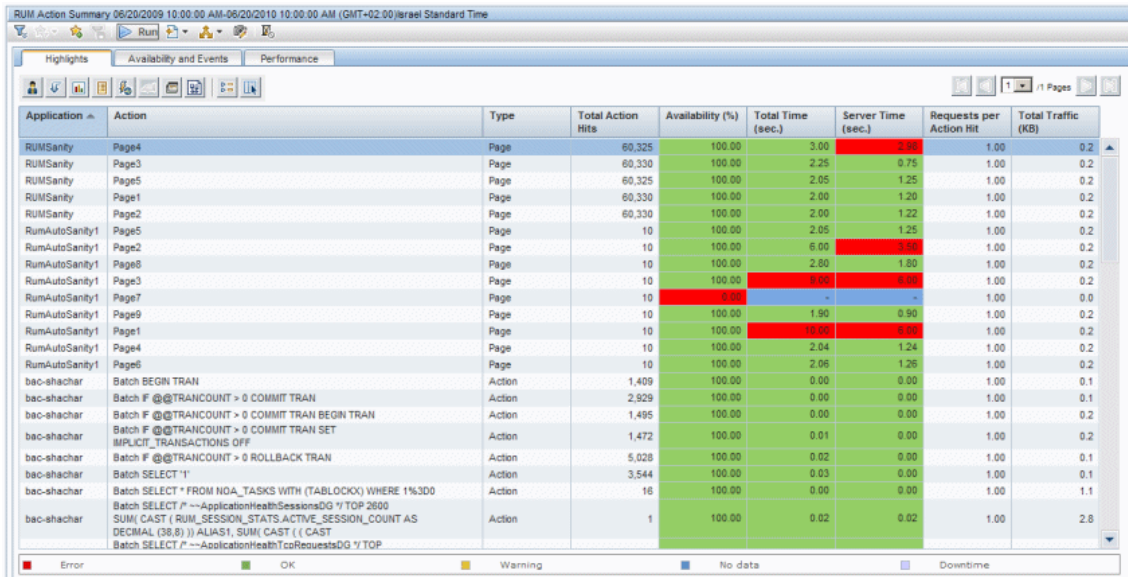
User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
<Pie chart>	When you view the report as a graph, a pie chart is displayed with each slice representing a different type.





RUM Action Summary Report

This report displays general, availability, and performance data for selected actions (such as Web pages or SOAP operations).

Examining action data helps you determine the status of an application in general, or of a specific monitoring tier. You can identify problematic actions and can drill down to view action behavior over time by different end-user groups or infrastructure elements, or view action raw data.













Application	Action	Type	Total Action Hits	Availability (%)	Total Time (sec.)	Server Time (sec.)	Requests per Action Hit	Total Traffic (KB)
RUMSanity	Page4	Page	60,325	100.00	3.00	1.34	1.00	0.2
RUMSanity	Page3	Page	60,330	100.00	2.25	0.75	1.00	0.2
RUMSanity	Page5	Page	60,325	100.00	2.05	1.25	1.00	0.2
RUMSanity	Page1	Page	60,330	100.00	2.00	1.20	1.00	0.2
RUMSanity	Page2	Page	60,330	100.00	2.00	1.22	1.00	0.2
RumAutoSanity1	Page5	Page	10	100.00	2.05	1.25	1.00	0.2
RumAutoSanity1	Page2	Page	10	100.00	6.00	3.50	1.00	0.2
RumAutoSanity1	Page8	Page	10	100.00	2.00	1.50	1.00	0.2
RumAutoSanity1	Page3	Page	10	100.00	8.00	0.90	1.00	0.2
RumAutoSanity1	Page7	Page	10	0.00	-	-	1.00	0.0
RumAutoSanity1	Page9	Page	10	100.00	1.90	0.90	1.00	0.2
RumAutoSanity1	Page1	Page	10	100.00	10.00	0.90	1.00	0.2
RumAutoSanity1	Page4	Page	10	100.00	2.04	1.24	1.00	0.2
RumAutoSanity1	Page6	Page	10	100.00	2.06	1.26	1.00	0.2
bac-shachar	Batch BEGIN TRAN	Action	1,409	100.00	0.00	0.00	1.00	0.1
bac-shachar	Batch F @@TRANCOUNT > 0 COMMIT TRAN	Action	2,929	100.00	0.00	0.00	1.00	0.1
bac-shachar	Batch F @@TRANCOUNT > 0 COMMIT TRAN BEGIN TRAN	Action	1,495	100.00	0.00	0.00	1.00	0.2
bac-shachar	Batch F @@TRANCOUNT > 0 COMMIT TRAN SET IMPLICIT_TRANSACTIONS OFF	Action	1,472	100.00	0.01	0.00	1.00	0.2
bac-shachar	Batch F @@TRANCOUNT > 0 ROLLBACK TRAN	Action	5,028	100.00	0.02	0.00	1.00	0.1
bac-shachar	Batch SELECT 'I'	Action	3,544	100.00	0.03	0.00	1.00	0.1
bac-shachar	Batch SELECT * FROM NOA_TASKS WITH (TABLOCKX) WHERE 1%3D0	Action	16	100.00	0.00	0.00	1.00	1.1
bac-shachar	Batch SELECT # ---ApplicationHealthSessionsDG % TOP 2000 SUM(CAST (RUM_SESSION_STATS.ACTIVE_SESSION_COUNT AS DECIMAL (38,8))) ALIAS1, SUM(CAST ((CAST Batch SELECT # ---ApplicationHealthToRequestsDG % TOP	Action	1	100.00	0.02	0.02	1.00	2.8

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ➤ Select Applications > End User Management > Analysis Reports > RUM Action Summary ➤ In the RUM End User Group Summary report, select an end-user group or subgroup and click the Drill down to RUM Action Summary  button. ➤ In the RUM Tier Summary report, select an application tier and click the Drill down to RUM Action Summary  button. ➤ In the RUM Transaction Summary report, select a transaction and click the Drill down to RUM Action Summary  button. ➤ In the RUM Application Infrastructure Summary report, select a row and click the Drill down to RUM Action Summary  button.
Important information	<p>The Availability, Performance, Total Time, and Server Time columns are color-coded, based on the action's relevant thresholds configured in End User Management Administration.</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor ➤ Red. Critical ➤ Blue. No data ➤ Lavender. Downtime
Data type	Real user data
See also	"Real User Monitor Application <Actions> Page" on page 321
Report settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689.

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns	
	"RUM End User Group by Action Report" on page 860
	"Application Infrastructure by Action Report" on page 785
	"Action Over Time Report" on page 772
	"Action Raw Data Report" on page 781
	"RUM Event Summary Report" on page 892
	"RUM Session Analyzer Report" on page 896
	Drill down to Transaction Tracking. Click to view Transaction Management's Transaction Tracking report, where you can see detailed information of the actions within the session. For concept details, see "Viewing TransactionVision Data From End User Management Reports" on page 665.
	Drill down to Diagnostics. Click to drill down to HP Diagnostics for a specific action. For concept details, see "Viewing HP Diagnostics Data From End User Management Reports" on page 661.
	Drill down to NNM. Click to drill down to HP Network Node Manager. For concept details, see "Viewing HP Network Node Manager Data From Real User Monitor Reports" on page 668.

UI Elements	Description
Actions	
	<p>Define Action. Click to open the Real User Monitor Application <Actions> page in a new window, where you can add and define a new action for an application. When you access the New Action dialog box from the Real User Monitor Application <Actions> page, the selected action's description or URL is automatically entered in the dialog box. For user interface details, see "<Action> Dialog Box" on page 278.</p> <p>Note: The Define Action button is enabled only for selected actions that are not yet defined in End User Management Administration.</p>

Highlights Tab

The Highlights tab displays selected data from the other tabs in the report and enables you to view key information at one time, without having to move from tab to tab.

Important information	<p>The Availability (%), Total Time, and Server Time columns and tooltips are color-coded, based on the relevant thresholds configured for them in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ▶ Green. OK ▶ Yellow. Minor (not valid for Availability) ▶ Red. Critical ▶ Blue. No data ▶ Lavender. Downtime
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements: (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.

UI Elements: (A-Z)	Description
Action	The name you assigned the action in End User Management Administration. Note: For unconfigured actions, the action description is displayed.
Application	The name of the application that includes the action. Note: This column is displayed only when you select multiple applications for the report.
Availability	The percentage of hits for which each action was available. Note: This column is color-coded based on the availability threshold you configured for the tier in End User Management Administration.
Requests per Action Hit	The average number of requests sent for each action hit.
Server Time	The average amount of time, in seconds, that it took the server to process the requests for each action. This column is color-coded, based on the action's server time in relation to the server time threshold you defined in End User Management Administration.
Total Actions Hits	The total number of hits each action received.
Total Time	The average total time, in seconds for each action. This column is color-coded, based on the action's total time in relation to the total time threshold you defined in End User Management Administration.
Total Traffic	The average amount of network traffic (action traffic and TCP layer overhead traffic), in kilobytes, for each action. That is, the total amount of traffic for the action divided by the total number of hits for the action.
Type	The type of action (for example, page, operation, or query).

Availability and Events Tab

The Availability and Events tab displays the action availability for each monitored action as well as the number of events that occurred on each action.

Important information	<p>The Availability (%) column and tooltip are color-coded, based on the availability threshold you configured for the tier in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Red. Critical ➤ Blue. No data ➤ Lavender. Downtime
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements: (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Action	<p>The name you assigned the action in End User Management Administration.</p> <p>Note: For unconfigured actions, the action description is displayed.</p>
Application	<p>The name of the application that includes the action.</p> <p>Note: This column is displayed only when you select multiple applications for the report.</p>
Availability	The percentage of hits for which each action was available.
Error Events	The number of error events that occurred on the action, based on the error events you defined for the action, or application, in End User Management Administration.

UI Elements: (A-Z)	Description
Info Events	The number of informational events that occurred on the action, based on the informational events you defined for the action, or application, in End User Management Administration.
Stopped Action Hits	The number of hits for which each action was unavailable due to it being stopped. A stopped action is an action which the client stopped downloading abruptly. On Web applications, this usually happens when an end-user clicks the stop button in the browser before the page has completed its download.
Total Action Hits	The total number of hits each action received.

Performance Tab

The Performance tab displays data about the duration of each monitored action.

Important information	<p>The Performance, Total Time, and Server Time columns and tooltips are color-coded, based on the relevant thresholds configured for them in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor (not valid for Availability) ➤ Red. Critical ➤ Blue. No data ➤ Lavender. Downtime
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):




UI Elements: (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.

UI Elements: (A-Z)	Description
Action	The name you assigned the action in End User Management Administration. Note: For unconfigured actions, the action description is displayed.
Application	The name of the application that includes the action. Note: This column is displayed only when you select multiple applications for the report.
Client Time (sec)	The average amount of time, in seconds, that each action's requests were delayed on the client machine.
Connect Time (sec)	The average amount of time, in seconds, that it took to establish an initial connection to the server from the first HTTP request sent for the action.
Network Time (sec)	The average amount of time, in seconds, that each action's requests were delayed on the network. Connect, SSL handshake, and retransmit times are also included in the total network time.
Performance (%)	The percentage of hits for which each action's total time was less than or equal to the action's total time threshold defined in End User Management Administration. Note: If an action is unavailable, its data is not included in the performance calculations.
Retransmit Time (sec)	The overall amount of time that passes from the moment an HTTP request is started for the action, until the moment an error message is returned. Note: Retransmit time only relates to errors that execute a retry after the error.
Server Time (sec)	The average amount of time, in seconds, that it took the server to process the requests for each action. This column is color-coded, based on the action's server time in relation to the server time threshold you defined in End User Management Administration.
Server Time to First Buffer (sec)	The amount of time that passes from the receipt of ACK of the initial http request (usually GET) until the first buffer is successfully received back from the Web server. Note: The server time to first buffer measurement is a good indicator of Web server delay.

UI Elements: (A-Z)	Description
SSL Handshake Time (sec)	The average amount of time taken to establish an SSL connection for the action. Note: SSL handshake time is applicable only for https communications.
Total Action Hits	The total number of hits each action received.
Total Time (sec)	The average total time, in seconds for each action. This column is color-coded, based on the action's total time in relation to the total time threshold you defined in End User Management Administration.

RUM Application Infrastructure Summary Report






This report enables you to see general information about the servers and running software used by the selected applications. The data is grouped by servers and running software and also by clients (end-user groups or client machines).

<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Applications > End User Management > Analysis Reports > RUM Application Infrastructure Summary ▶ In the Application Summary report, select an application and click the Drill down to RUM Application Infrastructure Summary  button. ▶ In the Application Health report, select a server in the End User Group, Server, and Location Distribution component and click the Drill down to RUM Application Infrastructure Summary  button. ▶ In the RUM Tier Summary report, select an application tier and click the Drill down to RUM Application Infrastructure Summary  button.
<p>Important information</p>	<ul style="list-style-type: none"> ▶ Each tab in this report comprises two tables. The first displays data grouped by servers or running software, and the second displays the same data grouped by clients for the server or running software selected in the upper table. Apart from the Client Name and Running Software columns (in the Client table), all other columns are identical in both tables, and are only described once. ▶ The lower table that displays data grouped by clients is only updated when the upper table contains data. During the initial generation of the report, the lower table may briefly display a No data was found message, until the upper table is populated. ▶ Data of deleted clients (end-user groups) is shown in the upper table, but not in the lower (clients) table.

Data type	Real user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689. ▶ Group by. Select how you want the data in the upper table to be grouped. Valid options are: <ul style="list-style-type: none"> ▶ Server. A hierarchical tree of the servers and the software running on them. ▶ Running Software. A flat list of all the software running software on the servers. <p>Default value: Running Software</p>

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
	"Application Infrastructure Over Time Report" on page 796
	"RUM Transaction Summary Report" on page 911
	"RUM Action Summary Report" on page 842 Note: This drilldown is not available from the Network tab.
	"RUM End User Group Summary Report" on page 882
	"TCP Poor Requests Summary Report" on page 932

Highlights Tab

The Highlights tab displays selected data from the other tabs in the report and enables you to view key information at one time, without having to move from tab to tab.

Important information	<p>The Availability, Connection Availability, and Response Time columns and tooltips are color-coded, based on the relevant thresholds configured in End User Management Administration. The valid statutes are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor ➤ Red. Critical ➤ Blue. No data
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Availability (%)	The percentage of available action hits for each server and running software element.
Client	<p>The name or IP address of the client (end-user group or client machine).</p> <p>Note: This column is displayed only in the Client (lower) table.</p>
Connection Availability (%)	The percentage of connections that were successful for each server or running software element.
Host	<p>The IP address of the host server on which the running software is running.</p> <p>Note: This column is displayed only when you group the report by running software.</p>
IP Address	The server IP address.
Name	The name of the server or running software element.

UI Elements (A-Z)	Description
Requests Over Server Threshold	The number of requests that exceeded the server time threshold you configured for the application in End User Management Administration.
Response Time (sec)	The average response time for a single request, in seconds, for each server or running software element. Note: This column is not applicable for TCP streaming applications.
Running Software	The name of the running software element. Note: This column is displayed only in the Client (lower) table.
Slow Actions	The number of action hits that exceeded the action total time threshold you configured for the action in End User Management Administration.
Slow Requests	The number of requests that exceeded the server time threshold you configured for the application in End User Management Administration.
Total Action Hits	The total number of actions hits for each server or running software element.
Total Connections	The total number of connections for each server or running software element.
Total Requests	The total number of requests sent for each server or running software element.
Total Traffic (MB)	The total amount of network traffic (application tier traffic and TCP layer overhead traffic), in megabytes, for each server or running software element.

Actions Tab

The Actions tab displays performance and availability data about the selected applications' actions on the servers and running software elements.

Important information	<p>The Availability column and tooltip are color-coded, based on the action availability threshold configured in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ▶ Green. OK ▶ Yellow. Minor ▶ Red. Critical ▶ Blue. No data
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Actions with Slow Server Time	The total number of action hits for each server and running software element, whose server time exceeded their server time threshold configured in End User Management Administration.
Availability (%)	The percentage of available action hits for each server and running software element.
Available Actions	The number of available action hits for each server and running software element.
Client	<p>The name or IP address of the client (end-user group or client machine).</p> <p>Note: This column is displayed only in the Client (lower) table.</p>
Error Events	The number of error events that occurred on each server and running software element.

UI Elements (A-Z)	Description
Host	The IP address of the host server on which the running software is running. Note: This column is displayed only when you group the report by running software.
Info Events	The number of informational events that occurred on each server and running software element.
IP Address	The server IP address.
Name	The name of the server or running software element.
Running Software	The name of the running software element. Note: This column is displayed only in the Client (lower) table.
Slow Actions	The number of action hits that exceeded the action total time threshold you configured for the action in End User Management Administration.
Total Action Hits	The total number of action hits generated for each server and running software element.

Request Response Tab

The Request Response tab displays performance data about the server and running software element requests and responses.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Client	The name or IP address of the client (end-user group or client machine). Note: This column is displayed only in the Client (lower) table.

UI Elements (A-Z)	Description
Client Time (sec)	The average amount of time, in seconds, that the requests for the selected applications were delayed on each client machine.
Host	The IP address of the host server on which the running software is running. Note: This column is displayed only when you group the report by running software.
IP Address	The server IP address.
Max. Response Time (sec)	The maximum response time, in seconds, for each server or running software element.
Name	The name of the server or running software element.
Network Time (sec)	The average time, in seconds, that the requests for the selected applications were delayed on the network for each server or running software element.
Requests Over Server Threshold	The number of requests that exceeded the server time threshold you configured for the application in End User Management Administration.
Response Time (sec)	The average response time for a single request, in seconds, for each server or running software element.
Retransmit Time (sec)	The average retransmission time, in seconds, for each request. Note: The retransmission time is included in the average network time.
Running Software	The name of the running software element. Note: This column is displayed only in the Client (lower) table.
Server Time (sec)	The average amount of time, in seconds, that the requests for the selected applications were delayed on each server.
Server Time to 1st. Buffer (sec)	The average amount of time, in seconds, from when a server received a request until it started sending the response.

UI Elements (A-Z)	Description
Slow Requests	The number of requests that exceeded the server time threshold you configured for the application in End User Management Administration.
Total Requests	The total number of requests for each server or running software element.

Network Tab

The Network tab displays the server and running software TCP performance and availability data.

Important information	<p>The Connection Availability, Packets with Network Errors, and Packets with Client Errors columns and tooltips are color-coded, based on the relevant thresholds configured for them in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor ➤ Red. Critical ➤ Blue. No data
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):


UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Application Traffic (MB)	The number of megabytes that each server or running software element sent and received for the selected applications.
Client	<p>The name or IP address of the client (end-user group or client machine).</p> <p>Note: This column is displayed only in the Client (lower) table.</p>

UI Elements (A-Z)	Description
Connect Time (sec)	The average time taken to establish a connection with each server or running software element at each point over the course of the defined time period.
Connection Availability (%)	The percentage of connections that were successful for each server or running software element.
Host	The IP address of the host server on which the running software is running. Note: This column is displayed only when you group the report by running software.
IP Address	The server IP address.
Name	The name of the server or running software element.
Packets with Network Errors (%)	The percentage of packets sent by each server or running software element for which there were network errors.
Packets with Server Errors (%)	The percentage of packets sent by each server or running software element for which there were server errors.
Running Software	The name of the running software element. Note: This column is displayed only in the Client (lower) table.
SSL Handshake Time (sec)	The average time for SSL handshaking for each server or running software element at each point over the course of the defined time period.
Throughput (bit/sec)	The average throughput (in bits per second) for the selected applications (that is, the total traffic for the applications divided by the number of seconds in the report's time range), for each server or running software element.
Total Connections	The number of connection attempts for each server or running software element.
Total Refused Connections	The number of connections that were refused for each server or running software element.
Total Timed-out Connections	The number of connections that timed out for each server or running software element.

UI Elements (A-Z)	Description
Total Traffic (MB)	The total amount of network traffic (application traffic and TCP layer overhead traffic), in megabytes, for each server or running software element.

RUM End User Group by Action Report

This report displays data for a selected action configured for Real User Monitor in End User Management Administration, broken down by end-user groups and subgroups.

To access	In the RUM Action Summary report, select an action and click the Drill down to RUM End User Group by Action  button.
Important information	<ul style="list-style-type: none"> ▶ The Availability, Performance, Total Time, and Server Time columns are color-coded, based on the action's relevant thresholds configured in End User Management Administration. <ul style="list-style-type: none"> ▶ Green. OK ▶ Yellow. Minor (not valid for Availability) ▶ Red. Critical ▶ Blue. No data ▶ Lavender. Downtime (valid only when the report is generated for a single application) ▶ Hold the cursor over a cell to display a tooltip with additional information relevant to the data.

Data type	Real user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689. ▶ Group by. Select how you want the data to be grouped. Valid options are: <ul style="list-style-type: none"> ▶ End User Group. A hierarchical tree of the end-user groups and their subgroups. ▶ End User Subgroup. A flat list of all the end-user subgroups. <p>Default value: End User Group</p> <p>Note: This setting is available only after you have generated the report.</p>

User interface elements are described below:


UI Elements (A-Z)	Description
Availability (%)	The percentage of available action hits for the end-user group or subgroup.
Client Time (sec)	The average amount of time, in seconds, that the action's requests were delayed on the end-user group or subgroup's client machine.
End User Group	<p>The end-user group name.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ When you group the report by End User Group, this column contains a hierarchical tree of the end-user groups and subgroups. ▶ Unconfigured end-user groups are displayed as Others.
End User Subgroup	<p>The end-user subgroup name.</p> <p>Note: This column is displayed only when you group the report by End User Subgroup.</p>

UI Elements (A-Z)	Description
Error Events	The number of error events that occurred on the action for the end-user group or subgroup, based on the error events you defined for the application tier in End User Management Administration.
Info Events	The number of informational events that occurred on the action for the end-user group or subgroup, based on the informational events you defined for application tier in End User Management Administration.
Network Time (sec)	The average amount of time, in seconds, that the action's requests were delayed on the network for the end-user group or subgroup. Connect, SSL handshake, and retransmit times are also included in the total network time.
Performance (%)	The percentage of action hits for the end-user group or subgroup for which the action's total time was less than or equal to the action's total time threshold defined in End User Management Administration. Note: If an action is unavailable, its data is not included in the performance calculations.
Requests per Action Hit	The average number of requests sent for each action hit for the end-user group or subgroup.
Server Time (sec)	The average amount of time, in seconds, that it took the server to process the requests for the action for the end-user group or subgroup. This column is color-coded, based on the action's server time in relation to the server time threshold you defined in End User Management Administration.
Server Time to First Buffer (sec)	The average amount of time, in seconds, from when a server received a request for the action, until it started sending the response for the end-user group or subgroup.
Total Action Hits	The total number of hits the action received for the end-user group or subgroup.

UI Elements (A-Z)	Description
Total Time (sec)	The average total time, in seconds, for the action, for the end-user group or subgroup. This column is color-coded, based on the action's total time in relation to the total time threshold you defined in End User Management Administration.
Total Traffic (KB)	The average amount of network traffic (action traffic and TCP layer overhead traffic), in kilobytes, for the action, for the end-user group or subgroup. That is, the total amount of traffic divided by the total number of available hits.

RUM End User Group by Transaction Report


This report displays general, availability, and performance data for each end-user group that ran the transaction you selected in the RUM Transaction Summary report. For details on configuring end-user groups in End User Management Administration, see "End User Group Page" on page 310.

To access	In the RUM Transaction Summary report, select a transaction and click the Drill down to RUM End User Group by Transaction  button.
Important information	<p>The Availability, Total Time, Net Time, and Total Server Time columns are color-coded, based on the relevant transaction thresholds configured in End User Management Administration.</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor (not valid for Availability) ➤ Red. Critical ➤ Blue. No data ➤ Lavender. Downtime (valid only when the report is generated for a single application)

Data type	Real user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689. ▶ Group by. Select whether to display the data grouped by subgroup or end-user group. Default value: Subgroup <p>Note: When grouped by end-user group, click on a group to expand a hierarchical tree of its subgroups.</p>

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
	"RUM End User Group Over Time Report" on page 870

Highlights Tab

The Highlights tab displays selected data from the other tabs in the report and enables you to view key information at one time, without having to move from tab to tab.

Important information	<p>The Availability (%), Total Time, Net Time, and Total Server Time columns and tooltips are color-coded, based on the relevant thresholds configured for them in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ▶ Green. OK ▶ Yellow. Minor (not valid for Availability) ▶ Red. Critical ▶ Blue. No data ▶ Lavender. Downtime (valid only when the report is generated for a single application)
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Availability (%)	<p>The percentage of transaction runs for an end-user group or subgroup, for which there were no availability problems.</p> <p>Note: If a transaction is unavailable, its data is not included in the transaction performance calculations.</p>
End User Group	<p>The end-user group name.</p> <p>Note: This column is displayed when you group the report by subgroup (the default setting).</p>
End User Group/End User Subgroup	<p>The end-user group name or the subgroup, according to the entity in the hierarchical tree.</p> <p>Note: This column is displayed when you group the report by end-user group.</p>

UI Elements (A-Z)	Description
Net Time (sec)	The net time, in seconds, of the transaction (that is, server time + network time + client time of all the actions included in the transaction), for an end-user group or subgroup.
Runs	The total number of run instances for the transaction, for an end-user group or subgroup.
Total Server Time (sec)	The total server time of all the actions included in the transaction, for an end-user group or subgroup. Note: This column is hidden by default.
Total Time (sec)	The average of the overall transaction time (from the start of the first action to the end of the last action), in seconds, for an end-user group or subgroup.
Transaction Size (KB)	The total size, in kilobytes, of all the actions in the transaction, for an end-user group or subgroup.

Availability and Events Tab

The Availability tab displays the transaction availability for each configured transaction that was monitored.

Important information	<p>The Availability (%) column and tooltip are color-coded, based on the relevant threshold configured for the transaction in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Red. Critical ➤ Blue. No data ➤ Lavender. Downtime (valid only when the report is generated for a single application)
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Availability (%)	The percentage of transaction runs for a server or running software, for which there were no availability problems. Note: If a transaction is unavailable, its data is not included in the transaction performance calculations.
End User Group	The end-user group name. Note: This column is displayed when you group the report by subgroup (the default setting).
End User Group/End User Subgroup	The end-user group name or the subgroup, according to the entity in the hierarchical tree. Note: This column is displayed when you group the report by end-user group.
Runs	The total number of run instances for the transaction, for an end-user group or subgroup.
Unavailable Runs	The total number of transaction run instances for which availability problems occurred, for an end-user group or subgroup.

Performance Tab

This Performance tab displays data about the duration of each configured transaction that was monitored.

Important information	<p>The Total Time and Net Time, and Total Server Time columns and tooltips are color-coded, based on the relevant thresholds configured for the transaction in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor ➤ Red. Critical ➤ Blue. No data ➤ Lavender. Downtime (valid only when the report is generated for a single application)
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):



UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Client Time	The total time, in seconds, that each action included in the transaction was delayed on the client machine.
Connect Time (sec)	The average amount of time, in seconds, that it took to establish an initial connection to the server from the first http request sent.
End User Group	The end-user group name. Note: This column is displayed when you group the report by subgroup (the default setting).
End User Group/End User Subgroup	The end-user group name or the subgroup, according to the entity in the hierarchical tree. Note: This column is displayed when you group the report by end-user group.

UI Elements (A-Z)	Description
Net Time (sec)	The net time, in seconds, of the transaction (that is, server time + network time + client time of all the actions included in the transaction).
Retransmit Time (sec)	The overall amount of time that passes from the moment an HTTP request is started until the moment an error message is returned. Note: Retransmit time only relates to errors that execute a retry after the error.
Runs	The total number of run instances for the transaction.
Server Time to First Buffer	The amount of time that passes from the receipt of ACK of the initial HTTP request (usually GET) until the first buffer is successfully received back from the Web server. Note: <ul style="list-style-type: none"> ▶ The server time to first buffer measurement is a good indicator of Web server delay. ▶ This column is hidden by default.
Slow Runs	The number of run instances whose total transaction time exceeded the configured total time threshold.
Slow Transaction Net Time (sec)	The average net transaction time, in seconds, of the transaction's runs that exceeded the net time threshold configured for the transaction.
Slow Transaction Server Time (sec)	The average server time, in seconds, of the transaction's runs that exceeded the server time threshold configured for the transaction. Note: This column is hidden by default.
Slow Transaction Total Time (sec)	The average total transaction time, in seconds, of the transaction's runs that exceeded the total time threshold configured for the transaction.
SSL Handshake Time (sec)	The average amount of time taken to establish an SSL connection. Note: SSL handshake time is applicable only for https communications.

UI Elements (A-Z)	Description
Think Time (sec)	The average think time for the transaction (that is, the time between page downloads which is calculated as transaction time - server time - network time - client time).
Total Network Time (sec)	The total time, in seconds, that each action included in the transaction was delayed on the network. Connection, SSL handshaking, and retransmit times are also included in the total network time.
Total Server Time (sec)	The total server time of all the actions included in the transaction. Note: This column is hidden by default.
Total Time (sec)	The average of the overall transaction time (from the start of the first action to the end of the last action), in seconds.

