HP Business Service Management

for the Windows and Linux operating systems

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Reports

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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 16
Documentation Updates 17

PART I: INTRODUCTION TO REPORTS

Chapter 1: Introducing Reports 21
Reports Overview 22

PART II: USER REPORTS

Chapter 2: Use Report Manager to Manage Custom Reports 29
Report Manager Overview 30
Saving a Report as a PDF File 32
How to Create and Manage User Reports Using Report Manager 33
How to Create and Manage User Reports Using Report Manager —
Use-Case Scenario 36
Report Manager User Interface 40

Chapter 3: Schedule Reports 47
Schedule Reports Overview 48
How to Schedule a Report 49
Schedule Reports User Interface 52
Troubleshooting and Limitations 57

Chapter 4: Email a Report 59
Email a Report Overview 60
How to Email a Report 61
Email Dialog Box 62
Troubleshooting and Limitations 65

Chapter 5: Configure Custom Reports Using Report Manager 67
Custom Reports - Overview...68
BPM Reports with Group By Option..69
Time Ranges in Service Level Management Component Reports 70
Understanding the Header/Footer Page in the Custom Report Wizard 73
How to Configure a Custom Report 74
How to Configure a Custom Report - Use Case Scenario 75
Custom Reports User Interface...81
Troubleshooting and Limitations 106

Chapter 6: Trend Reports...109
Trend Reports - Overview...110
Understanding the Trend Report Scale 111
Understanding the Header/Footer Page in the Trend Report Wizard 112
How to Configure a Trend Report..114
How to Configure a Trend Report – Use Case Scenario....................115
Trend Reports User Interface..118
Troubleshooting and Limitations 139

Chapter 7: Access Custom and Trend Reports Using a URL............141
Access Custom and Trend Reports Using a URL Overview..............142
How to Create a URL to Access Custom and Trend Reports............143
Time Zones 148
Language Codes..153

Chapter 8: Service Report 157
Service Report Overview..158
Dimensions and Measurements...159
Service Report Formats 162
Status Function Automatic Measurements 166
Tips and Tricks 167
How to Configure a Service Report in Report Manager....................171
How to Create a Customized Measurement 173
Service Report User Interface...178
Troubleshooting and Limitations 228

Chapter 9: Custom Link Report 231
Custom Link Report Overview...232
How to Configure a Custom Link Report 233
New Custom Link Page 234
Troubleshooting and Limitations 235

Chapter 10: Excel Reports 237
Excel Reports – Overview 238
How to Create an Excel Report from an Excel File 239
How to Create a Microsoft Excel Report That Includes
Business Service Management Data..239
Example of a Web Query..243
New Excel Report Page 244
Troubleshooting and Limitations 245

Chapter 11: Build a Custom Query Using Custom Query Builder....247
Build a Custom Query Using Custom Query Builder - Overview.....248
How to Create a Custom Query 250
Custom Query Builder User Interface 254
Troubleshooting and Limitations 275

Chapter 12: CI Change Report...277
CI Change Report Overview...278
How to Configure and Schedule the CI Change Report...................279
Change Report User Interface 281

Chapter 13: Working with the Generic Reporting Engine API 289
Generic Reporting Engine API – Overview 290
Data Returned 292
Querying with a Browser...293
Using the Web Service..293
Supported SQL Syntax..294
Supported Functions 294
Query Limitations 295
Date-Time Values 296
byTime Function 297
Query Examples...298

PART III: GLOBAL REPORT COMPONENTS

Chapter 14: Working in Reports 303
Working in Reports - Overview...304
Running Reports...306
Publishing Reports...308
Report User Messages 309
Adobe Flash Player in Reports...312
Report Times...312
How to Run Reports 315
How to Configure Report Generation Settings................................320
How to Enable Unicode Font When Exporting to a PDF 321
Working in Reports User Interface...322
Troubleshooting and Limitations 343

Chapter 15: Time Comparison...347
Time Comparison Overview 348
How to Configure and Manage a Report's Time Comparison Component...349
Time Comparison Dialog Box...353

Chapter 16: Interactive Charts...361
Interactive Charts Overview...362
How to Use Interactive Charts to Analyze the Report's Data...........363
Interactive Chart Area 364

Chapter 17: Report Annotation 369
Report Annotation Overview 370
How to Create an Annotated Report...371
Annotation Tool Dialog Box...374
Troubleshooting and Limitations 379

Chapter 18: Downtime Information in Reports 381
Downtime Information in Reports Overview 382
Displaying Downtime Information in Reports.................................382
Exporting Reports with Downtime Information 386
Reports with Downtime Information in Custom Reports................387
How to Select the Type of Downtime Information Displayed in Relevant Reports 388
Downtime Information Area 390

Chapter 19: Customizing Reports..393
Customizing Reports - Overview..394
Configuring a Report Header and Footer..395
How to Customize Report Settings in the Infrastructure Settings Manager 397

Chapter 20: Reports Log 403
Reports Log - Overview 404
Reports Log Level 405
How to Set the Reports Log Level 407
Reports Log Structure 408

PART IV: DATA REFERENCE

Chapter 21: Data Aggregation...413
Data Aggregation – Overview...414
Understanding Data Aggregation..415
Aggregated Data in Reports 416
How to Customize Data Aggregation..417
Troubleshooting and Limitations 419

Chapter 22: Data Samples..421
Samples Overview...422
Special Fields..422
Data Samples for Service Health...423
Data Samples for Service Level Management...................................425
Data Samples for SiteScope...428
Data Samples for Business Process Monitor.....................................439
Data Samples for Real User Monitor 457
Data Samples for Alerts 507
Data Sample for TransactionVision...511
Data Samples for SOA...516
Data Samples for Business Process Insight (BPI) 522
Data Samples for HP Diagnostics 528
Data Samples for RTSM 537
Data Samples for the Custom Query Builder 538

Index 539

Welcome to This Guide

This guide describes how to configure and work with Reports in HP Business Service Management.

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 16
- Documentation Updates on page 17

How This Guide Is Organized

The guide contains the following parts:

Part I Introduction to Reports

Presents an overview of Report Manager, features common to most reports, and the application reports available in BSM.

Part II User Reports

Describes the pages and dialog boxes that are part of User Reports, which enable tracking of specific performance issues relevant to your organization or business unit's performance monitoring needs.

Part III Global Report Components

Describes how to work with reports, the reports available in HP Business Service Management, how to customize reports, and how to analyze reports logs.

Part IV Data Reference

Describes the data samples fields that are available in various contexts in HP Business Service Management (including Custom Reports, Measurement Filters, and Custom Query Builder).

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.
Tasks	**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. Task steps can be with or without numbering: ➤ **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.	➤ 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.
	Use-case Scenario Tasks. Examples of how to perform a task for a specific situation.	Learn how a task could be performed in a realistic scenario.

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/hpsoftwaresupport.

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

Introduction to Reports

1

Introducing Reports

This chapter includes:

Concepts

➤ Reports Overview on page 22

Concepts

Reports Overview

Reports are available in the various applications contexts in HP Business Service Management. They enable you to view and analyze the performance data collected by HP Business Service Management data collectors and stored in the HP Business Service Management database.

Report Manager

Report Manager is a central location where you can manage selected reports. You can also create customized reports containing user-defined data and formatting that can help you focus on specific aspects of your organization's application and infrastructure resource performance. In addition, you can schedule specific reports and email them to specified recipients.

For details, see "Use Report Manager to Manage Custom Reports" on page 29.

Report Common Features

Some features are common to most reports:

- **Toolbar, filters, user messages, and more.** For details, see "Working in Reports - Overview" on page 304.
- **Time comparison.** This feature enables you to compare the values or behavior of the elements described by the report’s component for those different time frames. For details, see "Time Comparison Overview" on page 348.
- **Interactive charts.** Some report components use Flex technology to render the data. For details, see "Interactive Charts Overview" on page 362.

- **Annotations.** This feature provides a snapshot of selected reports and enables you to highlight important areas of the report by drawing shapes or lines, and to add text to the snapshot. For concept details, see "Report Annotation Overview" on page 370. Annotations are created outside Report Manager, in the specific report in which you are working.
- **Downtime information.** In some cases, a report can display downtime information. For details, see "Downtime Information in Reports Overview" on page 382.
- **Scheduled reports.** You can schedule when to automatically run a report and you can also specify the recipient emails of the scheduled reports. For details, see "Schedule Reports" on page 47.
- **Emailed reports.** You can specify the recipient emails of the current report. For details, see "Email a Report" on page 59.
- **Report customization.** Define the report header/footer, run the report automatically, customize the display of some reports, and more. For details, see "Customizing Reports - Overview" on page 394.
- **Report logs.** The log records all activities related to specific reports in a reports log. For details, see "Reports Log - Overview" on page 404.
- **Dates.** BSM displays dates according to the locale of your browser, in accordance with supported locales. It does this as follows:
  - **a** BSM identifies the locale of the browser.
  - **b** The browser locale is compared to a list of supported locales, and the closest match is used to determine the dates displayed in BSM.