RUM End User Group Over Time Report



This report displays a selected end-user group's hits, latency, events, requests, and traffic over the course of time.

To access	Use one of the following: <ul style="list-style-type: none"> ▶ In the RUM End User Group Summary report, select an end-user group and click the Drill down to RUM End User Group Over Time  button. ▶ In the RUM End User Group by Transaction report, select an end-user group and click the Drill down to RUM End User Group Over Time  button.
Important information	The available components in the report depend on the tier and application types for which you generate the report and the data available for them.
Data type	Real user data

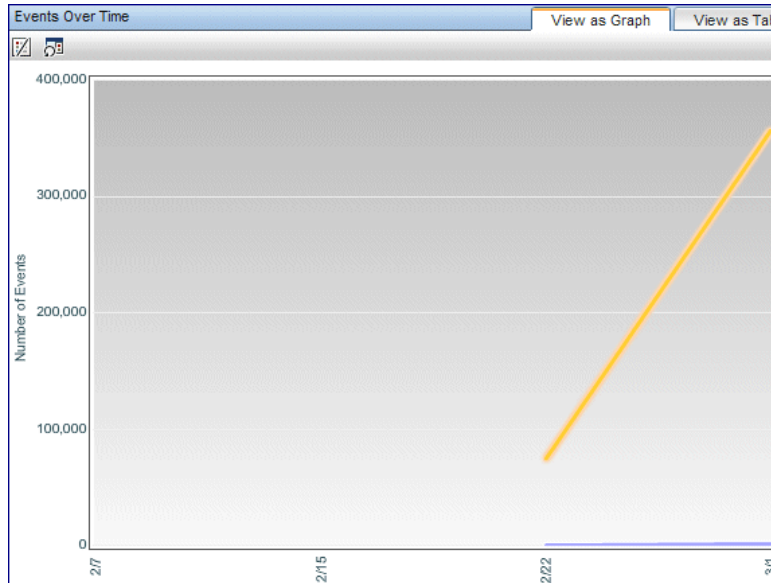
See also	"Viewing Data for Different Application Tier Types in Real User Monitor Reports" on page 654
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
	<p>"RUM End User Group Over Time Report" on page 870. In any table, select a row and click the Drill down to RUM End User Group Over Time button to drill down to a higher time resolution. For example, if you drill down from a report that displays data for a day, the time resolution changes to hours for the specific day.</p> <p>Graph view: In any graph, right-click a bar or data point and select Drill down to RUM End User Group Over Time from the Shortcut menu.</p> <p>Note: You cannot drill down to a resolution higher than five minutes.</p>
	<p>Drill down to NNM. Click to drill down to HP Network Node Manager. For concept details, see "Viewing HP Network Node Manager Data From Real User Monitor Reports" on page 668.</p> <p>Graph view: Right-click a data point or bar and select Drill to HP Network Node Manager from the Shortcut menu.</p>

Events Over Time



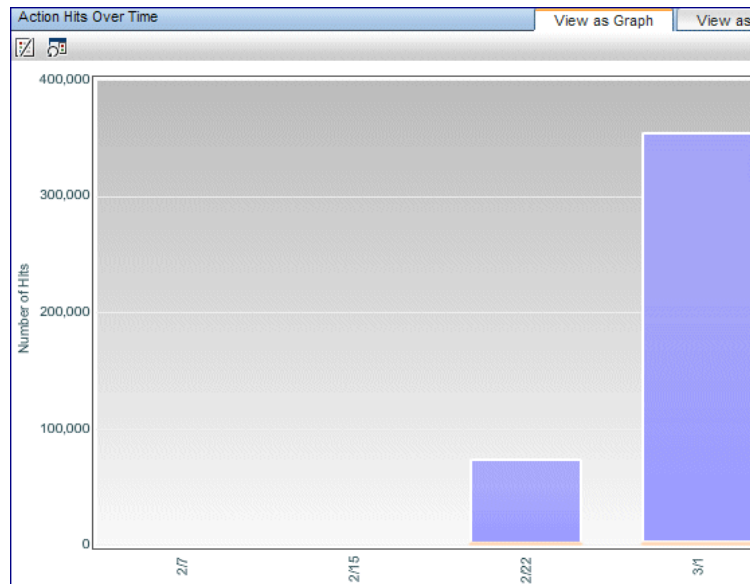
Important information

- This component is displayed when there is http data for the end-user group for all the selected tiers/applications.
- In the table view, the **Unavailable Hits** column is color-coded, based on the availability threshold configured for the tier in End User Management Administration. The following are the valid statuses:
 - **Green.** OK
 - **Red.** Critical
 - **Yellow.** Minor
 - **Blue.** No data
 - **Lavender.** Downtime (valid only when the report is generated for a single application)

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	<p>Number of Events. The number of events that occurred for the end-user group in the selected tiers/applications at each point over the course of the defined time period.</p> <p>Data lines indicate the number of events for each event classification.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>

Action Hits Over Time

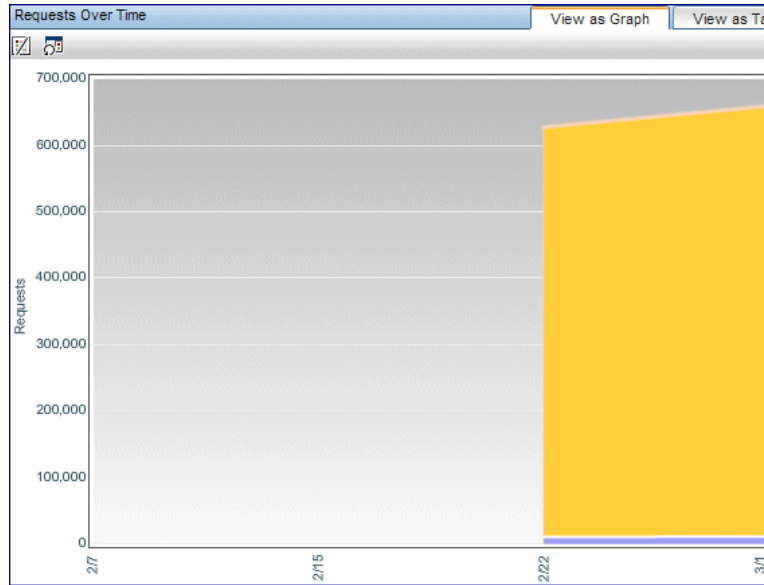


<p>Important information</p>	<ul style="list-style-type: none"> ▶ This component is displayed when there is http data for the end-user group for all the selected tiers/applications. ▶ In the table view, the Unavailable Hits column is color-coded, based on the availability threshold configured for the tier in End User Management Administration. The following are the valid statuses: <ul style="list-style-type: none"> ▶ Green. OK ▶ Red. Critical ▶ Yellow. Minor ▶ Blue. No data ▶ Lavender. Downtime (valid only when the report is generated for a single application)
-------------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	<p>Time. The time units for the selected time period.</p>
<Y-axis>	<p>Number of Hits. The total number of action hits for the end-user group for the selected tiers/applications at each point over the course of the defined time period.</p> <p>Stacked bars indicate the number of available and unavailable hits.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Requests Over Time

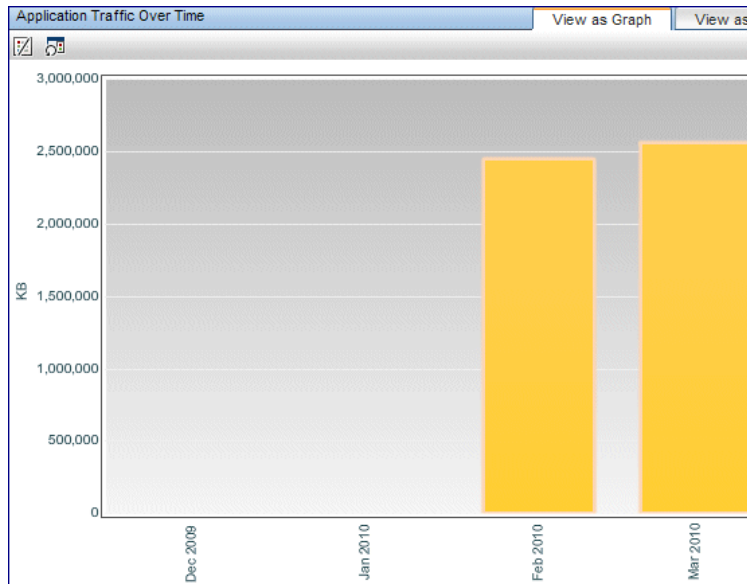


<p>Important information</p>	<ul style="list-style-type: none"> ➤ This component is displayed when there is TCP data for the end-user group for all the selected tiers/applications. ➤ In the table view, Network Errors and Client Errors are displayed and these columns are color-coded, based on the relevant thresholds configured in End User Management Administration. The following are the valid statuses: <ul style="list-style-type: none"> ➤ Green. OK ➤ Red. Critical ➤ Yellow. Minor ➤ Blue. No data ➤ Lavender. Downtime (valid only when the report is generated for a single application)
-------------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	<p>Requests. The total number of requests for the end-user group for the selected tiers/applications at each point over the course of the defined time period.</p> <p>Areas indicate the total number of requests and the number of slow requests.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Application Traffic Over Time

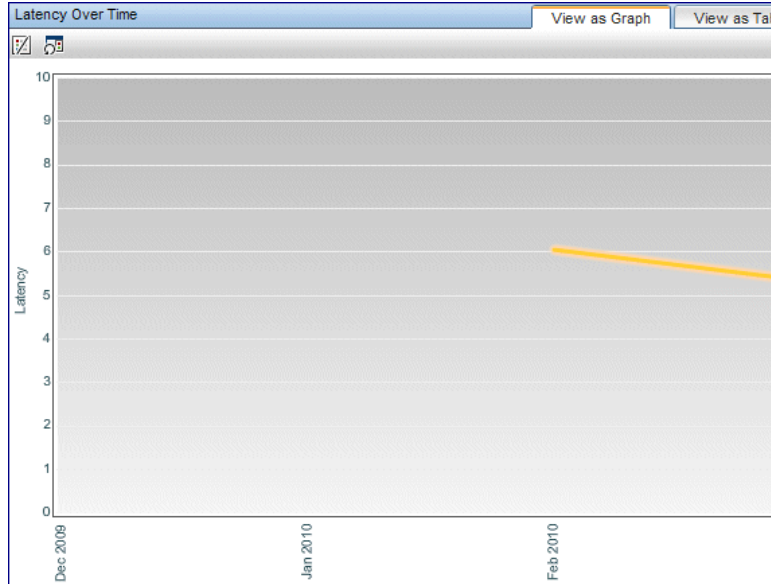


<p>Important information</p>	<ul style="list-style-type: none"> ➤ This component is displayed when there is network data for the end-user group for all the selected tiers/applications. ➤ In the table view, Network Errors and Client Errors are displayed and these columns are color-coded, based on the relevant thresholds configured in End User Management Administration. The following are the valid statuses: <ul style="list-style-type: none"> ➤ Green. OK ➤ Red. Critical ➤ Yellow. Minor ➤ Blue. No data ➤ Lavender. Downtime (valid only when the report is generated for a single application)
-------------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	<p>KB. The total amount of application traffic, in kilobytes, sent and received by the end-user group for the selected tiers/applications at each point over the course of the defined time period.</p> <p>Stacked bars indicate the amount of encrypted (SSL) and plain traffic.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Latency Over Time



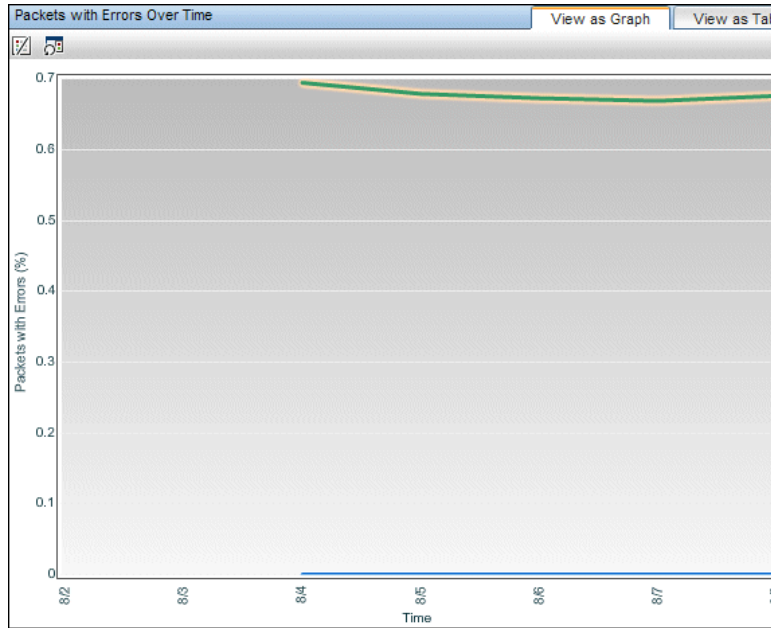
Important information

- ▶ This component is displayed when there is TCP data for the end-user group for all the selected tiers/applications.
- ▶ In the table view, the **Network Errors**, **Client Errors**, and **Latency** columns are color-coded, based on the relevant thresholds configured in End User Management Administration. The following are the valid statuses:
 - ▶ **Green.** OK
 - ▶ **Red.** Critical
 - ▶ **Yellow.** Minor
 - ▶ **Blue.** No data
 - ▶ **Lavender.** Downtime (valid only when the report is generated for a single application)

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	<p>Latency. The network latency time, in milliseconds, for the end-user group at each point over the course of the defined time period.</p> <p>Data points indicate the network latency time.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>
<Latency threshold line>	<p>Displays the end-user latency threshold you configured for the end-user group in End User Management Administration, or the default end-user group latency threshold that is configured.</p> <p>Note: The latency threshold is displayed only when you select a single end-user group or subgroup for the report.</p>

Packets with Errors Over Time



Important information



- This component is displayed when there is TCP data for the end-user group for all the selected tiers/applications.
- In the table view, **Network Errors** and **Client Errors** are displayed and these columns are color-coded, based on the relevant thresholds configured in End User Management Administration. The following are the valid statuses:
 - **Green.** OK
 - **Red.** Critical
 - **Yellow.** Minor
 - **Blue.** No data
 - **Lavender.** Downtime (valid only when the report is generated for a single application)

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	<p>Packets with Errors (%). The percentage of packets with errors for the end-user group at each point over the course of the defined time period.</p> <p>Data lines indicate the percentage of packets with network errors and the percentage of packets with client errors.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>

RUM End User Group Summary Report







This report comprises two components. The first displays data for specific end-user groups (and subgroups) that were configured for Real User Monitor in End User Management Administration. Data for unconfigured end-users is included in a generic group called **Other**. The second component displays the location breakdown for the end-user group or subgroup that is selected in the first component.


To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Applications > End User Management > Analysis Reports > RUM End User Group Summary ▶ In the RUM Application Infrastructure Summary report, select a row and click the Drill down to RUM End User Group Summary  button. ▶ In the Application Health report > End User Group, Server, and Location Distribution component, select an end-user group and click the Drill down to RUM End User Group Summary  button.
Important information	<p>Each tab in this report comprises two tables. The first displays data by end-user group and subgroup, and the second displays the same data by location, for the selected end-user group or subgroup. Apart from the End User and Location columns, all other columns are identical in both tables, and are only described once.</p>
Data type	Real user data

See also	<ul style="list-style-type: none"> ➤ "Displaying End-User Names in Reports" on page 635 ➤ "Viewing Data for Different Application Tier Types in Real User Monitor Reports" on page 654
Report settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689. ➤ Group by. Select how you want the data to be grouped. Valid options are: <ul style="list-style-type: none"> ➤ End User Group. A hierarchical tree of the end-user groups and their subgroups. ➤ End User Subgroup. A flat list of all the end-user subgroups. <p>Default value: End User Group</p>

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
	"RUM End User Group Over Time Report" on page 870
	"Unconfigured End Users Report" on page 979
	"RUM Action Summary Report" on page 842
	"RUM Transaction Summary Report" on page 911
	"RUM Event Summary Report" on page 892
	"TCP Poor Requests Summary Report" on page 932

UI Elements	Description
	Drill down to NNM. Click to drill down to HP Network Node Manager. For concept details, see "Viewing HP Network Node Manager Data From Real User Monitor Reports" on page 668.

End User Group Highlights Tab

The Highlights tab displays selected data from the other tabs in the report and enables you to view key information at one time, without having to move from tab to tab.

Important information	<p>The Latency, Connection Availability, Packets with Network Errors, Packets with Client Errors, Actions Availability, and Actions with Performance Events columns and tooltips are color-coded, based on the relevant thresholds configured in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor ➤ Red. Critical ➤ Blue. No data
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
End User Subgroup	<p>The end-user subgroup name.</p> <p>Note: This column is displayed only in the End User Status Highlights table (the upper table) and only when you group the report by End User Subgroup.</p>

UI Elements	Description
End User Group	<p>The end-user group name.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This column is displayed only in the End User Status Highlights table (the upper table). ▶ When you group the report by End User Group, this column contains a hierarchical tree of the end-user groups and subgroups. ▶ Unconfigured end-user groups are displayed as Others.
Location	<p>The geographic locations of the end-users included in the selected end-user group or subgroup. For unknown locations, UNKNOWN is displayed.</p> <p>Note: This column is displayed only in the End User by Location Status Highlights table (the lower table).</p>
Network Connections	
Connection Availability	<p>The percentage of connections that were successful. This column is color-coded, based on the end-user group's connection availability in relation to the server connection availability threshold you configured for the application in End User Management Administration.</p>
Latency	<p>Displays the average network latency, in milliseconds, for each end-user group. This column is color-coded, based on the end-user group's latency in relation to the end-user latency threshold you configured for the end-user group in End User Management Administration, or the default end-user group latency threshold that is configured.</p>
Packets with Client Errors	<p>Displays the percentage of packets sent by each end-user group for which there were client errors. This column is color-coded, based on the end-user group's percentage of packets with client errors in relation to the packets with client errors threshold you configured for the application in End User Management Administration.</p>

UI Elements	Description
Packets with Network Errors	Displays the percentage of packets sent by each end-user group for which there were network errors. This column is color-coded, based on the end-user group's percentage of packets with network errors in relation to the packets with network errors threshold you configured for the application in End User Management Administration.
Actions	
Actions Availability	The percentage of available action hits. This column is color-coded, based on the action availability percentage threshold you configured for the application in End User Management Administration.
Actions with Performance Events	The percentage of available actions whose total time exceeded their configured threshold. This column is color-coded, based on the total time threshold you configured for the action in End User Management Administration.

End User Group Actions Tab

The Actions tab displays performance and availability data about the selected applications' actions hit by the end users included in the end-user groups.

Important information	<p>The Actions Availability and Actions with Performance Events columns and tooltip are color-coded, based on the relevant thresholds configured in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor ➤ Red. Critical ➤ Blue. No data
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Actions Availability	The percentage of available action hits. This column is color-coded, based on the action availability percentage threshold configured for the application in End User Management Administration.
Actions with Performance Events	The percentage of available actions whose total time exceeded their configured threshold. This column is color-coded, based on the total time threshold you configured for the action in End User Management Administration.
End User Group	<p>The end-user group name.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This column is displayed only in the End User Action Status table (the upper table). ▶ When you group the report by End User Group, this column contains a hierarchical tree of the end-user groups and subgroups. ▶ For unconfigured end-user groups, the country name and IP addresses are displayed, or if the country is unknown, OTHER is displayed.
End User Subgroup	<p>The end-user subgroup name.</p> <p>Note: This column is displayed only in the End User Action Status table (the upper table) and only when you group the report by End User Subgroup.</p>
Error Events	The number of error events that occurred on each end-user group's actions.
Location	<p>The geographic locations of the end-users included in the selected end-user group or subgroup. For unknown locations, UNKNOWN is displayed.</p> <p>Note: This column is displayed only in the End User by Location Action Status table (the lower table).</p>

UI Elements (A-Z)	Description
Total Action Hits	The total number of action hits generated by each end-user group.

End User Group Request-Response Tab

The Request-Response tab displays performance data about the end-user requests and responses.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Application Traffic	The number of kilobytes that each end-user group sent to, and received from, the application servers for the selected applications.
Client Time	The average amount of time, in seconds, that the requests for the selected applications were delayed on each end-user group's client machines.
End User Group	The end-user group name. Note: <ul style="list-style-type: none"> ➤ This column is displayed only in the End User Request-Response Status table (the upper table). ➤ When you group the report by End User Group, this column contains a hierarchical tree of the end-user groups and subgroups. ➤ For unconfigured end-user groups, the country name and IP addresses are displayed, or if the country is unknown, OTHER is displayed.
End User Subgroup	The end-user subgroup name. Note: This column is displayed only in the End User Request-Response Status table (the upper table) and only when you group the report by End User Subgroup .

UI Elements (A-Z)	Description
Locations	The geographic locations of the end-users included in the selected end-user group or subgroup. For unknown locations, UNKNOWN is displayed. Note: This column is displayed only in the End User by Location Request-Response Status table (the lower table).
Network Time	The average time, in seconds, that the requests for the selected applications were delayed on the network for each end-user group.
Response Time	The average response time for a single request, in seconds, for each end-user group.
Retransmit Time	The average retransmission time, in seconds, for each request. Note: The retransmission time is included in the average network time.
Slow Requests	The number of requests that exceeded the component time threshold (for Web applications), or request time threshold (for TCP applications) you configured for the tier in End User Management Administration.
Total Requests	The total number of requests sent by each end-user group for the selected applications.

End User Group Network Connections Tab

The Network tab displays the end-user TCP performance and availability data.

Important information	<p>The Connection Availability, Packets with Network Errors, Packets with Client Errors, and Latency columns and tooltips are color-coded, based on the relevant thresholds configured for them in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor ➤ Red. Critical ➤ Blue. No data
------------------------------	---

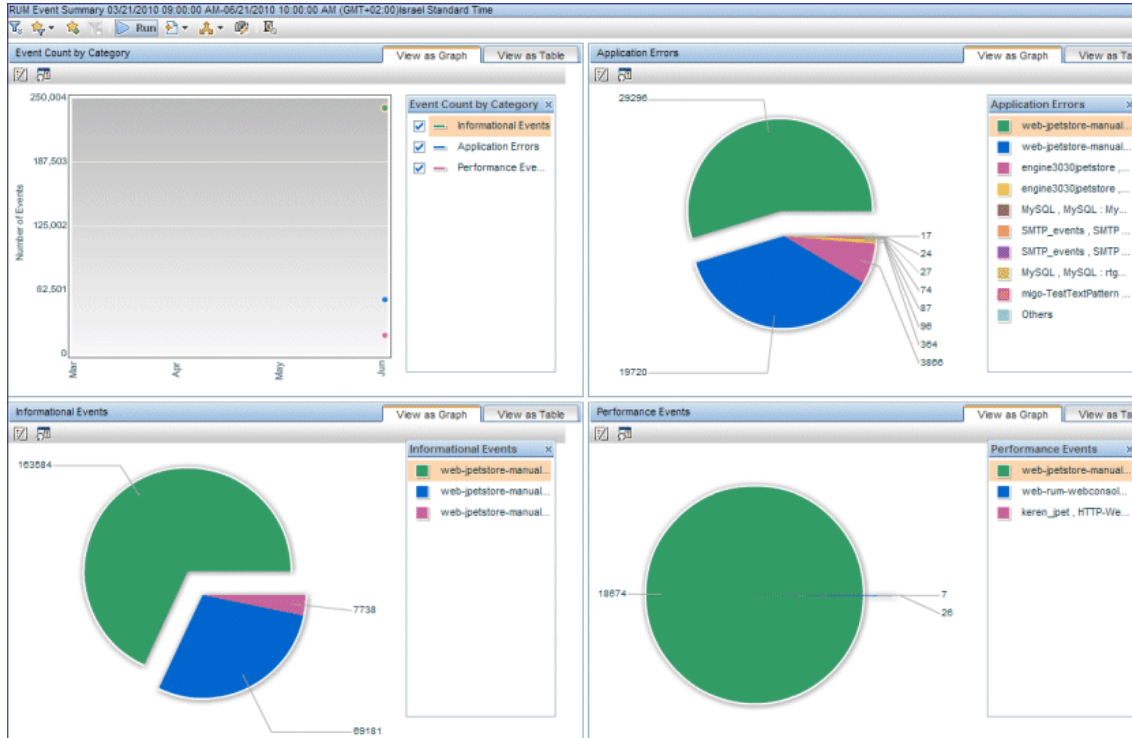
User interface elements are described below (unlabeled elements are shown in angle brackets):






UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Accepted Connections	The number of connections that were accepted for each end-user group.
Application Traffic	The number of kilobytes that each end-user group sent to, and received from, the application servers for the selected applications.
Connect Time	The average time taken for each end-user group to establish a connection with the application servers for the selected applications.
Connection Availability	The percentage of connections that were successful for each end-user group. This column is color-coded, based on the server connection availability threshold you configured for the application in End User Management Administration.
End User Group	<p>The end-user group name.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ This column is displayed only in the End User Network Connection Status table (the upper table). ▶ When you group the report by End User Group, this column contains a hierarchical tree of the end-user groups and subgroups. ▶ For unconfigured end-user groups, the country name and IP addresses are displayed, or if the country is unknown, OTHER is displayed.
End User Subgroup	<p>The end-user subgroup name.</p> <p>Note: This column is displayed only in the End User Network Connection Status table (the upper table) and only when you group the report by End User Subgroup.</p>

UI Elements (A-Z)	Description
Latency	The average network latency, in milliseconds, for each end-user group. This column is color-coded, based on the end-user latency threshold you configured for the end-user group in End User Management Administration, or the default end-user group latency threshold that is configured.
Locations	The geographic locations of the end-users included in the selected end-user group or end-user group. For unknown locations, UNKNOWN is displayed. Note: This column is displayed only in the End User by Location Network Connection Status table (the lower table).
Packets with Client Errors	The percentage of packets sent by each end-user group for which there were client errors. This column is color-coded, based on the packets with client errors threshold you configured for the application in End User Management Administration.
Packets with Network Errors	The percentage of packets sent by each end-user group for which there were network errors. This column is color-coded, based on the packets with network errors threshold you configured for the application in End User Management Administration.
Refused Connections	The number of connections that were refused for each end-user group.
SSL Handshake Time	The average time for SSL handshaking for the selected applications, for each end-user group.
Timed-out Connections	The number of connections that timed out for each end-user group.
Total Connection Attempts	The total number of connection attempts for each end-user group.
Total Traffic	The total amount of network traffic (application traffic and TCP layer overhead traffic), in kilobytes, for each end-user group.

RUM Event Summary Report


This report displays the event count and distribution over time for the events you configured in End User Management Administration for the selected applications.



To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Applications > End User Management > Analysis Reports > RUM Event Summary ▶ In the Application Health report: <ul style="list-style-type: none"> ▶ In the Availability and Load Over Time graph, right-click a bar and select Drill down to Rum Event Summary from the Shortcut menu. ▶ In the Availability and Load Over Time table, select a row and click the Drill down to Rum Event Summary  button. ▶ In the Business Summary component, select a row and click the Drill down to Rum Event Summary  button. ▶ In the Location Summary report: <ul style="list-style-type: none"> ▶ In the Transaction Threshold Breaches or Transactions with Errors graphs, right-click a pie chart slice and select Drill down to Rum Event Summary from the Shortcut menu. ▶ In the Transaction Threshold Breaches or Transactions with Errors tables, select a row and click the Drill down to Rum Event Summary  button. ▶ In the RUM Action Summary report, select an action and click the Drill down to Rum Event Summary  button. ▶ In the RUM End User Group Summary report, select an end-user group or subgroup and click the Drill down to Rum Event Summary  button.
Data type	Real user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
	"Event Analysis Report" on page 815 Graph view: Right-click a pie chart slice or graph data point and select Drill down to Event Analysis from the Shortcut menu.

Event Count by Classification

UI Elements	Description
<Drilldowns>	"RUM Event Summary Report" on page 892. Right-click a data point in the graph view and select Drill down to Rum Event Summary , or click a cell value in the table view, to regenerate the RUM Event Summary report with a higher time resolution. For example, if you click a data point or cell that displays data for an hour, the time resolution changes to five minute intervals for the specific hour. Note: When you drill down to a higher time resolution, all the components in the RUM Event Summary report are updated for the new time resolution.
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	Number of Events. The number of events for each event classification. Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.

Application Errors/Informational Events/Performance Events





There is a different component (pie chart or table) for each event classification.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<Pie chart>	<p>Each pie chart slice represents a different event or error within the pie chart's classification.</p> <p>Tooltip: Hold the cursor over a pie chart slice to display a tooltip with additional information relevant to the data.</p> <p>Note: Up to 10 different slices can be displayed in a pie chart. If there are more than 10 event or error names to be displayed, the ones with the least number of occurrences are grouped together in a slice called Others.</p>

RUM Session Analyzer Report



This report displays session data for specific applications that were configured for Real User Monitor in End User Management Administration.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ➤ Select Applications > End User Management > Analysis Reports > RUM Session Analyzer ➤ In the Application Health report: <ul style="list-style-type: none"> ➤ In the Sessions Over Time graph, right-click an area's border and click Drill down to RUM Session Analyzer from the Shortcut menu. ➤ In the Sessions Over Time table, select a row and click the Drill down to RUM Session Analyzer  button. ➤ In the RUM Action Summary report, select an action and click the Drill down to RUM Session Analyzer  button. ➤ In the RUM Session Summary report, select a row and click the Drill down to RUM Session Analyzer  button. ➤ In the RUM Transaction Summary report, select a transaction and click the Drill down to RUM Session Analyzer  button.
Important information	<ul style="list-style-type: none"> ➤ Aggregated totals are used for sessions containing pages and applications that have been configured for frame unification. For details on frame unification, see "Frame Unification" on page 295. ➤ If you do not select a tier for the report in the active filters, the front-end tiers of the applications are selected by default.
Data type	Real user data

See also	<ul style="list-style-type: none"> ➤ "Viewing Session Details in the RUM Session Analyzer Report" on page 763 ➤ "Session Details Report" on page 918
Report settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689.

Report Content


User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns	
	"Session Details Report" on page 918
	Drill down to Transaction Tracking. Click to view Transaction Management's Transaction Tracking report, where you can see detailed information of the actions within the session. For concept details, see "Viewing TransactionVision Data From End User Management Reports" on page 665.
Report Columns (A-Z)	
Hold the cursor over a cell to display a tooltip with additional information relevant to the data.	
Actions	The total number of action hits generated during the session.
Active	Displays whether the session is still active or not.
Application	The session's application name. Note: This column is displayed only when multiple applications are selected for the report.

UI Elements	Description
Client	The name or IP address of the client machine from which the session was initiated.
Duration	The length of time that the session was active.
End User Subgroup	The end-user subgroup to which the end-user who initiated the session belongs, as configured in End User Management Administration.
Error Events	The number of error events encountered during the session, based on the error events you defined for the application in End User Management Administration.
Informational Events	The number of informational events encountered during the session, based on the informational events you defined for the application in End User Management Administration.
Location	The end-user subgroup's location.
Slow Actions	The total number of actions whose action time exceeded its configured threshold.
Start Time	The date and time the session was started.
Tier	The session's application tier name.
User Name	The name of the end user who initiated the session, or an IP address or computer name if the end-user name is not found.


RUM Session Summary Report

This report displays session event data for a single application, segmented by session properties that were configured for the application in End User Management Administration. You can drill down to the RUM Session Analyzer report to view session details. For user interface details on creating session properties, see "Session Properties Area" on page 378.

To access	Use one of the following: <ul style="list-style-type: none"> ➤ Select Applications > End User Management > Analysis Reports > RUM Session Summary. ➤ In the Application Summary report, select an application and click the RUM Session Summary  button.
Important information	If you do not select a tier for the report in the active filters, the front-end tier of the application is selected by default.
Data type	Real user data
Report settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689. <p>Note: You can generate this report for a single application only.</p>

Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns	
	"RUM Session Analyzer Report" on page 896



UI Elements	Description
Additional Settings	
<Group session by>	<p>Select the session properties by which to group the application's session data. In the upper table you select the primary session property by which to group the data and in the lower table, you select the session property by which to group the data that is relevant to the specific value selected in the upper table.</p> <p>Example: You configure three session properties for an application—Username, Customername, and Contact. You generate the RUM Session Summary report for the application and group the data in the upper table by Username. In the application's sessions for the report time period, three different values are detected for the Username session property—Susan, Richard, and John. The upper table contains three rows of data, one for each of the Username values. You select the row for Susan in the upper table and then select to group the data in the lower table by Customername. In the application's session data for Susan (that is, the application session data in which the Username session property value is Susan), the Customername session property has two different values—Customer1 and Cusotmer2. The lower table contains two rows, one for each of the Customername values for Susan.</p>
Report Columns (A-Z)	
Actions Over Threshold	The number of actions for the application in the selected sessions that have exceeded the action time threshold configured for the application in End User Management Administration.
Error Events	The number of error events that occurred for the application in the selected sessions.
Info Events	The number of information events that occurred for the application in the selected sessions.
Number of Sessions	The number of sessions in which the specific session property value was detected.

UI Elements	Description
Number of Unique <session property>	The number of unique values detected for the session property by which you group the lower table. Note: This column is displayed only in the upper table.
Performance Events	The number of performance events that occurred for the application in the selected sessions.
Total Actions	The total number of actions for the application in the selected sessions.
Total Traffic (KB)	The total amount of traffic, in kilobytes, for the application in the selected sessions.
Unavailable Actions	The number of unavailable actions for the application in the selected sessions.
Value	The actual session property value.

RUM Tier Summary Report







This report displays data for the configured tiers of selected Real User Monitor applications. For details on configuring Real User Monitor applications and tiers in End User Management Administration, see "Real User Monitor Application Configuration Wizard" on page 327.

The RUM Tier Summary report enables you to monitor application performance by tiers and to pinpoint problems with specific applications or application tiers.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Applications > End User Management > Analysis Reports > RUM Tier Summary ▶ In the Application Summary report, click the Drill down to RUM Tier Summary  button. ▶ In the Application Health report (Availability and Load Over Time and Performance and Load Over Time components), click the Drill down to RUM Tier Summary  button.
Important information	<ul style="list-style-type: none"> ▶ Tiers that include TCP streaming data, for which partial data only is available, are not included in the Request-Response tab. Also, some fields in the other tabs will not display data for this type of tier. ▶ Tiers that do not have http data are not included in the Actions tab. ▶ Tiers that do not have TCP data are not included in the Request-Response or Network tabs.
Data type	Real user data
See also	"Viewing Data for Different Application Tier Types in Real User Monitor Reports" on page 654
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
	"RUM End User Group Summary Report" on page 882
	"RUM Application Infrastructure Summary Report" on page 851
	"TCP Poor Requests Summary Report" on page 932
	"RUM Action Summary Report" on page 842 Note: This button is enabled only for tiers that support actions.
	"Tiers Over Time Report" on page 942
	Drill down to NNM. Click to drill down to HP Network Node Manager. For concept details, see "Viewing HP Network Node Manager Data From Real User Monitor Reports" on page 668.

Highlights Tab

The Highlights tab displays selected data from the other tabs in the report and enables you to view key information at one time, without having to move from tab to tab.

Important information	<p>The Tier Availability, Connection Availability, and Total Time columns and tooltips are color-coded, based on the relevant thresholds configured for them in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Warning ➤ Red. Error ➤ Blue. No data
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Application	The name of the application that includes the tier. Note: This column is displayed only when you select multiple applications for the report.
Connection Availability (%)	The percentage of connections that were successful for each tier.
Slow Action Hits	The number of action hits that exceeded the action total time threshold you configured for the action in End User Management Administration.
Slow Requests	The number of requests that exceeded the component time threshold you configured for the tier in End User Management Administration.
Tier	The tier name you configured in End User Management Administration.
Tier Availability (%)	The percentage of action hits that were available for each tier.
Total Action Hits	The total number of actions hits for each tier.
Total Connection Attempts	The total number of connection attempts for each tier.
Total Requests	The total number of requests sent for each tier.
Total Time (sec)	The average total time, in seconds for each tier's actions.
Total Traffic (MB)	The total amount of network traffic (application tier traffic and TCP layer overhead traffic), in megabytes, for each tier.

Actions Tab

The Actions tab displays performance and availability data of tier actions. Viewing this data enables you to understand the performance and availability of the tiers.

Important information	<ul style="list-style-type: none"> ▶ Selected tiers for which actions are not applicable (for example Citrix, TCP request-response, or TCP streaming) are not displayed in this tab. ▶ The Tier Availability, Total Time, and Server Time columns and tooltips are color-coded, based on the relevant threshold configured for the action in End User Management Administration. The valid statuses are: <ul style="list-style-type: none"> ▶ Green. OK ▶ Yellow. Warning ▶ Red. Error ▶ Blue. No data
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Action Hits with Slow Server Time	The number of action hits that exceeded the action server time threshold you configured for the action in End User Management Administration.
Application	The name of the application that includes the tier. Note: This column is displayed only when you select multiple applications for the report.
Available Action Hits	The number of actions hits that were successful for each tier.
Client Time	The average amount of time, in seconds, that each tier's action's requests were delayed on the client machine.

UI Elements (A-Z)	Description
Connect Time	The average amount of time, in seconds, that it took to establish an initial connection to the server from the first HTTP request sent for each tier's actions.
Error Events	The number of error events that occurred on each tier's actions.
Info Events	The number of information events that occurred on each tier's actions.
Network Time	The average amount of time, in seconds, that each tier's action requests were delayed on the network. Connect, SSL handshake, and retransmit times are also included in the total network time.
Retransmit Time	<p>The average amount of time that passes from the moment an HTTP request is started for the action, until the moment an error message is returned, for each tier's actions.</p> <p>Note: Retransmit time only relates to errors that execute a retry after the error.</p>
Server Time	The average server time, in seconds, for each tier's action requests.
Server Time to First Buffer	<p>The average amount of time for each tier's actions, that passes from the receipt of ACK of the initial http request (usually GET) until the first buffer is successfully received back from the Web server.</p> <p>Note: The server time to first buffer measurement is a good indicator of Web server delay.</p>
Slow Action Hits	The number of action hits that exceeded the action total time threshold you configured for the action in End User Management Administration.
SSL Handshake Time	<p>The average amount of time taken to establish an SSL connection for each tier's actions.</p> <p>Note: SSL handshake time is applicable only for https communications.</p>

UI Elements (A-Z)	Description
Tier	The tier name you configured in End User Management Administration.
Tier Availability	The percentage of action hits that were available for each tier.
Total Action Hits	The total number of actions hits for each tier.
Total Time	The average total time, in seconds, of each tier's actions.

Request-Response Tab

The Request-Response tab displays tier request-response data.

Important information	<p>The Response Time and Server Time columns and tooltips are color-coded, based on the total time and server time thresholds configured for the tier in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ▶ Green. OK ▶ Yellow. Warning ▶ Red. Error ▶ Blue. No data
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Application	The name of the application that includes the tier. Note: This column is displayed only when you select multiple applications for the report.
Client Time	The average amount of time, in seconds, that each tier's requests were delayed on the client machine.
Max Response Time	The maximum response time, in seconds, for each tier.

UI Elements (A-Z)	Description
Network Time	The average time, in seconds, that the requests for each tier were delayed on the network.
Response Time	The average response time for a single request, in seconds, for each tier. Note: This column is not applicable for TCP streaming tiers.
Retransmit Time	The average retransmission time, in seconds, for each tier. Note: The retransmission time is included in the average network time.
Server Time	The average amount of time, in seconds, that the requests for the selected tier were delayed on the server. Note: This column is not applicable for TCP streaming tiers.
Server Time to First Buffer	The average amount of time, in seconds, from when a server received a request for the tier, until it started sending the response.
Slow Requests	The number of requests that exceeded the component time threshold (for Web applications), or request time threshold (for TCP applications) you configured for the tier in End User Management Administration.
Tier	The tier name you configured in End User Management Administration.
Total Requests	The total number of requests sent for each tier.

Network Tab

The Network tab displays tier network data.

Important information	<p>The Connection Availability, Packets with Network Errors, and Packets with Server Errors columns and tooltips are color-coded, based on the relevant thresholds configured for them in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Warning ➤ Red. Error ➤ Blue. No data
------------------------------	--






User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Application	The name of the application that includes the tier. Note: This column is displayed only when you select multiple applications for the report.
Application Traffic	The total amount of application traffic for the tier, in megabytes.
Connection Availability	The percentage of connections that were successful for each tier.
Connect Time	The average time taken to establish a connection with the application servers for each tier.
Packets with Network Errors	The percentage of packets sent for each tier for which there were network errors.
Packets with Server Errors	The percentage of packets sent for each tier for which there were server errors.
Refused Connections	The number of connections that were refused for each tier.

UI Elements (A-Z)	Description
SSL Handshake Time	The average time for SSL handshaking for each tier.
Throughput	The average throughput (in bits per second) for each tier (that is, the total traffic for the tier divided by the number of seconds in the report's time range).
Tier	The tier name you configured in End User Management Administration.
Timed-out Connections	The number of connections that timed out for each tier.
Total Connection Attempts	The total number of connection attempts for each tier.
Total Traffic	The total amount of network traffic (tier traffic and TCP layer overhead traffic), in megabytes, for each tier.










RUM Transaction Summary Report

This report displays data about performance, availability, and events for specific transactions that were configured for Real User Monitor in End User Management Administration. You can drill down to view transaction behavior over time, by end-user groups or by infrastructure elements.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ➤ Select Applications > End User Management > Analysis Reports > RUM Transaction Summary ➤ In the Application Summary report, select an application and click the Drill down to RUM Transaction Summary  button. ➤ In the RUM Application Infrastructure Summary report, select a row and click the Drill down to RUM Transaction Summary  button. ➤ In the RUM End User Group Summary report, select an end-user group or subgroup and click the Drill down to RUM Transaction Summary  button. ➤ In the Triage report > Transaction by Location component, select a transaction and click the Drill down to RUM Transaction Summary  button. ➤ In the Application Health report > Business Summary component, select a transaction and click the Drill down to RUM Transaction Summary  button.
Data type	Real user data
See also	"Business Transaction Real User Monitor Configuration Page" on page 291
Report settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689.

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
	"RUM End User Group by Transaction Report" on page 863
	"Application Infrastructure by Transaction Report" on page 789
	"Transaction Over Time Report" on page 955
	"RUM Session Analyzer Report" on page 896
	"RUM Action Summary Report" on page 842
	"Performance Raw Data Report" on page 836
	Drill down to NNM. Click to drill down to HP Network Node Manager. For concept details, see "Viewing HP Network Node Manager Data From Real User Monitor Reports" on page 668.
	Drill down to Transaction Management Transaction Summary. Click to view Transaction Management's Transaction Summary report for the selected transaction. For concept details, see "Viewing TransactionVision Data From End User Management Reports" on page 665.
	Drill down to Transaction Management Aggregated Topology. Click to view Transaction Management's Aggregated Topology report for the selected transaction. For concept details, see "Viewing TransactionVision Data From End User Management Reports" on page 665.

Highlights Tab

The Highlights tab displays selected data from the other tabs in the report and enables you to view key information at one time, without having to move from tab to tab.

Important information	<p>The Availability (%), Total Time, Net Time, and Total Server Time columns and tooltips are color-coded, based on the relevant thresholds configured for them in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor (not valid for Availability) ➤ Red. Critical ➤ Blue. No data
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Application	<p>The name of the application that includes the transaction.</p> <p>Note: This column is displayed only when you select multiple applications for the report.</p>
Availability (%)	<p>The percentage of transaction runs for which there were no availability problems.</p> <p>Note: If a transaction is unavailable, its data is not included in the transaction performance calculations.</p>
Business Transaction Flow	<p>The business transaction flow that includes the transaction.</p> <p>Note: This column is hidden by default.</p>
Net Time (sec)	The net time, in seconds, of the transaction (that is, server time + network time + client time of all the actions included in the transaction).

UI Elements (A-Z)	Description
Runs	The total number of run instances for each transaction.
Total Time (sec)	The average of the overall transaction time (from the start of the first action to the end of the last action), in seconds, for each transaction.
Total Server Time (sec)	The total server time of all the actions included in the transaction.
Transaction Name	The name you assigned the transaction in End User Management Administration.
Transaction Size (KB)	The total size, in kilobytes, of all the actions in each transaction.

Availability Tab

The Availability tab displays the transaction availability for each configured transaction that was monitored.

Important information	<p>The Availability (%) column and tooltip are color-coded, based on the relevant threshold configured for the transaction in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Red. Critical ➤ Blue. No data
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Application	<p>The name of the application that includes the transaction.</p> <p>Note: This column is displayed only when you select multiple applications for the report.</p>

UI Elements (A-Z)	Description
Availability (%)	The percentage of transaction runs for which there were no availability problems. Note: If a transaction is unavailable, its data is not included in the transaction performance calculations.
Business Transaction Flow	The business transaction flow that includes the transaction. Note: This column is hidden by default.
Runs	The total number of run instances for each transaction.
Transaction Name	The name you assigned the transaction in End User Management Administration.
Unavailable Runs	The total number of transaction run instances for which availability problems occurred.

Performance Tab

This Performance tab displays data about the duration of each configured transaction that was monitored.

Important information	The Total Time and Net Time , and Total Server Time columns and tooltips are color-coded, based on the relevant thresholds configured for the transaction in End User Management Administration. The valid statuses are: <ul style="list-style-type: none"> ▶ Green. OK ▶ Yellow. Minor ▶ Red. Critical ▶ Blue. No data
-----------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):



UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.

UI Elements (A-Z)	Description
Application	The name of the application that includes the transaction. Note: This column is displayed only when you select multiple applications for the report.
Business Transaction Flow	The business transaction flow that includes the transaction. Note: This column is hidden by default.
Client Time (sec)	The total time, in seconds, that each action included in the transaction was delayed on the client machine.
Connect Time (sec)	The average amount of time, in seconds, that it took to establish an initial connection to the server from the first request sent.
Net Time (sec)	The net time, in seconds, of the transaction (that is, server time + network time + client time of all the actions included in the transaction).
Retransmit Time (sec)	The overall amount of time that passes from the moment a request is started until the moment an error message is returned. Note: Retransmit time only relates to errors that execute a retry after the error.
Runs	The total number of run instances for each transaction.
Server Time to First Buffer	The amount of time that passes from the receipt of ACK of the initial request until the first buffer is successfully received back from the server. Note: The server time to first buffer measurement is a good indicator of Web server delay.
Slow Runs	The number of run instances whose total transaction time exceeded the configured total time threshold.
Slow Transaction Net Time (sec)	The average net transaction time, in seconds, of each transaction's runs that exceeded the net time threshold configured for the transaction.

UI Elements (A-Z)	Description
Slow Transaction Server Time (sec)	The average server time, in seconds, of each transaction's runs that exceeded the server time threshold configured for the transaction.
Slow Transaction Total Time (sec)	The average total transaction time, in seconds, of each transaction's runs that exceeded the total time threshold configured for the transaction.
SSL Handshake Time (sec)	The average amount of time taken to establish an SSL connection. Note: SSL handshake time is applicable only for https communications for Web applications.
Think Time (sec)	The average think time for each transaction (that is, the time between action requests, which is calculated as transaction time - server time - network time - client time).
Total Network Time (sec)	The total time, in seconds, that each action included in the transaction was delayed on the network. Connection, SSL handshaking, and retransmit times are also included in the total network time.
Total Server Time (sec)	The total server time of all the actions included in the transaction.
Total Time (sec)	The average of the overall transaction time (from the start of the first action to the end of the last action), in seconds, for each transaction.
Transaction Name	The name you assigned the transaction in End User Management Administration.

Session Details Report

This report displays details of a session and includes panes showing data for properties, general events, and actions.

<p>To access</p>	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ In the RUM Session Analyzer report, click the View Session Details  button. ▶ In the Event Log, select an event and click the View Session Details  button.
<p>Important information</p>	<ul style="list-style-type: none"> ▶ When you view session details, the report is regenerated and contains the most current data for the selected session. This means that if the session was still open when the RUM Session Analyzer report was generated, the data included in the Session Detail report is more up to date, and may differ from that included in the RUM Session Analyzer report for the same session. ▶ When viewing session details, all the actions that are included in all monitored application sessions that started on the same day as the application session for which you are viewing data, and that are part of the entire application server session, are displayed. For concept details, see "Viewing Session Details in the RUM Session Analyzer Report" on page 763. ▶ Events displayed when viewing session details are the events that occurred on the actions in the session that were configured for the selected application in End User Management Administration. ▶ When clicking on the breadcrumb to return to the RUM Session Analyzer report, the report is not regenerated and the original RUM Session Analyzer report is redisplayed. ▶ When you view session details for a TCP Streaming application tier, only the Properties pane is displayed.

Properties

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A–Z)	Description
<Session Property Name>	The names of all the session properties configured for the application are listed.
<Session Property Value>	The value of each of the listed session properties is displayed. Note: There are five static place holders for session properties in the profile database, whether you actually define session properties or not. If you change the definition of an existing session property, the values for the previous definition still exist and appear as values for the new definition.
Application	The name of the application to which the selected session belongs.
Client IP	The IP address of the end user who initiated the session.
Client type	The browser used by the end user to initiate the session.
Duration	The total time that the session was open.
End user subgroup	The end-user subgroup to which the end user who initiated the session belongs, as configured by you in End User Management Administration.
Host name	The host name of the machine of the end user who initiated the session.
HTTP version	The http version used by the end user for the session.
Location	The name of the location of the end user who initiated the session.
Operating system	The operating system of the machine on which the end user initiated the session.

UI Elements (A–Z)	Description
Overall traffic (KB)	The total number of kilobytes sent from and received by the session.
Server IP	The IP address of the server (or load balancer) reached by the end user.
Start time	The date and time the session was started.
Total action hits	The number of action hits for the selected application.
User name	The name of the end user who initiated the session.

General Events

General events are session events (session <actions> events and session unavailable <actions> events) that are configured for the session's application in End User Management Administration.






User interface elements are described below:


UI Elements (A–Z)	Description
Description	The event description
Name	The event name


Actions

Important information	<ul style="list-style-type: none"> ➤ Measurements for actions that are configured for frame unification use calculated totals of the action's children. For details on frame unification, see "Frame Unification" on page 295. ➤ The data included in the Action Details page is available in the Actions area of the Session Details report as columns that are hidden by default. You can select the columns to display them in the report. When you export data from the Session Details report, this data is included in the exported file even if the columns are not displayed. For user interface details, see "Action Details Page" on page 768.
-----------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets>):

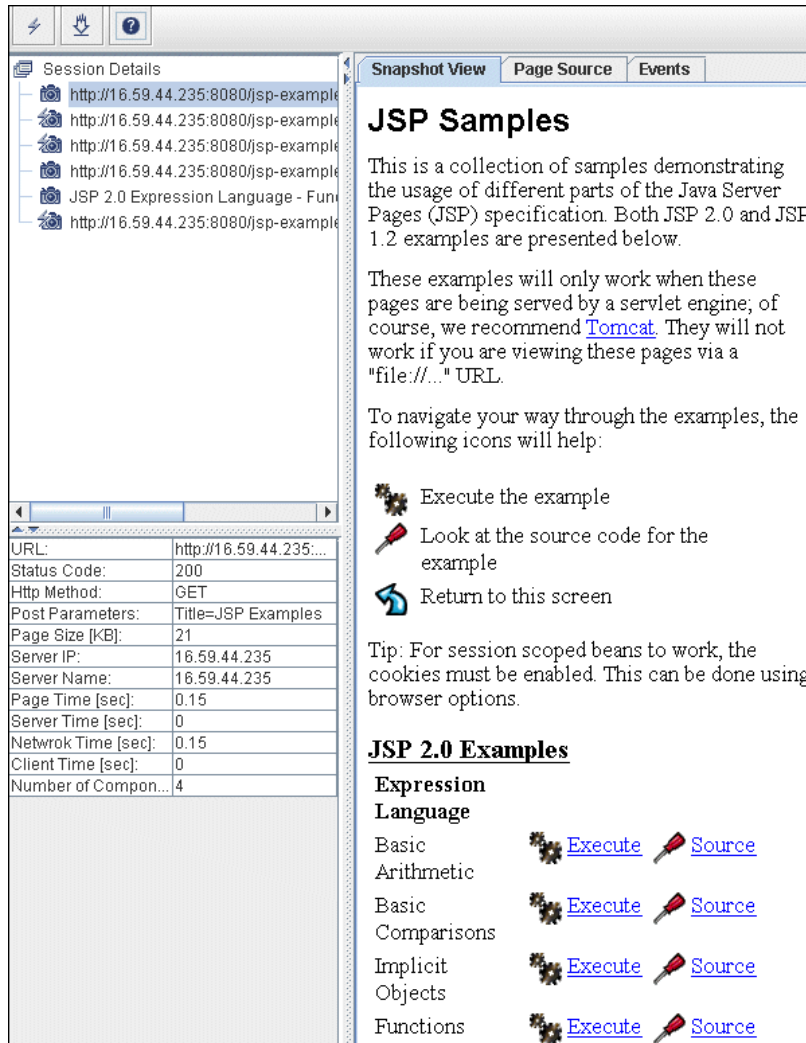
UI Elements	Description
Drilldowns	
	"Action Details Page" on page 768.
	<p>"Session Replay Page" on page 924. Click the View Snapshot button to open the Session Replay page, where you can view a snapshot of the action.</p> <p>Note: If no snapshot exists for the selected action, this button is disabled.</p>
	<p>Drill down to Transaction Tracking. Click to view Transaction Management's Transaction Tracking report, where you can see detailed information of the actions within the session. For concept details, see "Viewing TransactionVision Data From End User Management Reports" on page 665.</p>
	<p>Drill down to Diagnostics. Click to drill down to HP Diagnostics for a specific action. For concept details, see "Viewing HP Diagnostics Data From End User Management Reports" on page 661.</p>
	<p>Drill down to NNM. Click to drill down to HP Network Node Manager. For concept details, see "Viewing HP Network Node Manager Data From Real User Monitor Reports" on page 668.</p>
Session Replay	<p>Click the Session Replay button to open the Session Replay page, where you can view a session flow page by page. For user interface details, see "Session Replay Page" on page 924.</p> <p>Note: This button is enabled only for http and SOAP protocols (that is, for pages).</p>

UI Elements	Description
Actions	
	<p>Define Action. Click to open the Real User Monitor Application <Actions> page in a new window, where you can add and define a new action for an application. When you access the New Action dialog box from the Real User Monitor Application <Actions> page, the selected action's description or URL, attributes, and parameters are automatically entered in the dialog box. For user interface details, see "<Action> Dialog Box" on page 278.</p> <p>Note: The Define Action button is enabled only for selected actions that are not yet defined in End User Management Administration.</p>
<p>Report Columns (A-Z)</p> <p>Hold the cursor over a cell to display a tooltip with additional information relevant to the data.</p>	
Action	<p>The name of the action that was hit, as defined by you in End User Management Administration, or its URL if no name is defined.</p> <p>Note: For those actions of an application for which frame unification is enabled, click the action name to hide or display its children in the hierarchical tree (displayed by default).</p>
Application	<p>The application session in which the action was hit. This field is colored blue for actions included in the selected application session.</p>
Client Time (sec)	<p>The amount of time, in seconds, that the action was active on the client machine.</p>

UI Elements	Description
Events	<p>Displays an icon and the name of events that occurred on the action, based on the events you defined for the action in End User Management Administration. If there are multiple events on an action, the icon of the most severe event is displayed and the string "Multiple events" is displayed instead of the event name.</p> <p>Note: The order of severity of event types is errors and informational events.</p> <p>Tooltip: For single errors, the event type is displayed and for multiple errors, the event names are displayed.</p>
Has Snapshot	<p>Indicates whether or not a snapshot exists for the action. If a snapshot exists, you can click the View Snapshot  button to display it.</p>
Network Time (sec)	<p>The amount of time, in seconds, that the action was active on the network.</p>
Server Time (sec)	<p>The amount of time, in seconds, that it took the server to process the request for the action.</p>
Start Time	<p>The date and time the action was hit.</p>
Total Time (sec)	<p>The total amount of time, in seconds, from when the action was requested until it finished.</p>
Total Traffic (KB)	<p>The total amount of network traffic (action traffic and TCP layer overhead traffic), in kilobytes, for the action.</p>

Session Replay Page

This page enables you to view snapshots of a session flow, page by page. It also enables you to view the HTML source code of the pages and details of events that occurred on them.



The screenshot displays the Session Replay Page interface. On the left, a 'Session Details' pane shows a list of session snapshots for the URL `http://16.59.44.235:8080/jsp-example`. Below this is a table of request details:

URL:	http://16.59.44.235:...
Status Code:	200
Http Method:	GET
Post Parameters:	Title=JSP Examples
Page Size [KB]:	21
Server IP:	16.59.44.235
Server Name:	16.59.44.235
Page Time [sec]:	0.15
Server Time [sec]:	0
Network Time [sec]:	0.15
Client Time [sec]:	0
Number of Compon...	4




The main content area is titled 'JSP Samples' and contains the following text:

JSP Samples

This is a collection of samples demonstrating the usage of different parts of the Java Server Pages (JSP) specification. Both JSP 2.0 and JSP 1.2 examples are presented below.

These examples will only work when these pages are being served by a servlet engine; of course, we recommend [Tomcat](#). They will not work if you are viewing these pages via a "file://..." URL.









To navigate your way through the examples, the following icons will help:



-  Execute the example
-  Look at the source code for the example
-  Return to this screen

Tip: For session scoped beans to work, the cookies must be enabled. This can be done using browser options.