Application Reports

HP Business Service Management provides application reports that contain data displaying how well different areas of HP Business Service Management are performing.

These reports can be accessed via the specified applications, and can also be assigned to Custom Reports as report components using the Custom Report Wizard. Not all reports are available for each wizard. For details on Custom Reports, see "Configure Custom Reports Using Report Manager" on page 67.

This section lists the reports available in HP Business Service Management, arranged by context.

Application (A–Z)	**Application Reports**
Application Management for SAP	Display information on the Application Management for SAP application. For user interface details, see "Application Management for SAP Reports and Views" in *Solutions and Integrations*.
Business Process Insight	Display information on business processes and business process monitors, which enable you to visualize the health, performance, and effectiveness of your business processes. For user interface details, see *Using Business Process Insight*.
End User Management	Enable you to detect end-user business process issues before customers are impacted. For user interface details, see "End User Management Reports Overview" in *Using End User Management*.
Service Health	Display data collected from monitors, probes, and applications. For user interface details, see "CI Status Reports Overview" in *Using Service Health*.
Service Level Management	Show you how well actual service levels compare with your goals. For user interface details, see "Service Level Management Reports - Overview" in *Using Service Level Management*.
System Availability Management	Display information about how the servers and applications you are monitoring have performed over time. For user interface details, see "SAM Reports" in *Using System Availability Management*. **Note:** Some report functionalities are not supported in the System Availability Management legacy reports. For a list of the legacy reports, see "SAM Legacy Reports" in *Using System Availability Management*.

Application (A–Z)	**Application Reports**
Transaction Management	Display information on transaction topology and infrastructure for data collection. For user interface details, see "Introducing Transaction Management Reports and Topologies" in *Using Transaction Management*.

Part II

User Reports

2

Use Report Manager to Manage Custom Reports

This chapter includes:

Concepts

- Report Manager Overview on page 30
- Saving a Report as a PDF File on page 32

Tasks

- How to Create and Manage User Reports Using Report Manager on page 33
- How to Create and Manage User Reports Using Report Manager — Use-Case Scenario on page 36

Reference

- Report Manager User Interface on page 40

Concepts

Report Manager Overview

Report Manager is a central location where you can manage selected reports from throughout HP Business Service Management.

You can also create customized reports containing user-defined data and formatting that can help you focus on specific aspects of your organization's application and infrastructure resource performance.

You can schedule a report or report object to be sent to specified individuals at set times. For details, see "How to Schedule a Report" on page 49.

You can email specific reports and report objects to selected individuals using selected formats. For details, see "Email Dialog Box" on page 62.

You can store a PDF of selected Business Service Management reports, to access at a later time. For details, see "Saving a Report as a PDF File" on page 32.

You can set a default header and footer for the Custom Report.

Report Manager enables you to create and manage the following reports:

- "Custom Reports" on page 31
- "Trend Reports" on page 31
- "Service Reports" on page 31
- "Custom Links" on page 31
- "Excel Reports" on page 31
- "Favorite Filters" on page 32

Custom Reports

You build Custom Reports with selected components (individual application reports) that enable you to focus on the data you are most interested in tracking. For details, see "Configure Custom Reports Using Report Manager" on page 67.

Trend Reports

Trend reports present a comparison of multiple measurements collected by Business Process Monitor, Real User Monitor, and SiteScope. These reports enable you to analyze how various internal HP Business Service Management factors affect system performance. For details, see "Trend Reports" on page 109.

Service Reports

You create your own service reports based on data from data sources from the Service Level Management, Service Health, or other applications. For details, see "Service Report" on page 157.

Custom Links

Custom Links reports include a link to open a Web page in a browser window. For details, see "New Custom Link Page" on page 234.

Excel Reports

HP Business Service Management Excel reports use the charting abilities of Microsoft Excel. Excel reports display various types of data collected by HP Business Service Management data collectors. The reports can be viewed with Microsoft Excel or any spreadsheet program capable of reading files with the XLS format.

You can also upload Excel reports that were created using the XLSX format. For details on creating a Microsoft Excel Report, see "How to Create a Microsoft Excel Report That Includes Business Service Management Data" on page 239.