JSP 2.0 Examples

Expression Language

- Basic  [Execute](#)  [Source](#)
- Arithmetic
- Basic Comparisons  [Execute](#)  [Source](#)
- Implicit Objects  [Execute](#)  [Source](#)
- Functions  [Execute](#)  [Source](#)

To access	Use one of the following: <ul style="list-style-type: none"> ▶ In the Session Details report: <ul style="list-style-type: none"> ▶ Click the Session Replay button. ▶ Select a page and click the View Snapshot  button. ▶ In the Action Raw Data report, select an action and click the View Snapshot  button.
Important information	For details, see "Notes and Limitations" on page 925
See also	"Snapshot Settings" on page 313

Notes and Limitations

- ▶ When you access Session Replay for a specific page, the hierarchical tree displayed in the upper, left pane includes all the pages included in the session, with the specific page selected.
- ▶ You can view snapshots of pages if you have enabled snapshots for applications and events configured in End User Management Administration. For user interface details, see "Real User Monitor Administration User Interface" on page 276.
- ▶ You can configure how the Snapshot applet communicates with the Real User Monitor engine to retrieve snapshots. For details, see "Determining How the Real User Monitor Snapshot Applet Retrieves Snapshots" on page 764.
- ▶ If the source machine from which snapshots are retrieved (either through the HP Business Service Management Gateway Server or directly from the Real User Monitor engine) is configured for SSL, you must configure JRE on the client machine running the Snapshot applet to work with the source machine's certificate. For details on configuring JRE to trust a client/server certificate, see "Setting JRE to Work With Security Certificates" in the *HP Business Service Management Hardening Guide* PDF.
- ▶ To view session replay, you must use Internet Explorer version 7 or 8 as your client browser when accessing Business Service Management.







- ▶ To view user input in a page (that is, in a form), you must configure the application to collect snapshots of requests. For user interface details, see "Snapshot Collection Area" on page 341.
- ▶ Rich page components, such as Flash, Java Applets, and SilverLight, are not supported in session replay, but may be displayed.
- ▶ The first time you view session replay, ActiveX objects are installed on your client machine and are run each time you view session replay. You must have the necessary permissions to install and run ActiveX objects on your client machine.


Note: During the installation of ActiveX objects on a client machine running Microsoft Java Virtual Machine (MSJVM), a Data Execution Prevention (DEP) error may occur that stops the installation of the ActiveX objects.

- ▶ If you have implemented Identity Management Single Sign-On (IDM-SSO) in HP Business Service Management and are using Internet Explorer version 7 on your client machine, you cannot view session replay. For concept details on IDM-SSO, see "Identity Management Single Sign-On (IDM-SSO) - Overview" in *Platform Administration*.

Upper Left Pane

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A–Z)	Description
	Go to Next Event. Click to go to the next item in the tree that includes an event.
	Download. Click to download all the snapshots included in a session to a zip file. The Save dialog box opens, where you select the path and file name you want and click Save . The saved zip file includes a Java applet for viewing the saved information. Note: The Download button is located directly above the Upper Left pane.
	Session Without Events. When displayed preceding the session name in the hierarchical tree, indicates that the session does not include any events.
	Session With Events. When displayed preceding the session name in the hierarchical tree, indicates that the session includes events.
	Page With Events. When displayed preceding a page or component name in the hierarchical tree, indicates that the page or component includes events.
	Page With Snapshot. When displayed preceding a page or component name in the hierarchical tree, indicates that there is a snapshot of the page or component.

UI Elements (A–Z)	Description
	Page With Events and Snapshot. When displayed preceding a page or component name in the hierarchical tree, indicates that page or component includes events and that there is a snapshot of the page or component.
<Hierarchical tree>	The upper, left pane displays a hierarchical tree of the pages included in the session, and for those pages of an application for which frame unification is enabled, their children. There is also an entry for the session details. Click the item in the tree you want to view. For details on frame unification, see "Frame Unification" on page 295.

Lower Left Pane

This pane displays details of the selected page or component, or details of the session if **Session Details** is selected in the Upper Left pane.

<Page Details>

User interface elements are described below:

UI Elements (A–Z)	Description
Client Time	The amount of time, in seconds, that the page was active on the client machine.
HTTP Method	The HTTP method used to access the page.
Network Time	The amount of time, in seconds, that the page was active on the network.
Number of Components	The number of components included in the page.
Page Size	The downloaded size, in kilobytes, of the page.
Page Time	The total amount of time, in seconds, from when the page was requested until it finished loading.
Post Parameters	For HTTP Post requests, the parameters sent with the request.

UI Elements (A–Z)	Description
Server IP	The IP address of the server on which the page was located.
Server Name	The name of the server on which the page was located.
Server Time	The amount of time, in seconds, that it took the server to process the request for the page.
Status Code	The HTTP status code returned by the server.
URL	The URL of the page.

<Session Details>

User interface elements are described below:

UI Elements (A–Z)	Description
Arrived From	The page from which the end user reached the session.
Browser	The browser used by the end user to initiate the session.
Client IP	The IP address of the end user who initiated the session.
Computer Name	The host name of the machine of the end user who initiated the session.
Duration	The total time that the session was open.
End User Group	The end-user group to which the end user who initiated the session belongs, as configured by you in End User Management Administration.
Location	The name of the location of the end user who initiated the session.
Operating System	The operating system of the machine on which the end-user initiated the session.
Overall Traffic	The total number of kilobytes sent from and received by the session.

UI Elements (A–Z)	Description
Server IP	The IP address of the server (or load balancer) reached by the end-user.
Start Time	The date and time the session was started.
User Name	The name of the end-user who initiated the session.

Right Pane

The Right pane includes the following tabs:

- "Snapshot View" on page 930
- "Page Source" on page 930
- "Request View" on page 931
- "Events" on page 931

Note: If Session Details has been selected in the Upper Left pane, only the Events tab is enabled.

Snapshot View

This tab displays a snapshot of the page accessed by the user for Web (HTML) applications, or the XML code of the response for SOAP applications.

Page Source

This tab displays the HTML source code of the snapshot.

Tip: Within a page, press CTRL+F to search for a specific string in the source code.

Request View

This tab displays the XML code of the request for SOAP and Web applications.

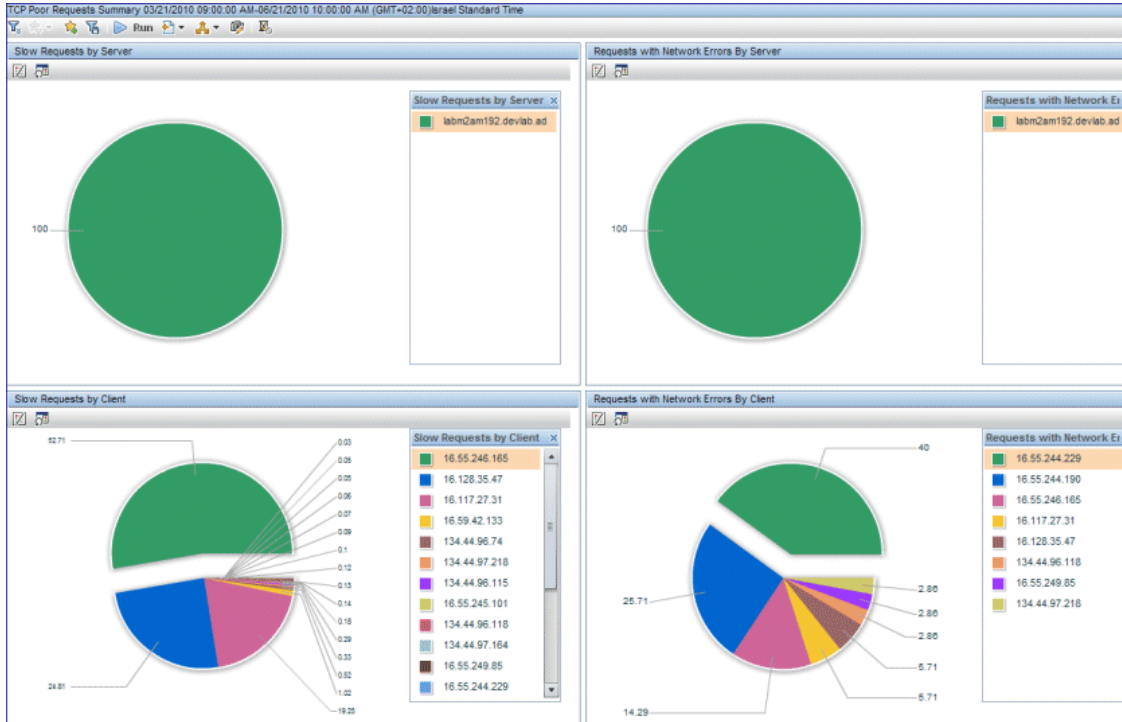
Note: This tab is enabled only for SOAP and Web applications for which request snapshots were collected.


Events

This tab displays the configured events that occurred on the page, or in the session.

TCP Poor Requests Summary Report

This report displays a summary of selected applications' TCP requests that were slow or had errors, broken down by servers and end users.



To access	<p>Click the Drill down to TCP Poor Requests Summary button  in one of the following reports:</p> <ul style="list-style-type: none"> ▶ RUM Tier Summary ▶ RUM End User Group Summary ▶ RUM Application Infrastructure Summary
Important information	<ul style="list-style-type: none"> ▶ Slow requests are requests whose time was less than the component time threshold configured for the application in End User Management Administration. ▶ Requests with network errors are requests with a minimum number of network errors and with a minimum percentage of packets with network errors out of the total number of packets for the request, as configured for the application in End User Management Administration. ▶ The report displays data for only TCP applications or HTTP (Web and SOAP) applications with TCP settings.
Data type	Real user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<Drill down to TCP Slow Requests Analyzer>	Right-click a slice in the Slow Requests by Server or Slow Requests by Client pie charts and select Drill down to TCP Slow Requests Analyzer from the Shortcut menu, to drill down to the TCP Slow Requests Analyzer for the specific server or client. For user interface details, see "TCP Requests Analyzer Report" on page 937.
<Drill down to TCP Requests with Network Errors Analyzer>	Right-click a slice in the Requests with Network Errors by Server or Requests with Network Errors by Client pie charts and select Drill down to TCP Requests with Network Errors Analyzer from the Shortcut menu, to drill down to the TCP Requests with Network Errors Analyzer for the specific server or client. For user interface details, see "TCP Requests Analyzer Report" on page 937.

Slow Requests by Server Graph

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Pie chart>	<p>The complete pie chart represents the total number of slow TCP requests for the selected applications, broken down by servers. Each slice of the pie chart represents the total number of slow TCP requests for the selected applications for a specific server.</p> <p>Tooltip: Hold the cursor over a slice to display a tooltip with additional information relevant to the data.</p> <p>Note: Up to 10 different slices can be displayed per chart. If there are more than 10 servers to be displayed, the servers with the least number of slow TCP requests are grouped together in a slice called Other.</p>

Slow Requests by Client Graph

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Pie chart>	<p>The complete pie chart represents the total number of slow TCP requests for the selected applications, broken down by clients. Each slice of the pie chart represents the total number of slow TCP requests for the selected applications for a specific client.</p> <p>Tooltip: Hold the cursor over a slice to display a tooltip with additional information relevant to the data.</p> <p>Note: Up to 10 different slices can be displayed per chart. If there are more than 10 clients to be displayed, the clients with the least number of slow TCP requests are grouped together in a slice called Other.</p>

Requests with Network Errors by Server Graph

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Pie chart>	<p>The complete pie chart represents the total number of TCP requests with network errors for the selected applications, broken down by servers. Each slice of the pie chart represents the total number of TCP requests with network errors for the selected applications for a specific server.</p> <p>Tooltip: Hold the cursor over a slice to display a tooltip with additional information relevant to the data.</p> <p>Note: Up to 10 different slices can be displayed per chart. If there are more than 10 servers to be displayed, the servers with the least number of TCP requests with network errors are grouped together in a slice called Other.</p>

Requests with Network Errors by Client Graph

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Pie chart>	<p>The complete pie chart represents the total number of TCP requests with network errors for the selected applications, broken down by clients. Each slice of the pie chart represents the total number of TCP requests with network errors for the selected applications for a specific client.</p> <p>Tooltip: Hold the cursor over a slice to display a tooltip with additional information relevant to the data.</p> <p>Note: Up to 10 different slices can be displayed per chart. If there are more than 10 clients to be displayed, the clients with the least number of TCP requests with network errors are grouped together in a slice called Other.</p>


TCP Requests Analyzer Report


This report Displays detailed data about the slow requests or requests with network errors for selected applications for a specific server or end user.

<p>To access</p>	<p>Right-click a pie slice for a specific server or client in the TCP Poor Requests Summary report and:</p> <ul style="list-style-type: none"> ▶ In the Slow Requests by Server or Slow Requests by Client graphs, select Drill down to TCP Slow Requests Analyzer from the Shortcut menu. ▶ In the Requests with Network Errors by Server or Requests with Network Errors by Clients graphs, select Drill down to TCP Requests with Network Errors Analyzer from the Shortcut menu.
<p>Important information</p>	<ul style="list-style-type: none"> ▶ You access the report by clicking a pie slice in one of the graphs in the TCP Poor Requests Summary report. If you click a pie slice in the Slow Requests by Server or Slow Requests by Client graphs, the report is called the TCP Slow Requests Analyzer report. If you click a pie slice in the Requests with Network Errors by Server or Requests with Network Errors by Client graphs, the report is called the TCP Requests with Network Errors Analyzer report. ▶ Slow requests are requests whose time was less than the component time threshold configured for the application in End User Management Administration. ▶ Requests with network errors are requests with a minimum number of network errors and with a minimum percentage of packets with network errors out of the total number of packets for the request, as configured for the application in End User Management Administration. ▶ The report displays data for only TCP applications or HTTP (Web and SOAP) applications with TCP settings.

Data type	Real user data
Report settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689. ➤ Display requests with capture file. Select this check box to display only those relevant requests for which a capture file exists. Clear the check box to display all relevant requests. <p>Note: This field is visible and enabled only when you access the report from one of the Requests with Network Errors pie charts in the TCP Poor Requests Summary report.</p>

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns	
	<p>Download Capture File. Click to download a capture file of the selected request in .pcap format. You can save the file, or view it in a new window.</p> <p>Note:</p> <ul style="list-style-type: none"> ➤ The button is visible only when you access the report from one of the Requests with Network Errors graphs in the TCP Poor Requests Summary report. ➤ The button is enabled only if a capture file exists for the request. ➤ Capture files are created no more than once a minute. ➤ You must configure applications to enable capture files to be created. For details, see "TCP Settings Area" on page 370.

UI Elements	Description
	<p>View Readable Request Snippet. Click to display a snippet of the selected request to the application in text format, in a new window. For protocols for which Real User Monitor supports parsing, the snippet contains more detailed request/response data, which is displayed in xml format. For a list of supported protocols, see "Parsing Supported Protocols" on page 766.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ The button is enabled only if a snippet exists for the request. ▶ You cannot display a snippet for requests transmitted over an SSL connection.
<p>Report Columns (A-Z)</p> <p>Hold the cursor over a cell to display a tooltip with additional information relevant to the data.</p>	
Application Traffic	The total amount of application traffic, in kilobytes, for the request
Capture File	A check mark denotes that a capture file exists for the request.
Client	The client name.
Client Time (sec)	The amount of time, in seconds, that the request was delayed on the client machine.
Network Time (sec)	The time, in seconds, that the request was delayed on the network.


UI Elements	Description
Packets with Network Errors (%)	<p>The percentage of packets sent for the request for which there were network errors. This column is color-coded, based on the request's percentage of packets with network errors in relation to the packets with network errors threshold you configured for the application in End User Management Administration.</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Warning—the percentage of packets with network errors has exceeded the configured threshold, but the minimum number of packets with network errors is within the configured threshold. ➤ Red. Critical <p>Note: The number of retransmitted data and Ack packets displayed in the tooltip may differ from the number included in a capture file that is opened in Wireshark, due to a difference in the algorithm used to calculate retransmitted packets. For example, in the following packet sequence, packet 2 was lost (that is, it was not received by the server and was not captured by Real User Monitor), packet 5 is counted as a retransmitted packet by both Real User Monitor and Wireshark, and packet 6 is counted as a retransmitted packet by Real User Monitor (as the repetition of the ACK for DATA1 in packets 4 and 5 signal that packet 2 was sent, but not received and therefore packet 6 is a retransmission of packet 2), but is not considered as a retransmitted packet by Wireshark:</p> <ul style="list-style-type: none"> ➤ Packet 1 Client → Server DATA1 ➤ Packet 2 Client → Server DATA2 ➤ Packet 3 Client → Server DATA3 ➤ Packet 4 Server → Client ACK on DATA1 ➤ Packet 5 Server → Client ACK on DATA1 ➤ Packet 6 Client → Server DATA2

UI Elements	Description
Packets with Server Errors (%)	<p>The percentage of packets sent for the request for which there were server errors. This column is color-coded, based on the request's percentage of packets with server errors in relation to the packets with server errors threshold you configured for the application in End User Management Administration.</p> <ul style="list-style-type: none"> ▶ Green. OK ▶ Red. Critical
Request Name	<p>For protocols for which Real User Monitor supports parsing, a request name is displayed. The name includes the protocol and a summary of the request showing the type of action. For other protocols, a dash (-) is displayed. For a list of supported protocols, see "Parsing Supported Protocols" on page 766.</p>
Request Snippet	<p>A check mark denotes that a snippet of the selected request to the application in text format exists. For protocols for which Real User Monitor supports parsing, the snippet contains more detailed request/response data, which is displayed in xml format. For a list of supported protocols, see "Parsing Supported Protocols" on page 766.</p>
Request Time Stamp	<p>The date and time of the request.</p>
Response Time (sec)	<p>The request-response time for the request, in seconds. This column is color-coded, based on the request-response time in relation to the component time threshold you configured for the application in End User Management Administration.</p> <ul style="list-style-type: none"> ▶ Green. OK ▶ Red. Critical
Retransmit Time (sec)	<p>The retransmit time for the request, in seconds.</p>
Server	<p>The name of the server.</p>

UI Elements	Description
Server Time (sec)	<p>The amount of time, in seconds, that the request was delayed on the server. This column is color-coded, based on the server time in relation to the component server time threshold you configured for the application in End User Management Administration.</p> <ul style="list-style-type: none"> ▶ Green. OK ▶ Red. Critical <p>Note: The color coding does not indicate whether the request is a slow request or not.</p>
Server Time to First Buffer (sec)	<p>The amount of time, in seconds, from when the server received the request until the first application data buffer is sent in the response.</p>
SSL	<p>A check mark denotes if the request was sent over an SSL connection.</p>

Tiers Over Time Report


This report enables you to investigate a selected, problematic tier of an application from the RUM Tier Summary report and to see its behavior over the course of time. The report displays the traffic, errors, load, and response times over the course of time for the selected tier.

To access	<p>In the RUM Tier Summary report, select an application tier and click the Drill down to Tiers Over Time  button.</p>
Important information	<ul style="list-style-type: none"> ▶ The report only includes data that is common to the tier types of all selected tiers/applications. To view more data for an application/tier, select tiers of a single type only. ▶ Thresholds are displayed in the graphs only when you select a single application tier for the report.
Data type	Real user data

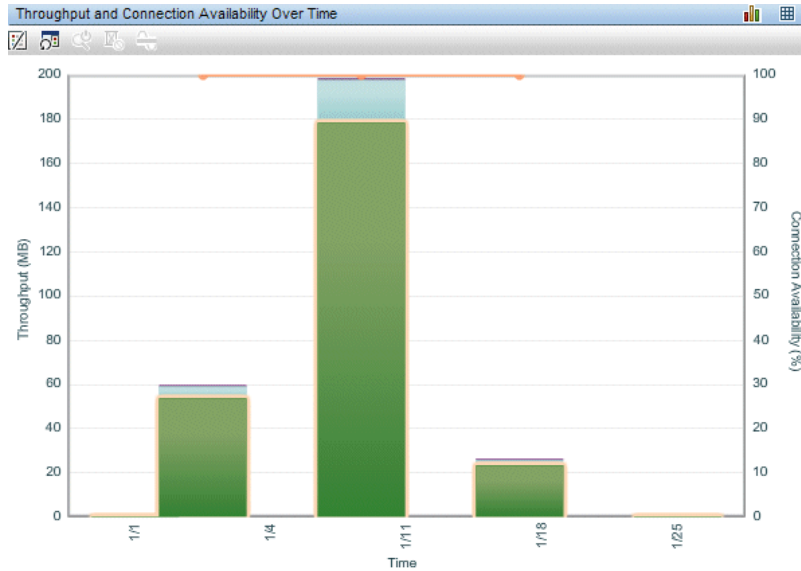
See also	"Viewing Data for Different Application Tier Types in Real User Monitor Reports" on page 654
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
	<p>"Tiers Over Time Report" on page 942. In any table, select a row and click the Drill down to Tiers Over Time button to drill down to a higher time resolution. For example, if you drill down from the report that displays data for a day, the time resolution changes to hours for the specific day.</p> <p>Graph view: In any graph, right-click a bar or data point and select Drill down to Tiers Over Time from the Shortcut menu.</p>

Throughput and Connection Availability Over Time



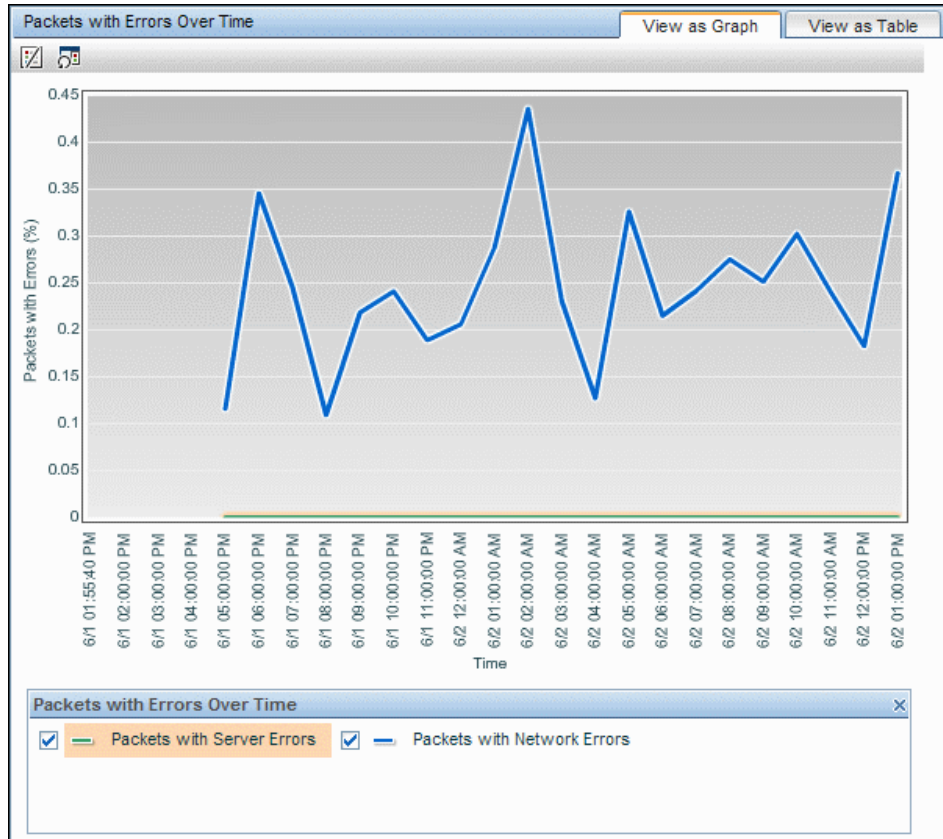
Important information	This component is displayed only if there is network data for all the selected tiers.
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis> (left)	<p>Throughput (MB). The amount of traffic in megabytes. Stacked bars indicate the total amount of application tier traffic at each point over the course of the defined time period, broken down to application traffic, TCP layer overhead, and retransmissions.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

UI Elements	Description
<Y-axis> (right)	<p>Connection Availability (%). The connection availability percentage.</p> <p>Data points indicate the percentage of total connections that were successful for the application at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>
<Connection availability threshold line>	Displays the server connection availability threshold that you configured for the application in End User Management Administration.
<Table view>	For user interface details, see "<Network Connections> Table" on page 954.


Packets with Errors Over Time



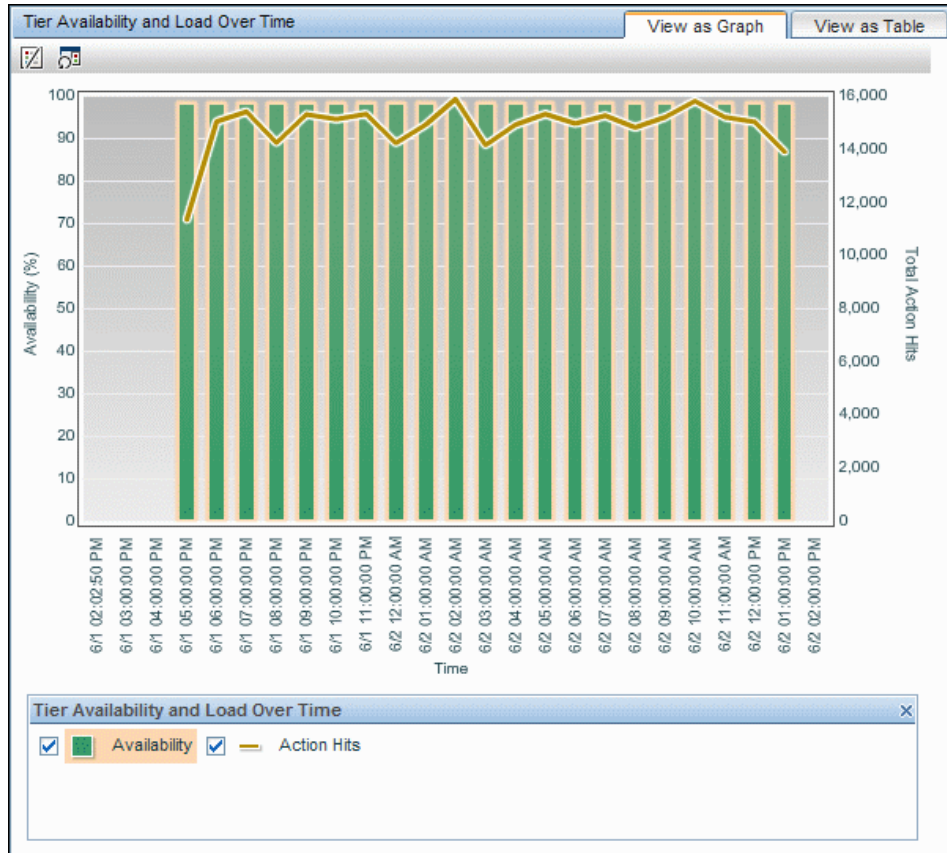
Important information

This component is displayed only if there is network data for all the selected tiers.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
Drilldowns -Table View	
	<p>Drill down to NNM. Click to drill down to HP Network Node Manager for a selected row.</p> <p>For concept details, see "Viewing HP Network Node Manager Data From Real User Monitor Reports" on page 668.</p> <p>Graph view: Right-click a Packet with Network Errors data point and select Drill down to NNM from the Shortcut menu.</p>
<p>Graph Elements</p> <p>For Table view user interface details, see "<Network Connections> Table" on page 954.</p>	
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	<p>Packets with Errors (%). The percentage of errors.</p> <p>Data lines indicate the percentage of packets sent for an application that had network TCP errors and server TCP errors, at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>
<Pakcets with Server Errors Threshold line>	Displays the Packets with server errors threshold that you configured for the application in End User Management Administration.
<Pakcets with Network Errors Threshold line>	Displays the Packets with network errors threshold that you configured for the application in End User Management Administration.

Tier Availability and Load Over Time



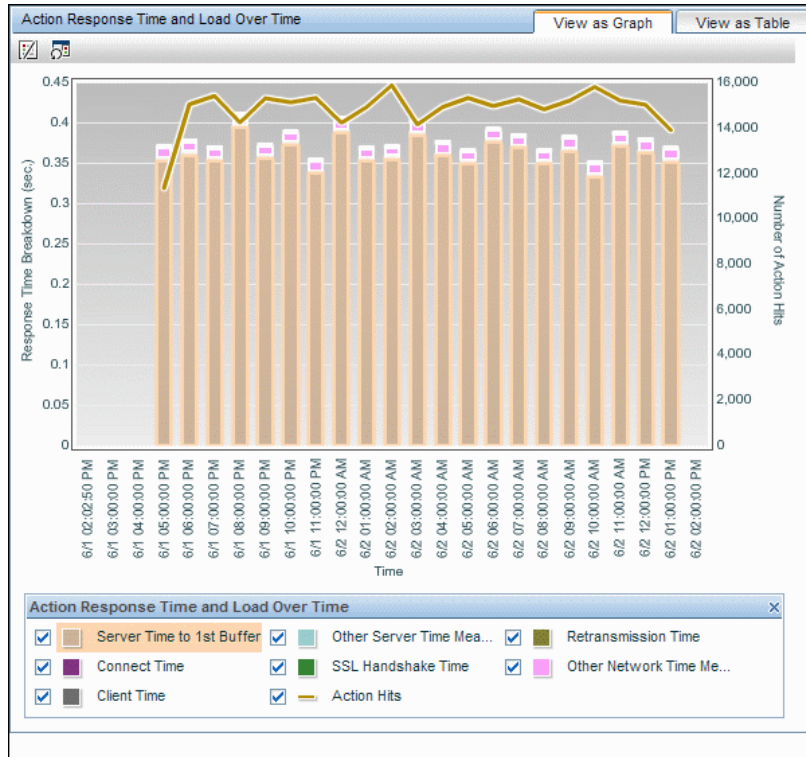
Important information	This component is displayed only if there is action data for all the selected tiers.
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.

UI Elements	Description
<Y-axis> (left)	<p>Availability (%). The percentage of availability.</p> <p>Bars indicate the percentage of availability for the application tier at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>
<Y-axis> (right)	<p>Total Action Hits. The total number of action hits.</p> <p>Data lines indicate the total number of action hits for the application tier at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>
<Availability threshold>	<p>A line indicates the action availability threshold configured for the tier in End User Management Administration.</p>


Action Response Time and Load Over Time



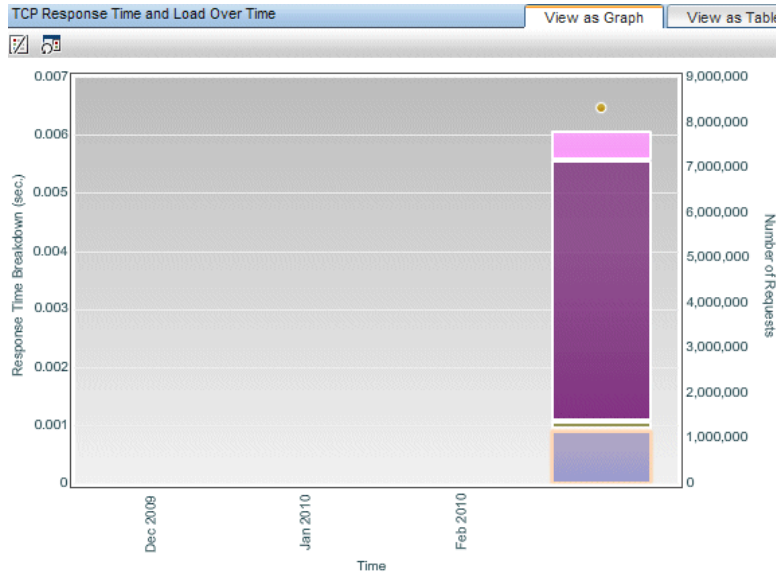
Important information

This component is displayed only if there is action data for all the selected tiers.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
Drilldowns -Table View	
	<p>Drill down to NNM. Click to drill down to HP Network Node Manager for a selected row.</p> <p>For concept details, see "Viewing HP Network Node Manager Data From Real User Monitor Reports" on page 668.</p> <p>Graph view: Right-click a bar and select Drill down to NNM from the Shortcut menu.</p>
Graph Elements	
<X-axis>	Time. The time units for the selected time period.
<Y-axis> (left)	<p>Response Time Breakdown (sec). The response time breakdown in seconds.</p> <p>Stacked bars indicate the average response time, in seconds, for the application tier's actions, broken down to categories.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Other Network Time is the network time less SSL time, retransmit time and connect time. ▶ Other Server Time is the server time less the server time to first buffer. <p>Note: The network time includes the average connect and SSL handshake times, which are the average times per available action hit.</p>
<Y-axis> (right)	<p>Number of Action Hits. The total number of actions hits.</p> <p>Data lines indicate the total number of action hits for the application tier at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>

TCP Response Time and Load Over Time



Important information	This component is displayed only if not all of the selected tiers have action data, but they do all have TCP data. It is displayed in place of the Action Response Time and Load Over Time component.
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.

UI Elements	Description
<Y-axis> (left)	<p>Response Time Breakdown (sec). The response time breakdown in seconds.</p> <p>Stacked bars indicate the average response time, in seconds, for the application tier's requests, broken down to categories.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Other Network Time is the network time less SSL time, retransmit time and connect time. ▶ Other Server Time is the server time less the server time to first buffer. ▶ The network time includes the average connect and SSL handshake times, which are the average times per request.
<Y-axis> (right)	<p>Number of Requests. The total number of requests.</p> <p>Data lines indicate the total number of requests for the application tier at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>
<Server time threshold>	<p>A line indicates the TCP server time threshold configured for the tier in End User Management Administration.</p> <p>Note: This element is not displayed if the configured server time threshold is greater than the fourth highest response time measurement displayed in the graph.</p>
<Total time threshold>	<p>A line indicates the TCP total time threshold configured for the tier in End User Management Administration.</p> <p>Note: This element is not displayed if the configured total time threshold is greater than the fourth highest response time measurement displayed in the graph.</p>

<Network Connections> Table

Important information	<ul style="list-style-type: none"> ➤ This component is displayed only if there is network data for all the selected tiers. ➤ This table is displayed when you view either the Throughput and Connection Availability Over Time or the Packets with Errors Over Time components as a table. ➤ The Connection Availability, Server TCP Errors, and Network TCP Errors columns are color-coded, based on the relevant thresholds configured in End User Management Administration. The following are the valid statuses: <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Warning ➤ Red. Error ➤ Blue. No data
------------------------------	--



User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<Tooltip>	Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Application Traffic (MB)	The total amount of application tier traffic, in megabytes, at a given point of time.
Connection Availability (%)	The percentage of total connections that were successful for the application tier at a give point of time.
Packets with Network Errors	The percentage of packets sent for an application tier that had network TCP errors, at a given point of time.
Packets with Server Errors (%)	The percentage of packets sent for an application tier that had server TCP errors, at a given point of time.
Retransmissions (MB)	The total amount of retransmission traffic, in megabytes, at a given point of time.
TCP Layer Overhead (MB)	The total amount of TCP layer overhead traffic, in megabytes, at a given point of time.

UI Elements (A-Z)	Description
Time	The time units for the selected time period.


Transaction Over Time Report

This report displays details of the availability, transaction times, run availability, and breakdown for the selected transaction, over the course of time.

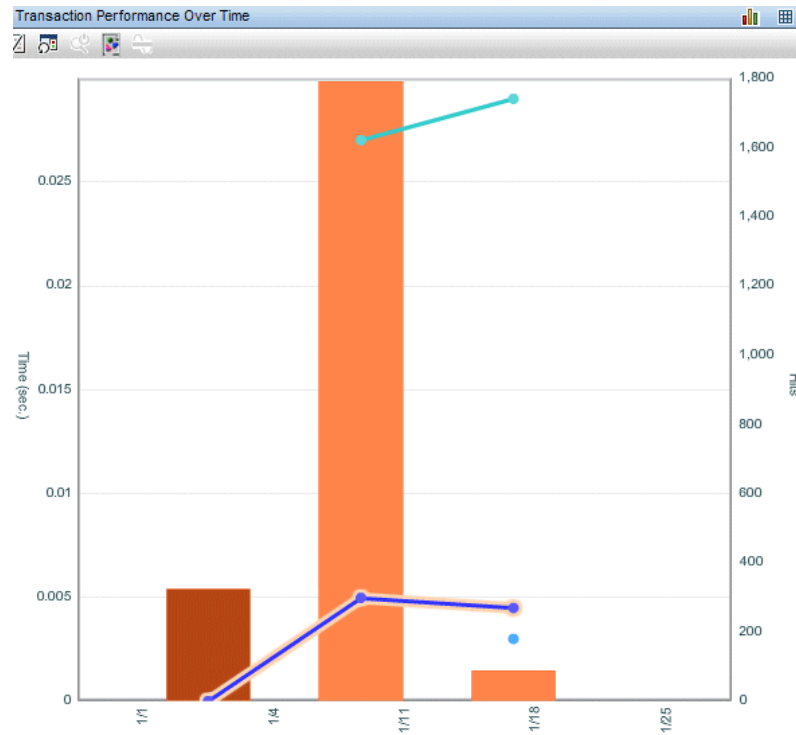
To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ In the RUM Transaction Summary report, select a transaction and click the Drill down to Transaction Over Time  button. ▶ In the Triage report > Transaction Breakdown component: <ul style="list-style-type: none"> ▶ Table view: Select a row and click the Drill down to Transaction Over Time  button. ▶ Graph view: Right-click a bar and select Drill down to Transaction Over Time in the Shortcut menu.
Data type	Real user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

General Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
	<p>"Transaction Over Time Report" on page 955. In any table, select a row and click the Drill down to Transaction Over Time button to drill down to a higher time resolution. For example, if you drill down from a report that displays data for a day, the time resolution changes to hours for the specific day.</p> <p>Note: You cannot drill down to a resolution higher than five minutes.</p> <p>Graph view: In any graph, right-click a bar or data point to and select Drill down to Transaction Over Time from the Shortcut menu.</p>

Transaction Performance Over Time



Important information

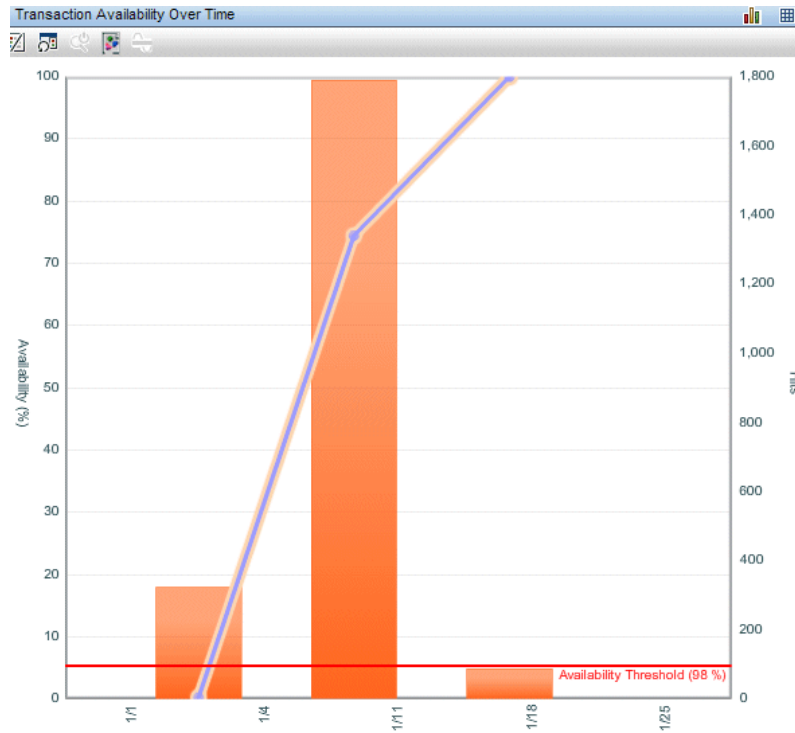
In the table view, the **Transaction Time** column is color-coded, based on the relevant threshold configured in End User Management Administration. The following are the valid statuses:

- **Green.** OK
- **Yellow.** Minor
- **Red.** Critical
- **Blue.** No data
- **Lavender.** Full down time

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis left>	<p>Time (sec). Transaction time units in seconds.</p> <p>Three sets of data lines indicate:</p> <ul style="list-style-type: none"> ➤ The average net transaction time ➤ The maximum net transaction time ➤ The minimum net transaction time <p>over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>
<Y-axis right>	<p>Hits. The total number of transaction hits.</p> <p>Bars indicate the total number of transaction hits at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>
<Horizontal Total Net Time Threshold line>	<p>The transaction total net time threshold you configured in End User Management Administration.</p> <p>Note: The threshold is displayed only if:</p> <ul style="list-style-type: none"> ➤ You generate the report for a single transaction. ➤ The threshold value is less than, or equal to, four times the value of the highest data point in the graph.

Transaction Availability Over Time



Important information

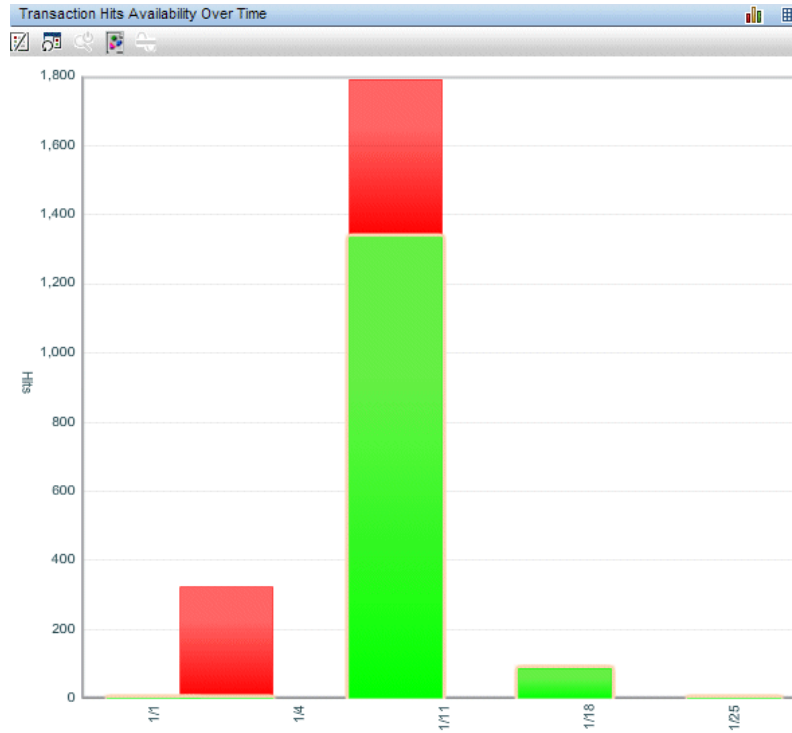
In the table view, the **Availability** column is color-coded, based on the relevant threshold configured in End User Management Administration. The following are the valid statuses:

- ▶ **Green.** OK
- ▶ **Yellow.** Minor
- ▶ **Red.** Critical
- ▶ **Blue.** No data
- ▶ **Lavender.** Full down time

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis left>	<p>Availability (%). Transaction availability percentage units.</p> <p>Data points indicate the percentage of available transactions at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>
<Y-axis right>	<p>Hits. The total number of transaction hits.</p> <p>Bars indicate the total number of transaction hits at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>
<Horizontal Transaction Threshold line>	<p>The transaction availability threshold you configured in End User Management Administration.</p> <p>Note: The threshold is displayed only if you generate the report for a single transaction.</p>

Transaction Hits Availability Over Time



Important information

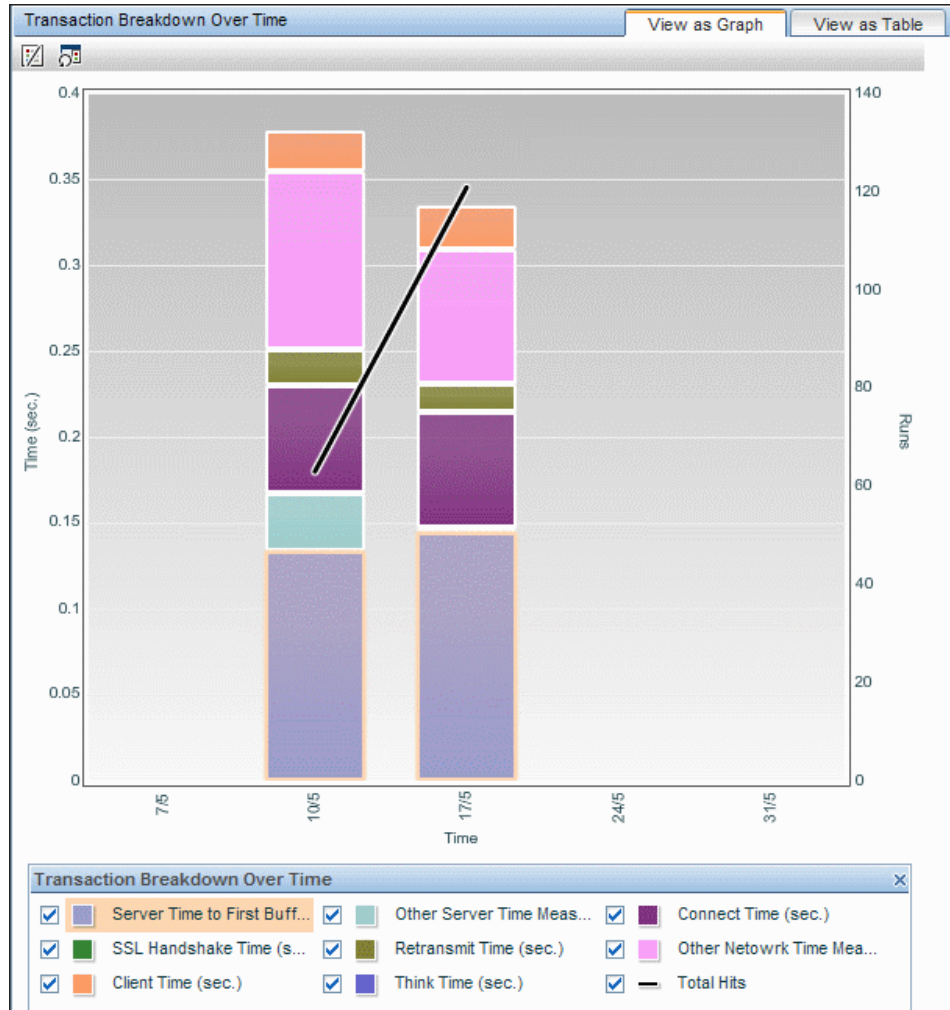
In the table view, the **Available Hits** and **Unavailable Hits** columns are color-coded, based on the relevant thresholds configured in End User Management Administration. The following are the valid statuses:

- **Green.** OK
- **Yellow.** Minor
- **Red.** Critical
- **Blue.** No data
- **Lavender.** Full down time

User interface elements are described below (unlabeled elements are shown in angle brackets):


UI Elements	Description
<X-axis>	Time. The time units for the selected time period.
<Y-axis>	<p>Hits. The number of transaction hits</p> <p>Stacked bars represent the number of transaction hits over the course of the defined time period. The bars are divided into the number of available transaction hits (colored green), and the number of unavailable transaction hits (colored red).</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Transaction Breakdown Over Time



Important information	<p>In the table view, the Total Time and Server Time columns are color-coded, based on the relevant thresholds configured in End User Management Administration. The following are the valid statuses:</p> <ul style="list-style-type: none"> ➤ Green. OK ➤ Yellow. Minor ➤ Red. Critical ➤ Blue. No data ➤ Lavender. Full down time
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements	Description
Drilldowns - Table View	
	<p>Drill down to HP Network Node Manager. Click to drill down to HP Network Node Manager.</p> <p>For concept details, see "Viewing HP Network Node Manager Data From Real User Monitor Reports" on page 668.</p> <p>Graph view: Right-click a bar and select Drill down to HP Network Node Manager from the Shortcut menu.</p>
Graph Elements	
<X-axis>	Time. The time units for the selected time period.
<Y-axis left>	<p>Time (sec). Time units in seconds.</p> <p>Bars indicate the total transaction time over the course of the defined time period, and are divided into segments showing client time, connection time, network time, retransmission time, server time, server time to first buffer, SSL handshake time, and think time for the transaction.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

UI Elements	Description
<Y-axis right>	<p>Hits. The total number of transaction hits.</p> <p>Data points indicate the total number of transaction hits at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p> <p>Hits. To drill down to HP Network Node Manager, click a bar and select Drilldown to NNM from the displayed menu. For concept details, see "Viewing HP Network Node Manager Data From Real User Monitor Reports" on page 668.</p>
<Horizontal Total Time Threshold line>	<p>The total time threshold of the transaction, as configured in End User Management Administration.</p> <p>Note: The threshold is displayed only if:</p> <ul style="list-style-type: none"> ▶ You generate the report for a single transaction. ▶ The threshold value is less than, or equal to, four times the value of the highest data point in the graph.
<Horizontal Total Net Time Threshold line>	<p>The total net time threshold of the transaction, as configured in End User Management Administration.</p> <p>Note: The threshold is displayed only if:</p> <ul style="list-style-type: none"> ▶ You generate the report for a single transaction. ▶ The threshold value is less than, or equal to, four times the value of the highest data point in the graph.
<Horizontal Total Server Time Threshold line>	<p>The total server time threshold of the transaction, as configured in End User Management Administration.</p> <p>Note: The threshold is displayed only if:</p> <ul style="list-style-type: none"> ▶ You generate the report for a single transaction. ▶ The threshold value is less than, or equal to, four times the value of the highest data point in the graph.

Triage Report

This report displays Business Process Monitor or Real User Monitor transaction data, organized by location, for a selected period of up to 72 hours.

Data in the Triage report is organized by transactions and locations and includes a transaction breakdown component, as well as graphs showing error data. The report also includes information about the health of the transaction scripts running at the various locations (Script Health), as well as indicators for the health of Business Process Monitor data collectors.

To access	Use one of the following: <ul style="list-style-type: none">▶ Select Applications > End User Management > Analysis Reports > Triage Report.▶ In Service Health, right-click a BusinessApplication or BusinessTransaction type CI and select Go to Report > Triage report from the Shortcut menu. The Triage report displays data for the transaction and location of the specific CI. For details on Service Health menu options, see "Service Health Menu Options" in <i>Using Service Health</i>.
------------------	--

<p>Important information</p>	<ul style="list-style-type: none"> ▶ By default, the first 20 transactions or locations are displayed and are sorted worst down from top to bottom and left to right. To change the number of transactions or locations displayed, select Admin > Platform > Setup and Maintenance > Infrastructure Settings, choose Applications, select End User/System Availability Management, and locate the Max. number of transactions or locations in Triage report entry in the End User/System Availability Management – Data table. Modify the value to the required number. ▶ The Triage report does not display deleted transactions, although End User Management does store transaction history. ▶ When the Triage report is requested, HP Business Service Management checks when the collector ping time and data time were last reported (for synthetic user data). By default, HP Business Service Management compares these values to 60 minutes. If the last report time is higher than the default, a yellow icon is displayed in the Triage report. To change the last ping time and last data time defaults, select Admin > Platform > Setup and Maintenance > Infrastructure Settings, choose Applications, select End User/System Availability Management, in the End User/System Availability Management – Data table, locate the following entries and modify their values to the number of minutes required: <ul style="list-style-type: none"> ▶ Max. time since last reported collector ping time ▶ Max. time since last reported collector data time
<p>Data type</p>	<ul style="list-style-type: none"> ▶ Real user data ▶ Synthetic user data

<p>Report settings</p>	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689. ➤ Filter by. Click to open the filter options in a new window and select one of the following filters: <ul style="list-style-type: none"> ➤ Worst transactions and worst locations. ➤ Worst locations for worst transactions. ➤ Worst transactions for worst locations. <p>Default value: Worst transactions and worst locations</p>
-------------------------------	---

Transaction by Location

This component displays average transaction response time and availability status during the report's time period, organized by location.

The Transaction by Location graph helps you pinpoint and characterize specific problem areas related to average transaction response time and transaction availability. Enables you to identify where average transaction response times are too slow and/or when there are too many failed transactions. For example, you may determine that response times of transactions running from a particular location are consistently in the poor range. This could indicate a problem with the network connections in that location.

The Transaction by Location graph's color-coded cells enable you to analyze average transaction response times at a glance and get a quick snapshot of overall transaction health. For example, if most of the cells in the report are green, then average response times are generally OK. If most of the cells are red, then average response times are generally critical.

Triage Report 26/5/2010 17:12:00-27/5/2010 17:12:00 (GMT+02:00)Israel Standard Time



Transaction by Location

Transactions	Application	Locations		
		Palo Alto	USA Flor...on Beach	Botswana ,gaborone
BBC	RUM_TEST_perevera			
Mail.ru	RUM_TEST_perevera			
Yndex	RUM_TEST_perevera			
birds	BPM_and_RUM			
Google	RUM_TEST_perevera			
Think_time	Jpet_148			
fish	BPM_and_RUM			
OnePage_Broken_Dogs	Jpet_148			

OK
 Minor
 Critical
 No Data
 Downtime
 Less than 10% failed
 10% to 30% failed
 30% to 50% failed
 50% to 70% failed
 70% to 90% failed
 More than 90% failed

User interface elements are described below (unlabeled elements are shown in angle brackets>):

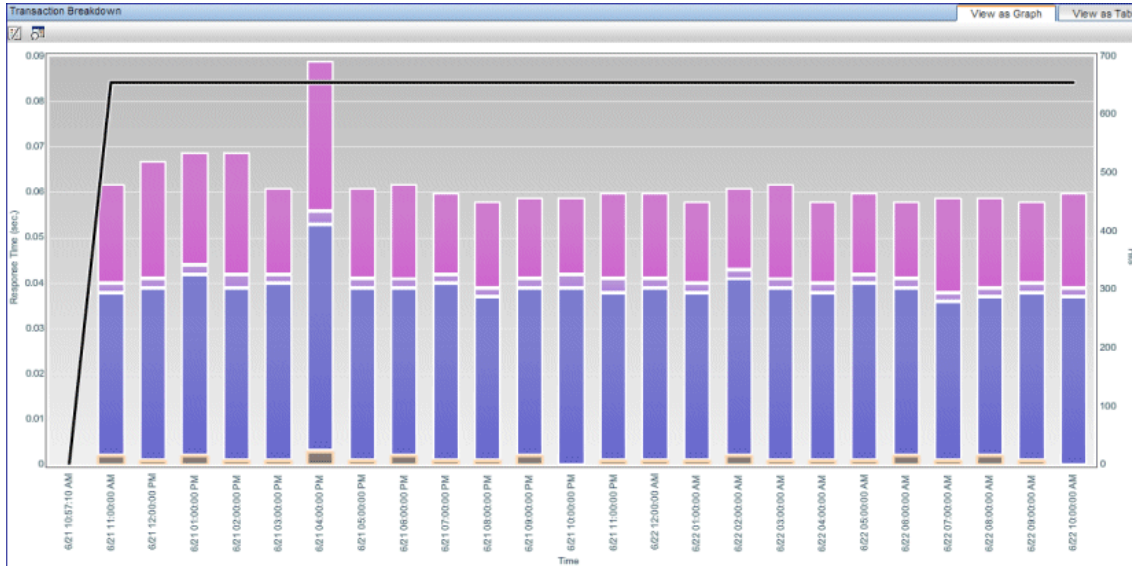
UI Elements	Description
Drilldowns	
	<p>"Triage Raw Data Report" on page 976:</p> <ul style="list-style-type: none"> ▶ Select a row in the table and click the Drill down to Triage Raw Data button to drill down to the Triage Raw Data report for the selected transaction. ▶ Click a data cell to drill down to the Triage Raw Data report for a specific transaction and location. <p>Note: The Triage Raw Data report opens in a new window.</p>

UI Elements	Description
	"Performance Analysis Report" on page 829
	"RUM Transaction Summary Report" on page 911 (for real user data only)
Report Columns	
Transactions	The transaction name.
Application	<p>The name of the application in which the transaction is configured.</p> <p>Note: This column is displayed only when you generate the report for multiple applications.</p>
Script Health	<p>An icon that shows whether transactions have finished successfully.</p> <p>When a script in a business transaction flow is run, but for some reason does not finish successfully (that is, it does not end with a status of Finished properly or Finished (errors occurred)), samples for transactions that are part of the script but were not run are sent to HP Business Service Management for inclusion in the Triage report.</p> <p>A yellow icon signifies that there are problems with the transaction. A green icon signifies that there are no problems.</p> <p>Note: This column is displayed only when you generate the report for synthetic user data.</p>
Locations	A column for each location included in the report is displayed.
Report Rows	
<Transactions>	A row for each transaction included in the report is displayed.

UI Elements	Description
Collector Health	<p>An icon that shows the health of each collector sorted by location.</p> <p>A yellow icon signifies that a Business Process Monitor host has problems. A green icon signifies that there are no problems.</p> <p>Note: This row is displayed only when you generate the report for synthetic user data.</p>
Data Cells	
<Data cells>	<p>The data cells are colored to display the performance status for a specific transaction at a specific location. The color-coding corresponds to that of the transaction threshold settings—green for OK, yellow for Minor (for Business Process Monitor transactions only), and red for Critical. In addition, when one or more transaction runs failed or, for Business Process Monitor transactions, exceed their outlier value within the report's time period, a black X is displayed in the cell. Next to the black X, 1 to 5 horizontal bars are used to signify transaction failure or outlier values. For details on the transaction failure and outlier values used in the report, see "Transaction Failures and Outlier Values" on page 975.</p> <p>Cells representing transactions that were not scheduled to run at a specific location during the report's time period are colored blue.</p>





Transaction Breakdown


This component displays the average transaction response time broken down by category, and the number of transaction hits, during the report's time period.



<p>Important information</p>	<ul style="list-style-type: none"> ➤ When viewed as a table, each time division unit is displayed in a row and the columns display the average response time of each category for all the transactions, as well as the total number of transaction hits. ➤ Total response time is calculated as an average of all the transactions included in the report (with or without breakdown values) whereas breakdown category times are calculated as an average of only those transactions that have breakdown values.
<p>See also</p>	<ul style="list-style-type: none"> ➤ "Understanding Transaction Breakdown in Reports" on page 635. ➤ "Overview of HP Real User Monitor Performance Measurements" in the <i>Real User Monitor Administration</i> PDF.

User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements	Description
Drilldowns - Table View	
	<p>"BPM WebTrace Report" on page 1002 (for synthetic user data only).</p> <p>Graph view: Right-click any of the segments for the transaction, except for the Retry Time, Connection Time, Server Time to First Buffer, or Download Time segments, and select Drill Down to BPM WebTrace Report from the Shortcut menu.</p>
	<p>"BPM Error Summary Report" on page 803 (for synthetic user data only).</p> <p>Graph view: Right-click the Retry Time segment and select Drill Down to BPM Error Summary Report from the Shortcut menu.</p>
	<p>"Transaction Over Time Report" on page 955 (for real user data only).</p> <p>Graph view: Right-click any of the segments for the transaction and select Drill Down to Transaction Over Time from the Shortcut menu.</p>
	<p>Drill down to HP Diagnostics (for synthetic user data only). Click to drill down to HP Diagnostics. The drill down is only enabled if HP Diagnostics is installed. For details on working with HP Diagnostics, see the <i>HP Diagnostics User's Guide</i>. For concept details, see "Viewing HP Diagnostics Data From End User Management Reports" on page 661.</p> <p>Graph view: Right-click the Server Time to First Buffer or the Download Time segments for the transaction and select Drill Down to HP Diagnostics from the Shortcut menu.</p>

UI Elements	Description
	<p>Drill down to Transaction Tracking Data (for synthetic user data only). Click to view Transaction Management's Transaction Tracking report. The drill down is only enabled if you have deployed Transaction Management in HP Business Service Management. For details on working with Transaction Management see the Transaction Management documentation. For concept details, see "Viewing TransactionVision Data From End User Management Reports" on page 665.</p> <p>Graph view: Right-click the Server Time to First Buffer or the Download Time segments for the transaction and select Drill Down to Transaction Management from the Shortcut menu.</p>
Graph Elements	
<X-axis>	<p>Time. The time division units for the time range that you defined when generating the report.</p>
<Y-axis> (left)	<p>Response Time (sec). The average response time of all the transactions displayed in the Transaction by Location component.</p> <p>Stacked bars indicate the average response time, in seconds, broken down to categories.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>
<Y-axis > (right)	<p>Available Hits. The average number of hits of all the transactions displayed in the Transaction by Location component.</p>

Error Distribution by Category/Type

<p>Important information</p>	<p>This component is included for synthetic user data only.</p>
-------------------------------------	---

For user interface details, see "Error Distribution by Category/Type" on page 805.

Errors vs. Availability Over Time

Important information	This component is included for synthetic user data only.
------------------------------	--

For user interface details, see "Errors Vs. Availability Over Time" on page 805(.

Transaction Failures and Outlier Values


The following table lists the icons used to denote transaction failure and outlier values in the Transaction by Location graph.

Icon	Description
x	Less than 10% of the transactions failed or exceeded the outlier value.
x -	Between 10% to 30% of the transactions failed or exceeded the outlier value.
x =	Between 30% to 50% of the transactions failed or exceeded the outlier value.
x ==	Between 50% to 70% of the transactions failed or exceeded the outlier value.
x ===	Between 70% to 90% of the transactions failed or exceeded the outlier value.
x ====	Over 90% of the transactions failed or exceeded the outlier value.

You use the black Xs and horizontal bars to analyze the frequency of failed and outlier transactions. For example, cells for one transaction at many locations displaying black Xs signify a problem with the transaction, whereas cells for one location for many different transactions displaying black Xs signify a problem with the location.

Triage Raw Data Report

This report displays performance and availability raw data for transactions.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ➤ Select Applications > End User Management > Analysis Reports > Triage Raw Data report ➤ In the Triage report > Transaction by Location component: <ul style="list-style-type: none"> ➤ Click a location data cell. ➤ Select a row and click the Drill down to Triage Raw Data  button.
Important information	<ul style="list-style-type: none"> ➤ When accessed from the Triage report, the Triage Raw Data report displays, by default, data for the transactions and locations selected in the Triage report.
Data type	<ul style="list-style-type: none"> ➤ Real user data ➤ Synthetic user data
Report settings	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689.

Location Response Time

The Location Response Time component displays the response times of transactions over the course of the defined time period.



User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A–Z)	Description
<X-axis>	Time. The time division units for the time range that you defined when generating the report.
<Y-axis>	<p>Response Time (sec). The response time in milliseconds.</p> <p>Colored squares represent the raw response time, in seconds, of transaction hits at a specific location for each point over the course of the defined time period. Each location is represented by a different color.</p> <p>Tooltip: Hold the cursor over a square to display a tooltip with additional information relevant to the data.</p> <p>Note: For real user data, each colored square represents the average response time for the defined time range and is a good approximation of the raw data.</p>

UI Elements (A–Z)	Description
Fail	A colored square shows that there were failed transaction hits for a location at a given point of time.
Outlier	A colored square shows that there were outliers for a location at a given point of time. Outliers are transaction hits whose response time exceeds a defined time range. Note: This element is visible only for Business Process Monitor transactions.
Script Error	A colored square shows that there were script errors for a location at a given point of time. Note: This element is visible only for Business Process Monitor transactions.

Transaction Breakdown

Important information	If you generate the Triage Raw Data report for a single application and for real user data, the Transaction Breakdown component in the report also displays the total time, total net time, and total server time thresholds for the application.
------------------------------	---

For user interface details, see "Transaction Breakdown" on page 972(.


Error Log

Important information	This component is displayed for synthetic user data only.
------------------------------	---

For user interface details, see "Error Log" on page 812.

Unconfigured End Users Report

This report displays data for the end users included in an unconfigured end-user group selected in the RUM End User Group Summary report.

To access	In the RUM End User Group Summary report, select the generic group called Others and click the Drill down to Unconfigured End Users  button.
Important information	<p>This report is the same as the RUM End User Group Summary report with the following exceptions:</p> <ul style="list-style-type: none"> ▶ You cannot drill down to other reports and no drilldown buttons are displayed. ▶ Location breakdown data is not displayed and there is only one table in each tab. ▶ The report is based on raw data retrieved from the Real User Monitor Engine. <p>For user interface details, see "RUM End User Group Summary Report" on page 882.</p>
Data type	Real user data
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

11

End User Management Utilities

This chapter includes:

Concepts

- ▶ End User Management Utilities Overview on page 982
- ▶ Analyzing the BPM WebTrace Report on page 982
- ▶ Analyzing the Page Component Breakdown Report on page 983

Tasks

- ▶ How to Configure Settings for the BPM Transaction Invocation Report on page 985

Reference

- ▶ End User Management Utilities User Interface on page 987

Concepts

End User Management Utilities Overview

End User Management utilities enable you to gain an in-depth view of the network health of your monitored environment. You can also invoke Business Process Monitor transactions to ensure their correctness and to obtain immediate data from them.

You access the utilities from the Utilities tab in the End User Management application (**Applications > End User Management > Utilities**). For user interface details, see "End User Management Utilities User Interface" on page 987.

Analyzing the BPM WebTrace Report

The BPM WebTrace report helps you identify problems related to network response time for hosts at various host locations. By correlating transaction response time and service availability information with the BPM WebTrace report data, you can determine whether slow response times or failed transactions are being caused by poor network performance from a specific host location.

For example, using the BPM Performance Matrix report, you might determine that average transaction response times from a particular location are in the critical range, as determined by your transaction threshold settings. By analyzing WebTrace data for the same location over the same time period, you could determine whether network performance was also critical. If so, this could lead you to conclude that the Internet was slow from a particular location during that time period. Alternatively, if network performance for the location and time period seems normal, you could conclude that the problem is server-related, for example, excessive load on your Web server.

The report also displays details (such as the average number of hops and the total number of retries) for each host/destination combination, as well as graphs showing the worst locations and worst destinations. You can cross-reference this data with transaction response time and service availability information to determine whether poor or failed application performance was caused by specific network errors or network latency for a particular location or time period.

You can drill down to a higher time resolution of the displayed data and can also drill down to the BPM Hop report for a view of hops information. For details on the BPM Hop report user interface, see "BPM Hop Report" on page 988.

For details on the BPM WebTrace report, see "BPM WebTrace Report" on page 1002.

Analyzing the Page Component Breakdown Report

The Page Component Breakdown report helps you identify problematic elements of a Web page or TCP request, for example, images that download slowly, or broken links. Furthermore, by breaking down an element's download time, the report can help you identify where problems are occurring along the network (for example, during DNS Resolution, or during Network Time to First Buffer).

By correlating transaction response time and service availability information with Page Component Breakdown report data, you can determine whether slow response times or failed transactions are being caused by specific problematic elements on a Web page that is accessed during the transaction, or by network errors during Web page download.

For example, using the Metrics over Time report, you might determine that the average response times for a particular transaction are suddenly significantly higher than in the past. By running a page component breakdown on the same Web page that is accessed in the transaction, you may discover that a particular image, recently added to the Web page, is downloading very slowly due to its size. This would account for the sudden increase in transaction response times.

The Page Component Breakdown report's color-coded bars enable you to differentiate between retry time, DNS resolution time, connection time, SSL handshaking time (if relevant), network time to first buffer, server time to first buffer, and download time. By analyzing the structure of the page download—for example, how many elements download simultaneously as compared to sequentially—you can pinpoint download bottlenecks.

You can also cross-reference this data with transaction response time and service availability information to determine whether poor or failed application performance is being caused by specific network errors or network latency. For example, if DNS lookup time is slow or returning errors, there may be a problem with your DNS server, which could explain why transactions are failing.

For details on the Page Component Breakdown report, see "BPM Page Component Breakdown on Demand" on page 993.

Tasks

How to Configure Settings for the BPM Transaction Invocation Report

This task describes how to configure transaction validation settings for the BPM Transaction Invocation report. For user interface details on the report, see "BPM Transaction Invocation" on page 997.

- 1** Select **Admin > Platform > Setup and Maintenance > Infrastructure Settings**.
- 2** Select **Applications**.
- 3** Select **End User/System Availability Management**.
- 4** In the **BPM Transaction Validation** table, locate the following entries and change their values accordingly:

Name	Description	Default Value
Agent poll rate (in seconds)	The refresh interval of the revalidation polling of synthetic user (BPM) agents. Increasing this setting lengthens the revalidation process time.	2
Maximum number of agents	The maximum number of agents on which a single script can be run simultaneously	4
Revalidation time frame (in hours)	The number of past hours (from current time) on which transaction status is calculated.	1
Synthetic user agent call timeout (in minutes)	The number of minutes that a transaction can run on a synthetic user (BPM) agent. After this time, the transaction will be aborted by the agent.	15

Name	Description	Default Value
Table refresh rate (in seconds)	Refresh rate, in seconds, of the revalidation table.	10
Transaction result time out	The length of time that the revalidation process waits for transaction run results from a synthetic user (BPM) agent, before aborting the transaction run.	15

Reference




End User Management Utilities User Interface

This section includes (in alphabetical order):

- BPM Hop Report on page 988
- BPM Page Component Breakdown on Demand on page 993
- BPM Transaction Invocation on page 997
- BPM WebTrace Report on page 1002
- BPM WebTrace on Demand Report on page 1009

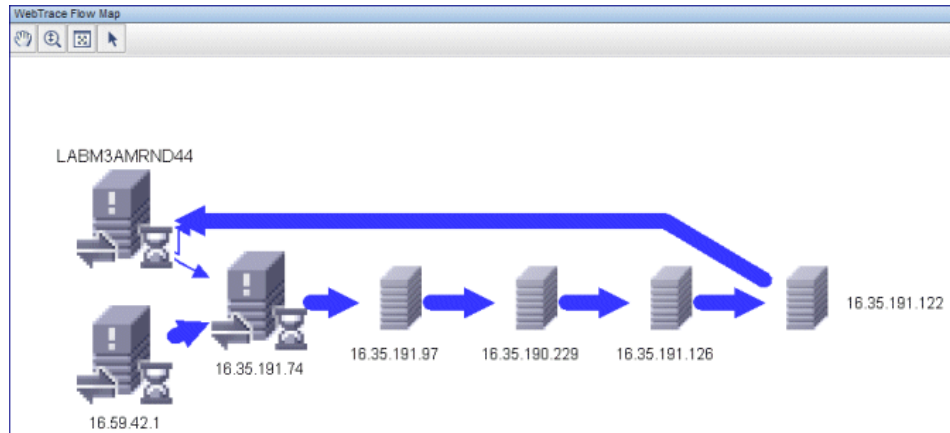
BPM Hop Report

This report displays a flow map and hop details of selected Business Process Monitor applications' WebTraces. This enables you to pinpoint the problematic hops (for example, the hops for which there were many retries, or hops with a long roundtrip time) which can affect the overall performance of your applications.

<p>To access</p>	<p>Use on of the following:</p> <ul style="list-style-type: none"> ➤ Select Applications > End User Management > Utilities > BPM Hop Report ➤ In the BPM WebTrace report: <ul style="list-style-type: none"> ➤ In the WebTrace Over Time graph, right-click a data point and select Drill down to BPM Hop Report in the Shortcut menu. ➤ In the WebTrace Over Time table, select a row and click the Drill down to BPM Hop Report  button. ➤ In the WebTrace Details table, select a row and click the Drill down to BPM Hop Report  button. ➤ In the Worst Destinations graph, right-click a bar and select Drill down to BPM Hop Report in the Shortcut menu. ➤ In the Worst Destinations table, select a row and click the Drill down to BPM Hop Report  button.
<p>Important information</p>	<p>Estimated hop time is calculated by subtracting the previous hop roundtrip time from the current hop roundtrip time. If the result is a negative value, the estimated hop time is calculated by dividing the roundtrip time by the hop number.</p>
<p>Report settings</p>	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689.




WebTrace Flow Map





This map uses an applet that visually displays the routes taken and hops reached by the selected applications' WebTraces. It also shows the worst hops (by hop time and retries) and the routes with heavy traffic.



Important information	The WebTrace Flow Map is not displayed if there is only one WebTrace run for the selected applications in the configured time frame
------------------------------	---

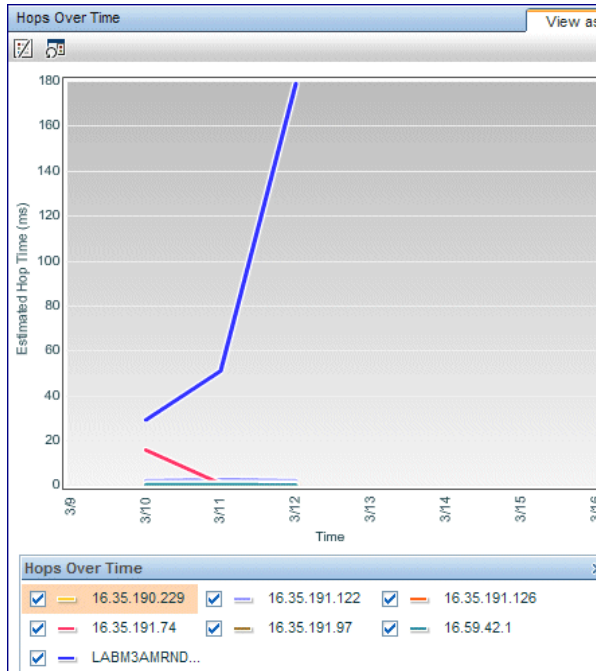
User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A-Z)	Description
	Pan. Click to pan the flow map. You pan by holding down the left click button on your pointer. Drag the pointer in the required direction.
	Zoom. Click to zoom on a specific area of the flow map. You zoom by holding down the left click button on your pointer. Move the pointer down to zoom in; move the pointer up to zoom out.
	Fit to Canvas. Click to fit all the flow map components into the visible area.

UI Elements (A-Z)	Description
	<p>Select. Click to enable selecting a component on the flow map.</p> <p>Note: This button is selected by default upon entering the flow map.</p>
	<p>A standard hop. The machine name or IP address of the hop is displayed next to the icon.</p> <p>Tooltip:</p> <ul style="list-style-type: none"> ▶ The hop's machine name and IP address. ▶ The estimated hop time, in milliseconds. ▶ The relative worst position of the hop out of all the hops, based on estimated hop time. ▶ The minimum and maximum hop times, in milliseconds, and the standard deviation. ▶ The average roundtrip time, in milliseconds. ▶ The average number of retries. ▶ The relative worst position of the hop out of all the hops, based on the average number of retries. ▶ The number of runs. <p>Note: By default, all the WebTrace locations are aligned on the left of the flow map and all the WebTrace destinations are aligned on the right on the flow map.</p>
	<p>A hop with one of the three worst estimated hop times.</p> <p>Tooltip: The same tooltip as for a standard hop.</p>
	<p>A hop with one of the three worst average number of retries.</p> <p>Tooltip: The same tooltip as for a standard hope.</p>
<p><Flow lines></p>	<p>The flow lines show the sources and destinations of each hop and the direction of the hop. The thickness of the line indicates the traffic (that is, the number of runs) for the hop, with thicker lines denoting higher traffic. There can be up to five different line thicknesses.</p>

Hops Over Time

This report displays the estimated hop time, for each hop, over the selected time frame.



User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
<X-axis>	Time. The time division units for the time range for which the report was generated.
<Y-axis>	<p>Estimated Hop Time (ms). The estimated hop time, in milliseconds.</p> <p>Data lines indicate the estimated hop time at each point over the course of the defined time period.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>

Hops Details

This report displays hop details, for each hop, for the entire time frame.

Important information	<ul style="list-style-type: none"> ▶ If there is only one WebTrace run for the selected applications in the configured time frame, the Hop Details report includes different columns, as specified in the Hop Details - Single WebTrace Run View table. ▶ By default, the report is sorted by descending estimated hop time.
------------------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
Avg. No. of Retries	The average number of retries.
Avg. Roundtrip Time (ms)	The average roundtrip time, in milliseconds.
Estimated Hop Time (ms)	<p>The estimated hop time, in milliseconds.</p> <p>Tooltip: Hold the cursor over the cell value to display the minimum and maximum, estimated hop times, as well all the standard deviation.</p>

UI Elements (A-Z)	Description
Hop	The hop name. If the hop name is not available, the hop IP address is displayed. Tooltip: Hold the cursor over the cell value to display the full name or IP address of the hop.
No. of Runs	The number of runs.

Hops Details - Single WebTrace Run View

If there is only one WebTrace run for the selected applications in the configured time frame, the following user interface elements are displayed:

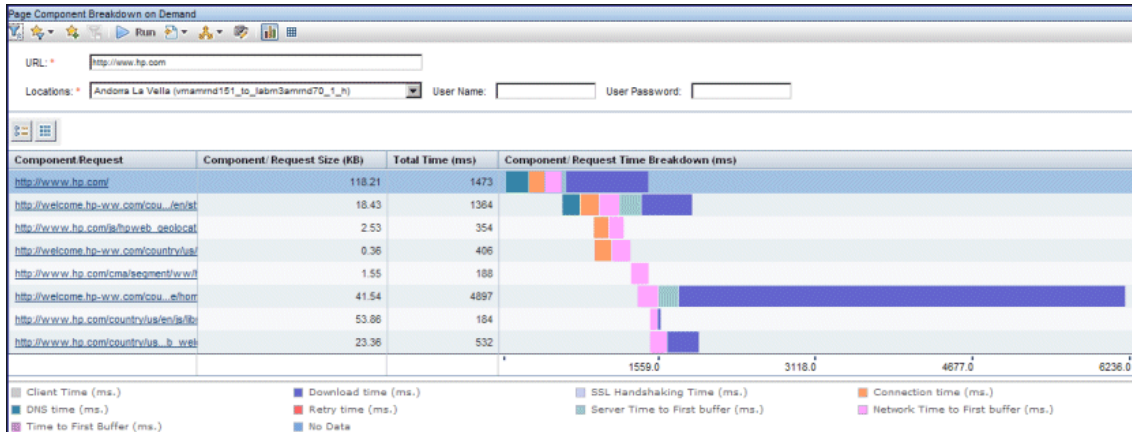
UI Elements (A-Z)	Description
Hop IP	The hop IP address.
Hop Name	The hop name.
Hop Number	The sequential number of the hop.
No. of Retries	The number of retries for the hop.
Roundtrip Time	The roundtrip time in milliseconds.

BPM Page Component Breakdown on Demand

This report displays an on-demand component breakdown of any Web page.

You use the BPM Page Component Breakdown on Demand report to analyze network, server, and client health in real time. You correlate this data with transaction performance problems, such as slow transaction response times and failed transactions, to analyze whether they are network-, server-, or client-related.

The BPM Page Component Breakdown on Demand report enables you to assess whether transaction response times and service availability are being affected by page content.



To access	Select Applications > End User Management > Utilities > BPM Page Component Breakdown on Demand
Important information	Page Component Breakdown does not function for streaming objects, such as Java applets, sounds, and movies. This is because the engine that runs Page Component Breakdown uses technology that handles only those components that can be parsed directly from the HTML code (for example, images).

Report settings	<ul style="list-style-type: none"> ➤ URL. Enter an address for the target Web page. This can be: <ul style="list-style-type: none"> ➤ the name of a server on the local network ➤ a Web address ➤ the full URL for a page ➤ Location. Select the location from which you want the report to be generated. Each listed location represents a specific Business Process Monitor instance, displayed using the syntax: <code>location_name (host_name)</code>. <p>Note: By default, the Page Component Breakdown report can be generated from all configured Business Process Monitor locations running Business Process Monitor version 4.5.2 or later.</p> ➤ User Name. The user name for the Business Process Monitor machine's Tomcat basic authentication, if used. ➤ User Password. The password for the Business Process Monitor machine's Tomcat basic authentication, if used.
------------------------	--

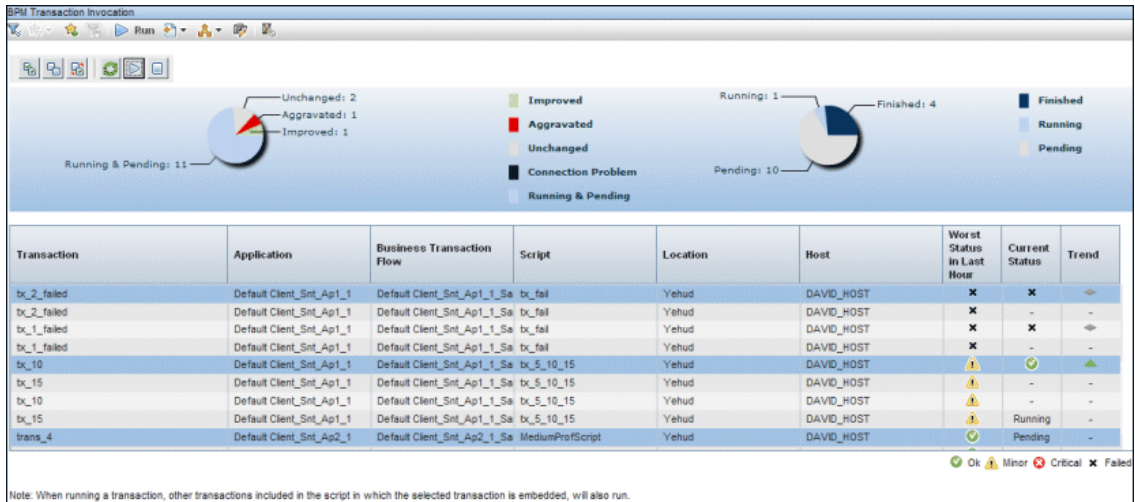
User interface elements are described below:


UI Elements (A-Z)	Description
Component/Request	<p>Displays the name of a component (for Web based breakdown data) or TCP request (for TCP based breakdown data). For Web based breakdown data, click a component name to view or open the component.</p> <p>Tooltip: For Web based breakdown data, the component's URL is displayed and, if the component is an image, the image is also displayed.</p> <p>Note: Click a component/request name to open it in a new browser window.</p>
Component/Request Size (KB)	<p>Displays the total size, in kilobytes, of the component or request.</p>

UI Elements (A-Z)	Description
<p>Component/Request Time Breakdown (ms)</p>	<p>The color coded bar for each component/request is broken down into segments for each time category. For details on the breakdown categories used in the Page Component Breakdown report, see "Understanding Transaction Breakdown in Reports" on page 635.</p> <p>Tooltip: Hold the cursor over a color-coded portion of any bar in the graph to view the relevant category name and time.</p> <p>Note:</p> <ul style="list-style-type: none"> ▶ Gaps in time between elements represent processing time—client-side delays caused by browser think time, CPU think time, HTML page processing time, time needed to open sockets or threads, and so on. ▶ In certain circumstances, for example, when the Business Process Monitor is using a proxy server, the transaction breakdown mechanism cannot differentiate between server time to first buffer and network time to first buffer. In these cases, the report displays the time between initial http request and receipt of first buffer as Time to First Buffer. ▶ When you view the breakdown as a table, there is a column for each breakdown category.
<p>Error Message</p>	<p>Displays error information, if relevant.</p> <p>Note: This element is displayed only when you view the breakdown as a table.</p>
<p>Total Time (ms)</p>	<p>Displays the total time, in milliseconds, for the component (for Web based breakdown data—the time it takes for each component of a specified Web page to download) or request (for TCP breakdown data).</p>




BPM Transaction Invocation





This report enables you to run selected Business Process Monitor transactions immediately, as needed, without saving generated data to the profile database. This provides you with the possibility of checking changes made to transactions to ensure they run correctly, as well as obtaining transaction data on the spot.











<p>To access</p>	<p>Select Applications > End User Management > Utilities > BPM Transaction Invocation</p>
<p>Important information</p>	<ul style="list-style-type: none"> ▶ When the report is generated, transactions are not run automatically. You must select transactions from the table and click the Run Selected Transactions  button. ▶ The table of transactions is sorted in descending order, according to the Worst Status in Last Hour column. ▶ Transaction data generated by the BPM Transaction Invocation utility is not saved to the HP Business Service Management profile database. ▶ When a transaction is run, all the other transactions included in the same script of which the selected transaction is a part are also run. ▶ Each host runs one transaction at a time. ▶ You cannot format the report data as CSV, Excel, or XML.
<p>Relevant tasks</p>	<p>"How to Configure Settings for the BPM Transaction Invocation Report" on page 985</p>
<p>Report settings</p>	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
	Refresh. Click to refresh the data displayed.
	Run Selected Transactions. Click to start running the selected transactions. Note: Click a row in the table to select a transaction. Use the Shift or CTRL key to select multiple transactions.
	Stop All Pending Transactions. Click to stop all pending transactions from running. Note: Currently running transactions are not stopped.
<Pie chart–detailed>	The left pie chart displays trend details (that is, the change between the current status and the worst status in the last hour) for those transactions already run. Each slice represents a different trend. There is also a slice that shows the number of pending transactions. A legend next to the pie chart describes the color coding used. Note: The pie chart is dynamically updated during the transaction runs.
<Pie chart–summary>	The right pie chart displays details of the number of completed and running transactions. A legend next to the pie chart describes the color coding used. Note: The pie chart is dynamically updated during the transaction runs.
Application	The name of the application in which the transaction is included.
Business Transaction Flow	The name of the business transaction flow in which the transaction is included.

UI Elements (A-Z)	Description
Current Status	<p>The current status of the transaction, based on the thresholds configured for the transaction in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤ Pending. Selected and waiting to run. ➤ Running. Currently running. ➤  OK. The transaction ran successfully, with the measurement calculated for the KPI falling within the value range for the OK objective. ➤  Minor. The transaction ran successfully, with the measurement calculated for the KPI falling within the value range for the Minor objective. ➤  Critical. The transaction ran successfully, with the measurement calculated for the KPI falling within the value range for the Critical objective. ➤  Failed. The transaction did not run successfully.
Host	The name of the Business Process Monitor host machine on which the transaction is run.
Location	The location from which the transaction is run.
Script	The name of the script in which the transaction is included.
Transaction	The name of the transaction.


UI Elements (A-Z)	Description
Trend	<p>Displays the trend of the change between the current status and the worst status in the last hour. The valid trend options are:</p> <ul style="list-style-type: none"> ➤  No available data. ➤  No Change. The current status is the same as the worst status in the last hour. ➤  Improved. The current status is better than the worst status in the last hour. ➤  Worse. The current status is worse than the worst status in the last hour.
Worst Status in Last Hour	<p>Displays the most severe status of the transaction during the last hour, based on the thresholds configured for the transaction in End User Management Administration. The valid statuses are:</p> <ul style="list-style-type: none"> ➤  OK. The transaction ran successfully, with the measurement calculated for the KPI falling within the value range for the OK objective. ➤  Minor. The transaction ran successfully, with the measurement calculated for the KPI falling within the value range for the Minor objective. ➤  Critical. The transaction ran successfully, with the measurement calculated for the KPI falling within the value range for the Critical objective. ➤  Failed. The transaction did not run successfully.

BPM WebTrace Report

This report displays typical traceroute information from selected Business Process Monitors to selected destinations, enabling you to view network performance that helps you analyze application performance issues. It also displays detected deviations, WebTrace details for each host/destination combination, worst locations, and worst destinations. You can drill down to view hop (routing) details.

For each server destination defined in a selected application, the BPM WebTrace report displays a traceroute analysis, grouped by host name, for the specified time frame. When you configure a WebTrace monitor, you select the host machines to run WebTrace. HP Business Service Management runs WebTrace according to the schedule set in the application for running transaction monitors. When you generate the BPM WebTrace report, it displays an average of all the WebTrace runs that took place during the specified time period.

You can correlate WebTrace data with transaction performance problems, such as slow transaction response times and failed transactions, to analyze whether the problems are network related.

To access	<p>Use one of the following:</p> <ul style="list-style-type: none"> ▶ Select Applications > End User Management > Utilities > BPM WebTrace Report ▶ In the Triage report > Transaction Breakdown table, click the Drill down to BPM WebTrace report  button.
Important information	<p>Business Process Monitor uses WebTrace data. WebTrace records the route through the Internet from your host machines to the destination Web servers specified in the Business Process Monitor configuration for an application, or in business transaction flows. Unlike standard traceroute programs, WebTrace uses a unique technology that enables it to cross firewalls.</p>

See also	"Analyzing the BPM WebTrace Report" on page 982
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

Detected Deviations Table

Displays the main WebTrace deviations detected during the report's selected time period and displays the destination or host location considered the most probable cause of the deviation.

Deviations are calculated by comparing the average route time and availability for each time division unit in the report with the total average route time or availability for the entire report time period. If a specific time division's average route time or availability is over 50% higher than the total report average, it is considered a deviation.

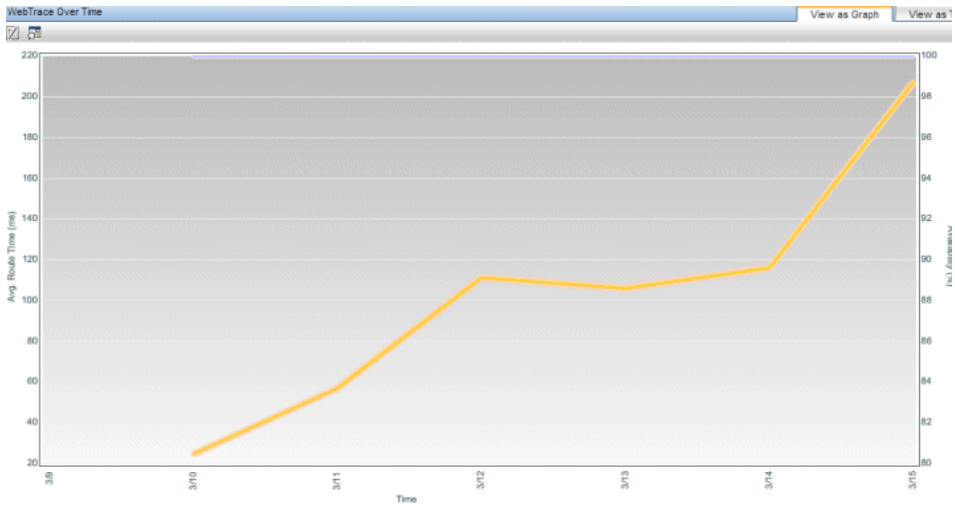
For any individual WebTrace included in a deviation's specific time division unit, whose route time or availability is over 50% higher than the total report average route time or availability, the location and destination are compared to the Worst Locations and Worst Destinations graphs. If the destination or location is included in the corresponding graph, it is considered to be the probable cause of the deviation. If there is more than one probable cause for the same deviation, the worst is used. Only those deviations for which there is a probable cause are displayed in the Detected Deviations table.

User interface elements are described below (unlabeled elements are shown in angle brackets>):



UI Elements	Description
Deviation	The type of deviation (performance or availability) and the destination or location considered to be the probable cause. Tooltip: Displays the full string, which may be truncated in the actual column.
Time	The deviation time period.

WebTrace Over Time Report

This report displays average route time and availability of WebTrace runs over a period of time.



User interface elements are described below (unlabeled elements are shown in angle brackets):



UI Elements (A-Z)	Description
Drilldowns - Table View	
	<p>"BPM Hop Report" on page 988. Click to drill down to the BPM Hop report using a higher time resolution. For example, if you click a data point that displays data for an hour, the time resolution changes to five minute intervals for the specific hour.</p> <p>Graph view: Right-click a data point and select Drill down to BPM Hop Report from the Shortcut menu.</p>
	<p>"BPM WebTrace Report" on page 1002. Click to drill down to the BPM WebTrace report using a higher time resolution. For example, if you click a data point that displays data for an hour, the time resolution changes to five minute intervals for the specific hour.</p> <p>Graph view: Right-click a data point and select Drill down to BPM WebTrace Report from the Shortcut menu.</p>
Graph Elements	
<X-axis>	<p>Time. The time division units for the time range for which the report was generated.</p>
<Y-axis> (left)	<p>Avg Route Time (ms). The average route time, in milliseconds.</p> <p>A data line indicates the average route time, in milliseconds, of all the WebTraces run in the time division unit.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>
<Y-axis> (right)	<p>Availability (%). The average availability percentage.</p> <p>A data line indicates the average availability percentage (successful WebTraces out of all WebTraces) of all the WebTraces run in the time division unit.</p> <p>Tooltip: Hold the cursor over a data point to display a tooltip with additional information relevant to the data.</p>

WebTrace Details Table

This table displays details of each WebTrace included in the report.

Important information	By default, the table is sorted in descending order according to the worst (highest) average route time.
------------------------------	--

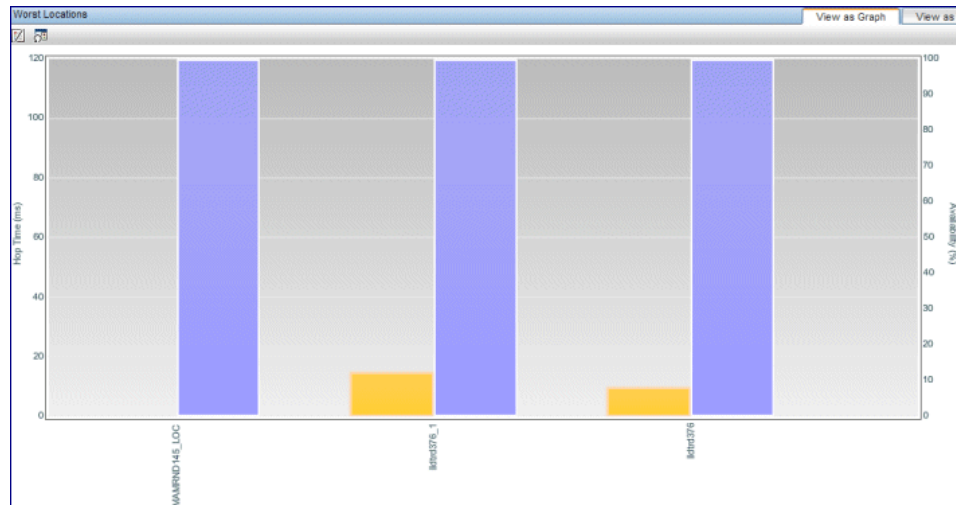
User interface elements are described below (unlabeled elements are shown in angle brackets>):

UI Elements (A-Z)	Description
Drilldowns	
	"BPM Hop Report" on page 988. Click to drill down to the BPM Hop report using a higher time resolution. For example, if you click a data point that displays data for an hour, the time resolution changes to five minute intervals for the specific hour.
	"BPM WebTrace Report" on page 1002. Click to drill down to the BPM WebTrace report using a higher time resolution. For example, if you click a data point that displays data for an hour, the time resolution changes to five minute intervals for the specific hour.
Report Columns	
Availability (%)	The availability percentage for the WebTrace. That is, the number of successful runs out of the total number of runs of the WebTrace, in the report's time range.
Avg. No. of Hops	The average number of hops of all the runs of the WebTrace in the report's time range.
Avg. No. of Retries	The average number of retries of all the runs of the WebTrace in the report's time range.
Avg. Route Time (ms)	The average route time, in milliseconds, of all the runs of the WebTrace in the report's time range. Tooltip: Hold the cursor over a cell to display a tooltip with additional information relevant to the data.
Destination	The WebTrace's destination.

UI Elements (A-Z)	Description
Location	The host location from which the WebTrace ran.
No. of Runs	The total number of runs on the WebTrace in the report's time range.



Worst Destinations and Worst Locations Reports

These reports display the average hop time and availability percentage for the five destinations/locations with the worst average hop time (between the WebTrace location and destination) of all the WebTrace runs to/from that destination/location in the report's time range.



Important information	<ul style="list-style-type: none"> ▶ If there is only one destination/location for all the WebTraces included in the BPM WebTrace report, the relevant report is not displayed. ▶ When viewed as a table, the reports are not limited to the five worst destinations/locations and include all destinations/locations. By default, the tables are sorted by average hop time, in descending order.
------------------------------	--

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Elements (A-Z)	Description
Drilldowns - Table View	
	<p>"BPM Hop Report" on page 988. Click to drill down to the BPM Hop report for a selected destination/location.</p> <p>Graph view: Right-click a bar and select Drill down to worst destination/location in BPM Hop Report from the Shortcut menu.</p>
	<p>"BPM WebTrace Report" on page 1002. Click to drill down to the BPM WebTrace report for a selected destination/location.</p> <p>Graph view: Right-click a bar and select Drill down to worst destination/location in BPM WebTrace Report from the Shortcut menu.</p>
Graph Elements	
<X-axis>	< Destination/Location name >. The name of the WebTrace destination/location.
<Y-axis> (left)	<p>Hop Time (ms). The average hop time in milliseconds. Data bars indicate the average hop time in milliseconds. The average hop time is calculated by subtracting the previous hop round-trip time from the current hop round-trip time. (If the result is a negative value, the estimated hop time is calculated by dividing the hop round-trip time by the number of hops.)</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>
<Y-axis> (right)	<p>Availability %. The average availability percentage. Data bars indicate the average availability percentage of all the Webtrace runs to/from the destination/location during the report's time period. That is, the number of successful WebTrace runs out of all the WebTrace runs.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

BPM WebTrace on Demand Report

WebTrace is a network diagnostics tool that provides traceroute information to a specified destination. WebTrace records the route through the Internet from a host machine to the destination Web server.

This report enables you to view network performance, which helps you analyze application performance issues. For each destination, the BPM WebTrace report breaks down route time from the host machine to the destination machine.

To access	Select Applications > End User Management > Utilities > BPM WebTrace on Demand
Important information	<ul style="list-style-type: none"> ▶ Business Process Monitor supports WebTrace over TCP, UDP, and ICMP. By default, it is set to use TCP. For details on changing the protocol, see "Changing the Communication Protocol Used by WebTrace" in the <i>HP Business Process Monitor Administrator's Guide</i>. ▶ Business Process Monitor is set to access a maximum of 30 hops when using WebTrace to reach a site. If 30 hops are not enough to reach the site, it is reported as unreachable. For details on changing the maximum number of hops, see "Changing the Maximum Number of Hops for WebTrace" in the <i>HP Business Process Monitor Administrator's Guide</i>. ▶ The data collected by the WebTrace is not saved in Business Service Management.
Report settings	<ul style="list-style-type: none"> ▶ Destination Host. The destination Web or IPv4 address. ▶ Location. The Business Process Monitor from which to run the WebTrace. Select a Business Process Monitor from the list of Business Process Monitors registered in Business Service Management.

User interface elements are described below:

UI Elements (A-Z)	Description
Hop IP	The IP address of the intermediate server.
Hop Name	The name of the intermediate server.
Hop Number	The sequential number of the intermediate server in the route from the source to the destination.
No. of Retries	The number of times a data packet tries, but fails, to reach an intermediate server due to timeout, network difficulty, an so forth.
Round Trip Time (ms)	The time, in milliseconds, from the source to the specific hop.

12

EUM Alert Reports

This chapter includes:

Concepts

- EUM Alert Reports Overview on page 1012

Tasks

- How to View and Understand EUM Alert Reports on page 1013

Reference

- EUM Alert Reports User Interface on page 1014

Concepts

EUM Alert Reports Overview

The EUM alerts are triggered by the occurrence of predefined conditions. The alerts can be sent to recipients using a notification template. It can also execute files, open URLs, or open events.

In the Alerts application, reports provide information about the triggered EUM alerts. The reports are:

- ▶ **Alerts Log.** To track all alert details for alerts sent by BSM, during the specified time range, for the selected Configuration Item (CI). For details, see "Alerts Log Report" on page 1023.
- ▶ **Alerts Count Over Time.** To view, for the selected CI, the number of alerts that occurred over the specified time range, organized by time and severity. For details, see "Alerts Count Over Time Report" on page 1018.
- ▶ **Alerts Count Summary.** To view, for the selected CI, the total number of alerts that occurred over the specified time range, organized by severity. For details, see "Alerts Count Summary Report" on page 1021.

In the End User Management alert administration, you can create and manage one or more alert schemes for a CI, using the Alert Wizard. In each alert scheme, you define a unique set of alert properties. For user interface details, see "Alert Wizard" on page 515.

Tasks

How to View and Understand EUM Alert Reports

HP Business Service Management sends alerts according to the alert trigger criteria you specify when creating alert schemes. Every alert that HP Business Service Management sends is logged to the database. You view information about the alerts that have been sent in Alert reports. For details on the alert reports, see "EUM Alert Reports User Interface" on page 1014.

For details on working with reports (choosing the time range, selecting the CI, saving and sharing reports, and so on), see "Working in Reports" in *Reports*.

For details on creating HP Business Service Management alerts, see "EUM Alert Reports" on page 1011.

Reference

EUM Alert Reports User Interface

This section describes:

- ▶ Alert Details on page 1015
- ▶ Alerts Count Over Time Report on page 1018
- ▶ Alerts Count Summary Report on page 1021
- ▶ Alerts Log Report on page 1023
- ▶ Filters on page 1025

Alert Details

This page displays the triggering information that is available for the alert, including the actual conditions at the time of the alert.

The following is an example of the Alert Details report.

Alert Details

Alert Details

Time: 5/27/10 11:52 AM

Severity: Critical

Alert Name: trans availability

Alert Action: Send E-mail to: John Smith; ...!t;Alert Name>>";

Alert Actions Status

Recipient Name	Type	Status
-	URL	Fail
-	SNMP	Pass
-	Run EXE	Pass
-	LogEvent	Pass
-	Event	Pass
John Smith	Email	Pass

Alert Message

BusinessApplication Name: app1

Severity: Critical

Alert Name: trans availability


Trigger Condition:

Availability less than 90.00%;
Calculate alert over 15 minute time interval

Current Description:

Availability was 33.33%;
Number of transactions counted: 3.
Alert calculated between Thu May 27 11:37:30 AM 2010 (Paris Daylight Time) (+0300) and Thu May 27 11:52:08 AM 2010 (Paris Daylight Time) (+0300)

Alert User Description: N/A

To access	Click  in the Alerts Log report.
Important information	Displays details about the alert, such as the time it occurred, the severity, the action that was performed, the recipients of the alert notification, and the contents of the alert.

Report Settings

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Element (A-Z)	Description
<Common report elements>	See "Common Report and Page Elements" in <i>Reports</i> .

Alert Details Area

User interface elements are described below:

UI Element	Description
Time	The time when the alert was triggered.
Severity	The severity of the alert.
Alert Name	The name of the alert.
Alert Action	The action triggered by the alert.

Alert Actions Status Area

User interface elements are described below:

UI Element (A-Z)	Description
<Common report elements>	See "Common Report and Page Elements" in <i>Reports</i> .
Recipients	The names of the recipients who receive the notification that the alert has been triggered and that the alert scheme has been executed.
Status	The status of the message: <ul style="list-style-type: none"> ▶ Pass. When the message has been sent. ▶ Fail. When the message was not sent.
Type	The type of message notification: URL, SNMP, Run EXE, LogEvent, Event. Email, SMS message, or Pager message.

Alert Messages Area

Important	<ul style="list-style-type: none"> ▶ This area displays details about the notification message and the email message sent to the recipients when the alert was triggered. ▶ Depending on the definition of the alert, the report may display only a subset of the fields described in this section. <p>For detailed examples of the message syntax and examples of the message for different message formats, see "Message Syntax" on page 349.</p>
------------------	---

User interface elements are described below (unlabeled elements are shown in angle brackets):

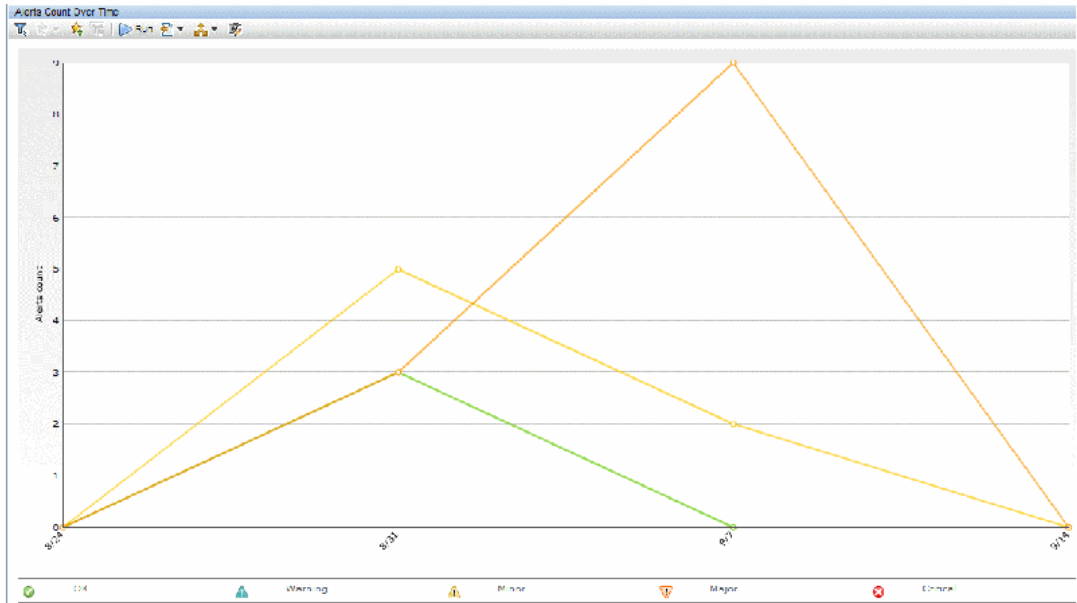
UI Element (A-Z)	Description
<CIT> Name <CI>	The name of the CI Type (CIT) followed by the CI name. It corresponds to the CI to which the alert was assigned. Example: CI Type name: BusinessApplication and CI name: app1
Severity	The severity that triggered the alert.
Alert Name	The name of the alert.
Trigger Condition	Details about the triggering condition of the alert.
Current Description	Details about the actual condition that triggered the alert.
<BSM Web Site URL>	The URL of the server on which the alert was triggered.

Alerts Count Over Time Report

This report enables you to display, for the selected CI, the severity, the alerts, or the recipients, the number of alerts that occurred over the specified time range, organized by time and severity.

For example, you can use this report to determine how often critical alerts are being sent.

The following is an example of the Alerts Count Over Time report.



To access	Applications > End User Management > Alerts > Alert Count Over Time
Relevant tasks	"How to View and Understand EUM Alert Reports" on page 1013

Report Settings

UI Element (A-Z)	Description
<Common report elements>	See "Common Report and Page Elements" in <i>Reports</i> .
<Filters>	Use the filters to restrict the display of alerts in the report. For details, see "Filters" on page 1025.

Graph Area

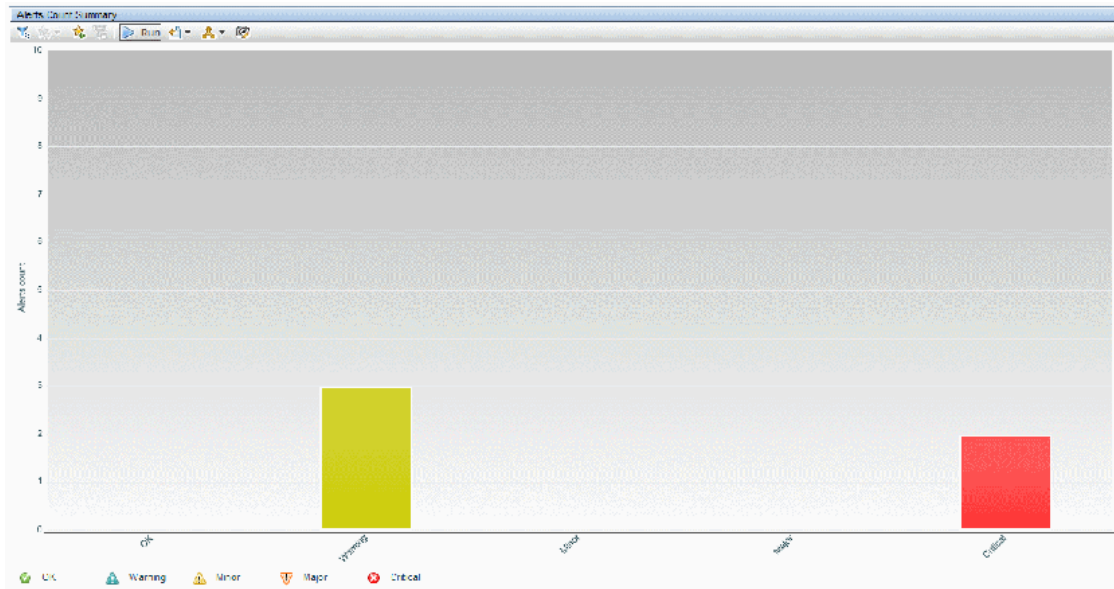
User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Element (A-Z)	Description
<Any point in graph>	Click any point in the graph to increase the time resolution for the selected Application CI, severity, alert, or recipient.
<Drilldown>	Click a point in the report to drill down to the time period for that point. You can continue drilling down until the Every field indicates 1 minute.
<Tooltip>	Move the mouse over any point in the report to view a tooltip containing details on the number of alerts corresponding to that point in time.

Alerts Count Summary Report

This report enables you to display, for the selected Application CI, the total number of alerts that occurred over the specified time range, organized by severity. For example, you can determine how often critical alerts are being sent.

The following is an example of the Alerts Count Summary report.



To access	Applications > End User Management > Alerts > Alert Count Summary.
Relevant tasks	"How to View and Understand EUM Alert Reports" on page 1013

Report Settings

UI Element (A-Z)	Description
<Common report elements>	See "Common Report and Page Elements" in <i>Reports</i> .
<Filters>	Use the filters to restrict the display of alerts in the report. For details, see "Filters" on page 1025.

Graph Area

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Element (A-Z)	Description
<Bar in graph>	Displays the total number of alerts that were triggered for the selected application and the selected time period, and for the severity represented by the bar.
<Drilldown>	Click a bar to drill down to the Alert Count Over Time report for the selected application, time period, and severity. For details, see "Alerts Count Over Time Report" on page 1018.
<Tooltip>	Move the pointer over a bar to view a tooltip containing details on the number of alerts with the severity corresponding to the bar.

Alerts Log Report

This report enables you to list the EUM alerts sent by BSM during the specified time range, for the selected application monitored by Business Process Monitors, or Real User Monitors, regardless of the action specified for the alert in the alert scheme and filter the alerts by CI, alert, severity, and recipient.

The following is an example of the Alerts Log report.

Severity	Time	Alert Name	Alert Type	Alert Action
Warning	5/27/10 1:17 PM	trans performance	BPM Transaction Alert	Send E-mail to: Mike Brown; Send SMS to: Mike Brown;...
Warning	5/27/10 11:52 AM	trans performance	BPM Transaction Alert	Send E-mail to: Mike Brown; Send SMS to: Mike Brown;...
Critical	5/27/10 11:52 AM	trans availability	BPM Transaction Alert	Send E-mail to: John Smith; Generate event; Execute ...
Critical	5/27/10 11:46 AM	trans availability	BPM Transaction Alert	Send E-mail to: John Smith; Generate event; Execute ...
Warning	5/27/10 11:46 AM	trans performance	BPM Transaction Alert	Send E-mail to: Mike Brown; Send SMS to: Mike Brown;...


To access	Applications > End User Management > Alerts > Alerts Log.
Important information	The Alerts Log displays up to 200 entries per page.
Relevant tasks	"How to View and Understand EUM Alert Reports" on page 1013

Report Settings

UI Element (A-Z)	Description
<Common report elements>	See "Common Report and Page Elements" in <i>Reports</i> .
<Filters>	Use the filters to restrict the display of alerts in the report. For details, see "Filters" on page 1025.

Report Table Area

User interface elements are described below:

UI Element (A-Z)	Description
	Drills down to the Alert Details dialog box for the alert you selected in the report. For details, see "Alert Details" on page 1015.
<Common report elements>	See "Common Report and Page Elements" in <i>Reports</i> .
Alert Action	Displays alert notification information, for example, the recipients who received the alert. You specify alert recipients in your alert schemes.
Alert Name	Displays the alert name that you specified in your alert scheme.
Alert Type	The type of alert. It can be: <ul style="list-style-type: none"> ➤ BPM Transaction ➤ RUM Application ➤ RUM Transaction ➤ RUM Event
Severity	Displays an icon that represents the alert severity label you selected for the alert in the alert scheme. The severity is selected in "Filters" on page 1025.
Time	Displays the date and time that HP Business Service Management logged the alert.

 **Filters**

This section describes the filters used in:

- ▶ The Alerts Log Report. For details, see "Alerts Log Report" on page 1023.
- ▶ The Alerts Count over Time report. For details, see "Alerts Count Over Time Report" on page 1018.
- ▶ The Alerts Count Summary report. For details, see "Alerts Count Summary Report" on page 1021.

The filters are as follows:

Configuration Item Filter

This dialog box enables you to limit the display of the alerts to the selected CI.

Alerts Filter

This dialog box enables you to limit the display of the alerts to the selected alerts.

Severity Filter

This dialog box enables you to limit the display of the alerts to alerts with the selected severities.

Recipients Filter

This dialog box enables you to limit the display of the alerts to alerts with the selected recipients.

13

Production Analysis Reports

This chapter includes:

Concepts

- ▶ Production Analysis Reports Overview on page 1028
- ▶ Analyzing Production Analysis Reports on page 1028

Tasks

- ▶ How to Work with Production Analysis Reports on page 1031

Reference

- ▶ Production Analysis Reports User Interface on page 1033

Concepts

Production Analysis Reports Overview

Production Analysis reports enable quality assurance engineers to design load tests based on data leveraged from a production environment, rather than a testing environment. Using Production Analysis reports, the QA engineer can construct load tests that are based on real-user transaction data and are therefore a more accurate simulation of load than standard Performance Center or LoadRunner load tests. The Production Analysis reports thus increases the effectiveness of load tests and provides the QA team with more accurate test results.

Analyzing Production Analysis Reports

Use Production Analysis reports to pinpoint data that you want to use in building your load test.

This section includes the following topics:

"Typical Transaction Load Report" on page 1028

"Location Load Analysis Report" on page 1029

Typical Transaction Load Report

You use the Typical Transaction Load report to view the average transaction load during a typical week, day, or hour. In general, you use the Typical Transaction Load report, and the ability to drill down within this report, to pinpoint the time frame you want to use for your load test.

For example, you can view a typical week during the past month to determine the day with the greatest number of transaction runs, and then choose to run your load test on that day. By drilling down to the specific day, you can see the typical load for each hour during the day to find the time range with the greatest load. You then use this time range for your load test. You can also drill down to view the minutes during which transaction load was typically at its peak, however this data is less relevant for the construction of a load test than the typical daily and hourly data.

For details on the Typical Transaction Load report user interface, see "Typical Transaction Load Report" on page 1037.

Location Load Analysis Report

You use the Location Load Analysis report to view the distribution of Real User Monitor transaction runs among end-user locations, as well as the throughput (bytes per second) of each transaction at each location, for a selected time frame. You then use the location data in selecting load generators, the transaction run data in distributing Vusers among load generators, and the throughput data in configuring each script's network speed simulation settings.

For example, if you selected to view location data for four transactions—**PAL_BuyTx**, **PAL_MyAccountTx**, **PAL_SearchTx**, and **PAL_MyOrdersTx**—during the past month, the Location Load Analysis report may display the following data:

Location ▲	OnePage_Broken_Dogs		Think_time		Average	
	Throughput [Bytes/sec]	Total Runs	Throughput [Bytes/sec]	Total Runs	Throughput [Bytes/sec]	Total Runs
Aruba Oranjens	165.1	12	0	0	165.1	6
Botswana ,gaboronen	164.86	12	0	0	164.86	6
USA Florida Boynton Beach	333.28	24	50.31	1	191.79	12.5
USA missouri Blue spring	165.1	12	0	0	165.1	6
Average	207.08	15	50.31	0.25	171.71	7.62

Based on this report, you may choose to select load generators from one or more of the above locations when configuring your load test. Your distribution of Vusers among the load generators would most likely be based on the distribution of transaction load (that is, the number of transaction runs being run) among the above locations.

In addition, you would use the throughput data in this report in configuring the Network: Speed Simulation VuGen run-time settings of the scripts that you are using for your load test. For example, if you use a script based on the **PAL_SearchTx** transaction and planned to run this script from two load generators—one located in Los Angeles and the other in San Francisco—you would do the following:

- Create two copies of the script.
- Set the custom bandwidth for the script being run from Los Angeles at 1,115 bits per second (throughput of 139.43 bytes per second multiplied by 8).
- Set the custom bandwidth for the script being run from San Francisco at 5,366 bits per second (throughput of 670.75 bytes per second multiplied by 8).

For details on the Location Load Analysis report user interface, see "Location Load Analysis Report" on page 1034.

Tasks

How to Work with Production Analysis Reports

Working with Production Analysis reports involves performing the following procedures:

- "Configure Real User Monitor Transactions and Schedule the Snapshot Collection" on page 1031
- "Analyze Production Analysis Reports" on page 1031
- "Create Scripts" on page 1032
- "Setup and Run a Load Test or Scenario That Includes the Scripts" on page 1032

1 Configure Real User Monitor Transactions and Schedule the Snapshot Collection

Ensure that Real User Monitor transactions are defined and that transaction snapshots for the production analysis reports are configured.

For details on configuring Real User Monitor transactions, see "Business Transaction Real User Monitor Configuration Dialog Box" on page 289.

For details on enabling transaction snapshots for the production analysis reports, see "Snapshot Collection Area" on page 341.

2 Analyze Production Analysis Reports

Analyze the Production Analysis reports and note the data you want to use when building a load test.

For concept details, see "Analyzing Production Analysis Reports" on page 1028.

3 Create Scripts

In VuGen, create the scripts for use in a load test.

For detailed instructions on working in VuGen, see the *HP Virtual User Generator User's Guide*.

4 Setup and Run a Load Test or Scenario That Includes the Scripts

In Performance Center or LoadRunner, set up and run a load test or scenario that incorporates the scripts you created and that emulates the real-user behavior displayed in the Production Analysis reports.

For detailed instructions on working in Performance Center or LoadRunner, see the relevant Performance Center or LoadRunner documentation.

Reference

Production Analysis Reports User Interface

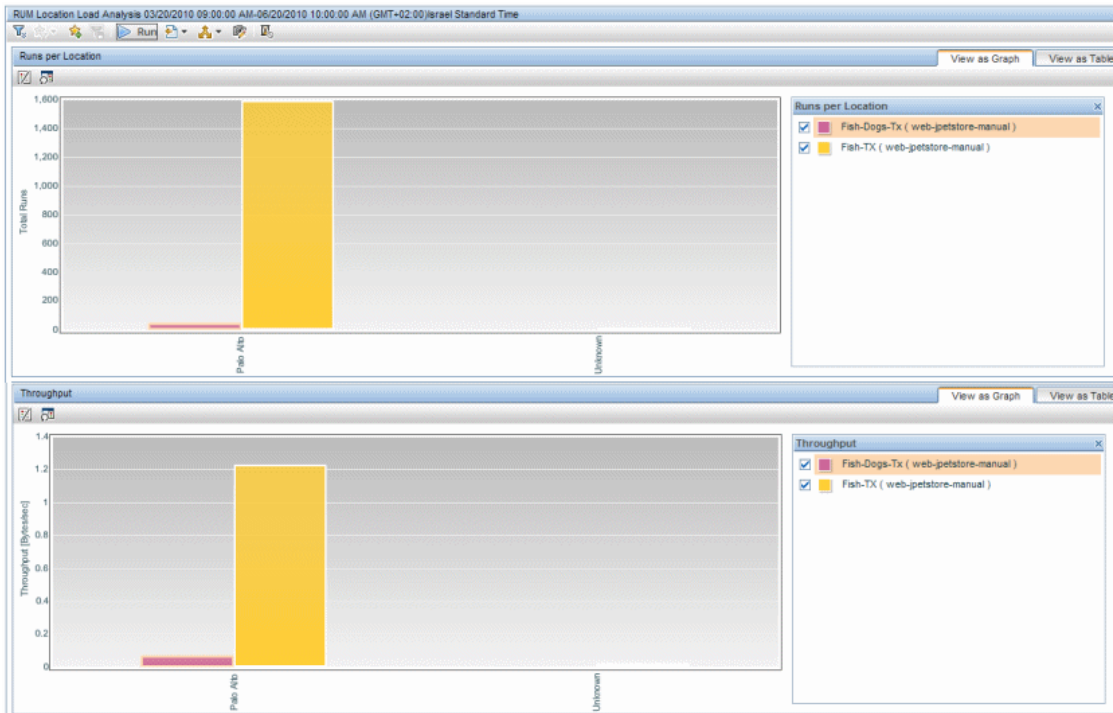
This section includes (in alphabetical order):

- ▶ Location Load Analysis Report on page 1034
- ▶ Typical Transaction Load Report on page 1037

Location Load Analysis Report

This report comprises two components that enable you to view the transaction load (the number of Real User Monitor transaction runs) and throughput (bytes per second) per end-user location.

Use the data in this report in configuring Vusers and load generators for your Performance Center load test, as well as the run-time settings for your Production Analysis reports-generated VuGen script.



To access	Applications > End User Management > Production Analysis > RUM Location Load Analysis
Important information	<ul style="list-style-type: none"> ▶ When viewed as a table, each component includes both the total number of runs and the throughput for each location. ▶ When viewed as a table, the report is sorted in descending order by the total number of runs.
See also	"Analyzing Production Analysis Reports" on page 1028
Report settings	<ul style="list-style-type: none"> ▶ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ▶ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ▶ Applications. For user interface details, see "Applications Dialog Box" on page 689.

Runs per Location

This report displays the total number of transaction runs for each location from which the selected transactions were run.

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Element (A–Z)	Description
<X-axis>	Location. The locations at which the selected transactions were run.
<Y-axis>	<p>Total Runs. The total number of runs of the selected transactions.</p> <p>Bars indicate the total number of runs for each location.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Throughput

This report displays the throughput (bytes per second) for each location at which the selected transactions were run.

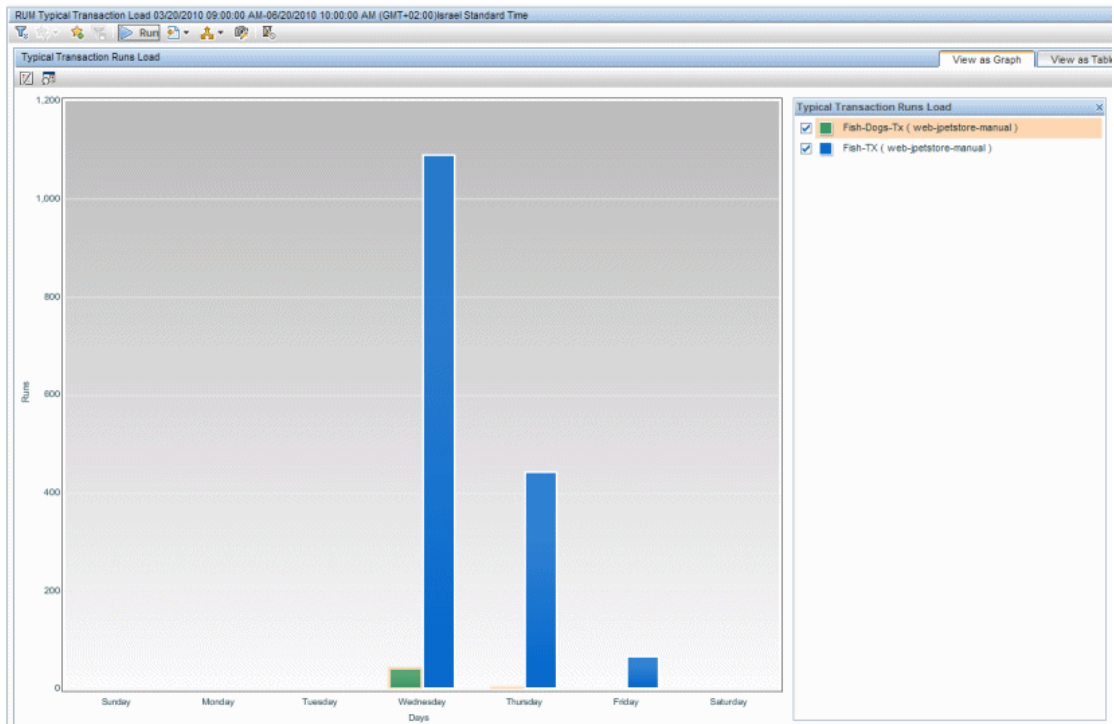
User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Element (A–Z)	Description
<X-axis>	Location. The locations at which the selected transactions were run.
<Y-axis>	<p>Throughput. The transaction throughput (bytes per second).</p> <p>Bars indicate the total throughput for each location.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Typical Transaction Load Report

This report enables you to view the average transaction load (the number of Real User Monitor transaction runs) during a typical hour, day, or week within a larger time frame that you select. Use the data in this report to:

- View the typical load on your system during specific time frames, which can assist you in determining the time frame you want to use for your Performance Center load test.
- Assist you, together with the data in the Business Process Distribution report, in selecting the transactions to include in your VuGen script templates.



<p>To access</p>	<p>Applications > End User Management > Production Analysis > RUM Typical Transaction Load</p>
<p>Important information</p>	<p>The transaction runs for each subunit of time are an average of the transaction runs for all the occurrences of that subunit of time during the specified time frame. For example, if you choose to view a typical week during the period of a month, the average number of each of the selected transactions for each day in the week are displayed. The transaction runs listed for a specific transaction on Tuesday are an average of all that transaction's runs on Tuesdays over the course of the specified month.</p>
<p>See also</p>	<p>"Analyzing Production Analysis Reports" on page 1028</p>
<p>Report settings</p>	<ul style="list-style-type: none"> ➤ Common report elements. For user interface details, see "Common Report and Page Elements" in <i>Reports</i>. ➤ Active filters. For user interface details, see "Active Filters Dialog Box" on page 675. ➤ Applications. For user interface details, see "Applications Dialog Box" on page 689. ➤ View a typical. Select Hour, Day, or Week. ➤ Working Days. Click the Working Days link to open the Working Days dialog box, where you select the days of the week for which data is included in the report. <p>Note: This link is only available when viewing a typical day or hour.</p> ➤ Working Hours. Click the Working Hours link to open the Working Hours dialog box, where you select the hours of the day for which data is included in the report. <p>Note: This link is only available when viewing a typical hour.</p>

Report Content

User interface elements are described below (unlabeled elements are shown in angle brackets):

UI Element (A-Z)	Description
<Drilldown>	<p>Typical Transaction Load. Right-click a bar to display a Shortcut menu and click View a typical <time period> to drill down to a component of the time period you selected in the View a typical field in report settings. For example, if you selected a typical week, click on a day in the week to display the data for a typical day.</p>
<X-axis>	<p><Time period>. The subunits of time for the unit selected in the View a typical field in report settings. For example, if you choose to view a typical week, the individual days of the week are displayed on the X-axis.</p>
<Y-axis>	<p>Runs. The number of transaction runs.</p> <p>Bars represent the number of transactions runs for each time period.</p> <p>Tooltip: Hold the cursor over a bar to display a tooltip with additional information relevant to the data.</p>

Index

A

- Access URLs dialog box 501
- action classification
 - End User Management reports 765
- Action Details page 768
- Action dialog box 278
- Action Over Time report 772
- Action Raw Data report 781
- Action Size Event dialog box 281
- Action Summary report 842
- Actions
 - tab 550
- Actions Availability dialog box 502
- actions repository 321
- Active Filters dialog box 675
- Add Business Transaction Flow dialog box 120
- Add CI Collection dialog box 47
- Add Data Collectors dialog box 121
- Add Data Collectors page 141
- Add Data Collectors wizard 124
- Add End User Group with Real User Monitor
 - Configuration dialog box 283
- Add Event Data Value dialog box 503
- Add Event Data Values dialog box 503
- Add Recipients dialog box 504
- Add Script dialog box 419
- Add Scripts page 135
- advanced search
 - End User Management 35
- Advanced Setting
 - tab 555
- alert dependencies 488
- Alert Details report 1015
- Alert Frequency Criteria dialog box 506
- Alert Log report 1023
- Alert wizard 515
- Alerts
 - filter 1025
- alerts
 - alert dependency 477
 - audit log in EUM 592
 - cross-profile dependency status,
 - changing 488
 - defining subordinate alerts 477
 - MIB Varbinds 491
 - process flowchart 595
 - SNMP-specific codes 491
- Alerts Count Over Time report 1018
- Alerts Count Summary report 1021
- Alerts page 507
- analysis reports 757
- analyzing Production Analysis reports 1028
- APM 360 with SLM license 447
- Application
 - filter 1025
- Application Data Collectors page 160
 - Business Process Monitor 173
- Application Default Settings page
 - Business Process Monitor 175
- Application Health report 697
- Application Infrastructure by Action report 785
- Application Infrastructure by Transaction report 789
- Application Infrastructure Over Time report 796
- Application Infrastructure Summary report 851
- Application Management view 37
- Application Properties page 147
 - Business Process Monitor 179
- Application Reports Configuration page
 - Business Process Monitor 184

Index

Application Summary report 711
applications

 monitoring overview 23

Applications dialog box 689

Assign Data Collectors page 162

audit log 1012

 EUM alerts 592

average of values rule 626

Average Response Time dialog box 558

B

BPM Agents page 452

BPM Application Configuration wizard 146

BPM Business Transaction Flow

 Configuration wizard 190

BPM Default Settings page 455

BPM Error Summary report 803

BPM Hop report 988

BPM License page 458

BPM Page Component Breakdown on

 Demand report 993

BPM Performance Over Time report 717

BPM Performance Status report 726

BPM Response Time by Percentile report 809

BPM Transaction Invocation 997

BPM WebTrace on Demand report 1009

BPM WebTrace report 1002

breakdown over time component 760

breakdown over time in reports 760

Breakdown Over Time report (Business
 Process Monitor)

 correlating data with other HP

 Business Availability Center reports
 653

 drilling down to Diagnostics
 application 760

bulk operations

 End User Management 29

Business Process Monitor

 administration 89

 assigning licenses 449

 configure reports 671

 correlating transaction breakdown
 data 653

End User Management

 administration 89

 installing licenses 449

 licenses 444

 process flowchart 98

 Settings tab 461

 snapshot on error 758

Business Process Monitor administration

 troubleshooting and limitations 243

 user interface 119

Business Process Monitor Application

 Configuration wizard 146

Business Process Monitor Application Data

 Collectors page 173

Business Process Monitor Application

 Default Settings page 175

Business Process Monitor Application

 Properties page 179

Business Process Monitor Application

 Reports Configuration page 184

Business Process Monitor applications

 planning 102

Business Process Monitor reports

 understanding transaction

 breakdown reports 635

 user interface 767

Business Process Monitor scripts

 snapshot on error 673

Business Process Monitors BPM Agents page
 452

Business Process Monitors BPM Default
 Settings page 455

Business Process Monitors BPM License page
 458

business process profile scripts

 zipping 104

business process profiles

 component breakdown 92

 monitor essential transactions 90

 SOA breakdown 94

 zipping scripts 104

Business Transaction Business Process

 Monitor Configuration page 185

Business Transaction Flow Configuration
 wizard 190

Business Transaction Flow Data Collectors
page 191

Business Transaction Flow Properties page
193

Business Transaction Real User Monitor
Configuration dialog box 289

Business Transaction Real User Monitor
Configuration page 291

C

Calculate Suggested Thresholds dialog box
200

Calculated Time Period dialog box 559

Change Version page 235

Check In dialog box 420

Choose Columns to Display dialog box 512

CI Collection page 47

CI Properties page 48

client time, transaction breakdown 640, 647

Completed Transaction Volume dialog box
561

component breakdown
enabling/disabling 92

connection time
transaction breakdown 639, 645

correlation algorithm for multiple URL
matches (Real User Monitor) 256

Create Transaction Per Action dialog box 299

D

data aggregation 624

Real User Monitor 631

data collection process
Business Process Monitor 98

data collector configurations
editing schedule 91

data collector maintenance
overview 442

data collectors
remove 443

Data Grouping Dialog Box 561

Default Transaction Settings page 150

Define Script Parameters page 144, 168

Define Transaction Thresholds page 140,
238

dependencies
alerts 488

Dependencies dialog box 564

Descriptor Builder 301

Descriptor Parameter dialog box 304

Detach Recipients dialog box 564

Diagnostics
drilling down from Breakdown Over
Time report 760
viewing data from End User
Management reports 661

DNS resolution
transaction breakdown 639, 645

download time
transaction breakdown 640, 647

downtime
EUM alerts 481

E

Edit Action dialog box 278

Edit Business Process Monitor Properties
dialog box 462

Edit Data Collector Settings dialog box 201

Edit Location Offset dialog box 49

Edit Page dialog box 278

Edit Performance Event dialog box 306

Edit Real User Monitor Engine Properties
dialog box 463

Edit Schedule dialog box 223

Edit Script Parameter dialog box 208

Edit Script Settings dialog box 209

Edit Single Transaction Script dialog box 227

Edit SOAP Fault Event dialog box 308

Edit Thresholds dialog box 217

Edit WebTrace dialog box 240

End User Applications view 40

end user group
Real User Monitor 283

End User Group page 310

End User Locations view 42

End User Management 21, 60, 67, 76, 760,
981

administration 21

Index

- advanced search 35
- analysis reports 757, 758
- average of values rule 626
- bulk operations 29
- Business Process Monitor
 - administration 89
- error log 812
- global replace 28
- global search 28
- licenses 444
- location threshold offsets 29
- Real User Monitor administration 245
- report settings 633
- reports 621
- search 33
- status average rule 627
- sum of differences rule 629
- end user management
 - BPM Transaction Invocation 997
- End User Management Administration
 - settings 441
 - troubleshooting and limitations 87
- End User Management administration
 - overview 22
 - user interface 46
- End User Management reports
 - action classifications 765
 - drilling down to detailed reports 651
 - overview 623
 - status 695
 - user interface 674
- End User Management status reports 695
- End User Management utilities
 - user interface 987
- End User Management Administration
 - script parameter management 96
- End User Management reports
 - viewing Diagnostics data 661
- End User Monitors view 39
- end-user group names
 - displaying in Real User Monitor reports 635
- end-user groups overview 258
- Error Action Event dialog box 311
- error log
 - End User Management 812

- Error Page Event dialog box 311
- Error Summary report 803
- EUM alert wizard 516
- EUM alerts
 - administer 475
 - administration overview 476
 - downtime 481
 - event template 593
 - reports 1011
- Event Analysis report 803, 815
- Event Frequency Settings dialog box 566
- Event Log 819
- Event Summary report 892
- Event Template
 - overview 594
- event template
 - EUM alerts 593
- Event Type Indicator dialog box 567
- event-based alerts
 - reports 1013
- Event-Based Alerts tab
 - administration 1012
- export configurations
 - Real User Monitor 263

F

- filter 1025
- Filters
 - tab 542
- filters
 - Application, Alerts, Severity, and Recipients 1025
- Filters dialog boxes 1025
- Finish page 172
- Folder Content pane 421
- Folders pane
 - Script Repository 425
- frame unification
 - Real User Monitor 247

G

- general area 516
- global replace
 - End User Management 28

Global Replace wizard 51
 global search
 End User Management 28
 Global Statistics report 739

H

Hop report 988
 Host Alias dialog box 312
 host aliases overview 258
 HP BAC Anywhere
 Overview 448
 HP Software Support Web site 17
 HP Software Web site 18
 HTTP Error Event dialog box 314

I

import configurations
 Real User Monitor 263
 integration with Operations Manager 1012
 IP Range dialog box 317

K

Knowledge Base 17

L

latency
 locations for Real User Monitor 380
 licenses
 Business Process Monitor 444, 449
 End User Management 444
 Real User Monitor 446, 450
 location
 Real User Monitor latency 380
 Location Aware Thresholds dialog box 318
 Location Load Analysis report 1034
 Location Offset page 57
 Location Summary report 729
 location threshold offsets
 End User Management 29
 Log Event dialog box 568

M

Manage Custom Attributes dialog box 465
 Metrics Over Time report 820
 MIB varbinds for alerts 491
 MIBs
 EUM alerts 486
 monitoring applications
 overview 23
 Monitoring page Browse tab 60
 End User Management 60
 Monitoring page Search and Replace tab 67
 End User Management 67
 Monitoring Settings page 329
 Monitoring tab 76
 End User Management 76

N

Network Connections Availability dialog box
 569
 Network Node Manager
 viewing data from Real User Monitor
 reports 668
 network time to first buffer
 transaction breakdown 639, 646
 New Action dialog box 278
 New Page dialog box 278
 New Schedule dialog box 223
 New Single Transaction Script dialog box 227
 New WebTrace dialog box 240
 non-Web based (TCP) protocols
 notes and limitations 649

O

online resources 17

P

page component breakdown
 viewing data in other contexts 652
 Page Component Breakdown on Demand
 report 993
 Page Component Breakdown report 827
 analyzing 983

Index

- page correlation
 - Real User Monitor 251
 - Page dialog box 278
 - page repository 321
 - Page Size Event dialog box 281
 - Parameter Extraction dialog box 320
 - parsing supported protocols 766
 - Performance Analysis report 829
 - Performance and Availability Lifecycle
 - user interface 1033
 - Performance Over Time report 717
 - Performance Raw Data report 836
 - performance status default rule 630
 - Performance Status report 726
 - Preview page 171
 - Production Analysis
 - analyzing reports 1028
 - Protocol Error Event dialog box 314
 - protocols
 - supported for parsing 766
- Q**
- Query Repository page 78
 - QuickTest Professional, script recording tips 105
- R**
- Real User Monitor
 - administration 245
 - administration user interface 276
 - assigning licenses 450
 - correlation algorithm for multiple
 - URL matches 256
 - data aggregation 631
 - end user group 283
 - End User Management
 - administration 245
 - export configurations 263
 - frame unification 247
 - import configurations 263
 - installing licenses 450
 - licenses 446
 - location latency 380
 - overview 246
 - page correlation 251
 - search area 383
 - Settings tab 467
 - transaction matching 270
 - URL Builder 249
 - user name translation 257
 - Real User Monitor administration
 - user interface 276
 - Real User Monitor Application Actions page 321
 - Real User Monitor Application
 - Configuration wizard 327
 - Real User Monitor Application Data
 - Collection page 336
 - Real User Monitor Application Events page 350
 - Real User Monitor Application General page 356
 - Real User Monitor Application Pages page 321
 - Real User Monitor Application Session page 375
 - Real User Monitor Application wizard
 - Summary page 336
 - Real User Monitor reports
 - end-user group names 635
 - modify snapshot retrieval path 764
 - troubleshooting and limitations 692
 - viewing for different application types 654
 - viewing Network Node Manager data 668
 - viewing session details 763
 - Recipients 1025
 - recipients
 - process flowchart 595
 - recording techniques
 - VuGen 117
 - Related Transactions and Events dialog box 381
 - remove
 - data collectors 443
 - Remove Data Collectors page 221
 - Remove Data Collectors wizard 220
 - Summary page 222

- report settings
 - End User Management 633
 - report settings overview 633
 - reports
 - access and permissions 623
 - analysis 757
 - configure Business Process Monitor 671
 - End User Management 621
 - End User Management status 695
 - Location Load Analysis 1034
 - Typical Transaction Load 1037
 - Response Time by Percentile report 809
 - Response Time dialog box 570
 - Response Time for Specified Percentage of Transactions dialog box 571
 - Response Time Relative to Threshold dialog box 573
 - Response Time Relative to Threshold for Specified Percentage of Transactions dialog box 574
 - retry time
 - transaction breakdown 639
 - RUM Action Summary report 842
 - RUM Application Configuration wizard 327
 - RUM Application Infrastructure Summary report 851
 - RUM Default Settings page 468
 - RUM End User Group by Action report 860
 - RUM End User Group by Transaction report 863
 - RUM End User Group Over Time report 870
 - RUM End User Group Summary report 882
 - RUM End Users view 43
 - RUM Engines page 470
 - RUM Event Summary report 892
 - RUM Global Statistics report 739
 - RUM License page 472
 - RUM Servers view 44
 - RUM Session Analyzer report 896
 - RUM Session Summary report 899
 - RUM Tier Summary report 902
 - RUM Transaction Summary report 911
 - Run Executable File dialog box 577
 - run mode options 207
 - run-time settings (VuGen), recommended 109
- S**
- Sandbox Verification report 432
 - schedule
 - editing for business process profile 91
 - Schedule dialog box 223
 - Script Operations dialog box 428
 - script parameter management
 - End User Management Administration 96
 - Script Parameters dialog box 429
 - Script Parameters page 236
 - Script Properties dialog box 429
 - script recording tips
 - QuickTest Professional 105
 - VuGen 109
 - Script Repository
 - Folders pane 425
 - script repository
 - main page 430
 - overview 410
 - uploading scripts 411
 - Script Repository user interface 419
 - Script Transactions dialog box 431
 - script verification 412
 - checks 417
 - Script Versions dialog box 432
 - scripts
 - QuickTest Professional recording tips 105
 - uploading to script repository 413
 - VuGen recording tips 109
 - scripts (Business Process Monitor)
 - snapshot on error 673
 - search
 - advanced (End User Management) 35
 - End User Management 33
 - search area
 - Real User Monitor 383
 - Search Query wizard 80
 - Search Results dialog box
 - global settings 474
 - script repository 435

Index

- Select CI dialog box 516, 581
 - Select Dependent Alerts dialog box 581
 - Select Engines dialog box 387
 - Select Event Categories dialog box 582
 - Select Filter dialog box 583
 - Select Probes on Engine dialog box 389
 - Select Recipients dialog box 583
 - Select Version to Update page 438
 - Sensitive Data Setting dialog box 390
 - server time to first buffer
 - transaction breakdown 640, 646
 - Session Actions Event dialog box 391
 - Session Analyzer report 896
 - viewing session details 763
 - session details
 - viewing from the Session Analyzer report 763
 - Session Details report 918
 - Session Identification dialog box 390
 - Session Pages Event dialog box 391
 - Session Property dialog box 393
 - Session Replay page 924
 - Session Reset Page dialog box 393
 - Session Summary report 899
 - Session Unavailable Actions Event dialog box 395
 - Session Unavailable Pages Event dialog box 395
 - Set New Value dialog box 85
 - Set Notification Frequency dialog box 585
 - Set Query Criteria dialog box 86
 - Set Transaction Breakdown dialog box 226
 - Set Transaction Monitor Scripts page 155
 - Set Transaction Thresholds page 165
 - set up Real User Monitors 260
 - settings
 - End User Management Administration 441
 - Settings tab
 - Business Process Monitor 461
 - Real User Monitor 467
 - Severity
 - filter 1025
 - Single Transaction Script dialog box 227
 - SMTP mails
 - configuring for EUM alerts 487
 - snapshot on error
 - Business Process Monitor 758
 - Business Process Monitor scripts 673
 - snapshots
 - retrieve directly from the Real User Monitor engine 764
 - SNMP-specific codes 491
 - SOA breakdown
 - business process profiles 94
 - SSL
 - handshaking, transaction breakdown 639
 - status aggregation rules overview 625
 - status average rule 627
 - status reports
 - user interface 697
 - Status Snapshot 751
 - subordinate alerts 477
 - sum of differences rule 629
 - Summary page
 - Real User Monitor Application wizard 336
 - Remove Data Collectors wizard 222
- ## T
- tab
 - Actions 550
 - Advanced Settings 555
 - Filters 542
 - Trigger Condition 518
 - Target IPs List dialog box 585
 - tasks
 - set up Real User Monitors 260
 - TCP Poor Requests Summary report 932
 - TCP Requests with Network Errors Analyzer report 937
 - TCP Slow Requests Analyzer report 937
 - Template Repository dialog box 602
 - Text Pattern Event dialog box 397
 - Tier Summary report 902
 - Tiers Over Time report 942
 - time to first buffer
 - transaction breakdown 641, 646
 - Total Transaction Volume dialog box 587
 - Transaction Availability dialog box 588

- transaction breakdown
 - categories 637, 643
 - client time 640, 647
 - connection time 639, 645
 - DNS resolution 639, 645
 - download time 640, 647, 648
 - download time, understanding 641
 - network time to first buffer 639, 646
 - retry time 639
 - server time to first buffer 640, 646
 - SSL handshaking 639
 - time to first buffer 641, 646, 648
 - understanding 635
 - understanding non-Web based
 - breakdown reports 648
- transaction breakdown data
 - correlating 653
- Transaction Breakdown report (Business Process Monitor)
 - understanding breakdown 637, 643
- Transaction Gross Response Time dialog box 589
- transaction matching
 - Real User Monitor 270
- Transaction Net Response Time dialog box 590
- Transaction Over Time report 955
- Transaction Server Response Time dialog box 590
- Transaction Summary report 911
- Triage raw Data report 976
- Triage report 966
- Trigger Condition
 - tab 518
- Troubleshooting and Knowledge Base 17
- troubleshooting and limitations
 - Business Process Monitor
 - administration 243
 - End User Management
 - Administration 87
 - Real User Monitor reports 692
- Typical Transaction Load report 1037

U

- Unconfigured End Users report 979
- Unique Data Collector Values dialog box 234
- Update Version Results page 438
- Update Version wizard 235, 437
- URL Builder 249, 403
 - wildcard expressions 250
- URL Parameter dialog box 304
- User Name Detection dialog box 407
- user name translation (Real User Monitor)
 - 257
- utilities 981
 - BPM Transaction Invocation 997
 - End User Management 981

V

- Version Properties dialog box 439
- views
 - Application Management 37
 - End User Applications 40
 - End User Locations 42
 - End User Monitors 39
 - RUM End Users 43
 - RUM Servers 44
- VuGen
 - recording tips 109, 117
 - run-time settings, recommended 109

W

- WebTrace dialog box 240
- WebTrace on Demand report 1009
- WebTrace report 1002
 - analyzing 982
- wildcard expressions
 - URL Builder 250

Z

- zip
 - business process profile scripts 104