Contact HP Software-as-a-Service Support for details on implementing Microsoft Excel reports in HP Software-as-a-Service.

Favorite Filters

Favorite Filters enable you to save a Business Service Management report filter and reuse it for future generation of the report. The filter you create can be used only for the report for which it was created. Filters include the time range, location, views, CIs, resource definitions, and granularity for which the report is generated, as well as profiles, active filters, configuration items (CIs) and Key Performance Indicators (KPIs) configured for the report. For details on creating a Favorite Filter, see the Favorite Filter buttons in the Toolbar section in the "Common Report and Page Elements" on page 322.

After you have created a report favorite filter, the favorite filter is displayed in Report Manager. You can then, in Report Manager, schedule to run the filtered report and you can send the filtered report via email.

Saving a Report as a PDF File

You can save the data of selected reports to Report Manager, for viewing on other occasions, or for sending to other users. Reports are stored as PDF files in Report Manager, and the report is saved with data that is valid at the time the report is saved. This is the case even if data subsequently changes, or more data accrues to the report.

You can save all reports to Report Manager, except for the System Availability Management Legacy Reports. For a list of the legacy reports, see "SAM Legacy Reports" in *Using System Availability Management*.

Tasks

How to Create and Manage User Reports Using Report Manager

This task describes how to create, manage, and distribute reports using Report Manager.

Note: For a use-case scenario related to this task, see "How to Create and Manage User Reports Using Report Manager — Use-Case Scenario" on page 36.

This task includes the following steps:

- "Prerequisites" on page 34
- "Create a Trend Report" on page 34
- "Create a Service Report" on page 34
- "Create a Custom Link" on page 34
- "Create an Excel Report" on page 34
- "Create a Custom Report" on page 35
- "Customize the look and feel of the reports" on page 35
- "View a User Report" on page 35
- "Schedule a report" on page 35
- "Email a User Report" on page 35
- "Annotate a report" on page 35

Prerequisites

If you plan to send reports to specific recipients via email or if you plan to schedule reports to be periodically sent to specific recipients, you must create appropriate recipients. Select **Admin** > **Platform** > **Recipients** > **Recipient Management**. For details, see "New or Edit Recipient Dialog Box" in *Platform Administration*.

Create a Trend Report

You can configure a report which compares multiple measurements, enabling you to analyze how various internal HP Business Service Management factors affect system performance. For details on creating a Trend report, see "Trend Report Wizard" on page 127.

Create a Service Report

You can create a custom report that displays selected data from data sources of the Service Level Management, Service Health, or other applications. For details on creating a Service report, see "How to Configure a Service Report in Report Manager" on page 171.

Create a Custom Link

You can create a link to open a web page in a browser window. For details on creating a Custom Link, see "New Custom Link Page" on page 234.

Create an Excel Report

You can build and view customized reports in HP Business Service Management that take advantage of the charting abilities of Microsoft Excel. For details on creating an Excel report, see "How to Create a Microsoft Excel Report That Includes Business Service Management Data" on page 239.

Create a Custom Report

You can create a customized report that includes selected application reports such as End User Management or System Availability Management reports, or existing Service Reports. You can also add URLs, or Custom Query reports that you configure inside Report Manager. You select these reports to present the data most relevant to you. For details on creating a Custom Report, see "How to Configure a Custom Report" on page 74.

Customize the look and feel of the reports

You can customize the look and feel of a report, such as providing a header or a footer for the report. For details, see "How to Customize Report Settings in the Infrastructure Settings Manager" on page 397.

View a User Report

You can view a report or report object by selecting the item in the Report Manager table and clicking the **View Report** button on the Report Manager Main Page, or by double-clicking a report.

Schedule a report

For details on how to create a schedule for a report or report object to be sent to specified individuals at set times, see "Create New Schedule Dialog Box" on page 52.

Email a User Report

You can send a Custom Report, Trend report, or Service report to selected users using email. For user interface details, see "Email Dialog Box" on page 62.

Annotate a report

You can annotate a report and send it by email to share your observations. For task details, see "How to Create an Annotated Report" on page 371.

How to Create and Manage User Reports Using Report Manager — Use-Case Scenario

This use-case scenario describes how to create, manage, and distribute reports and report objects using Report Manager.

Note: For a task related to this use-case scenario, see "How to Create and Manage User Reports Using Report Manager" on page 33.

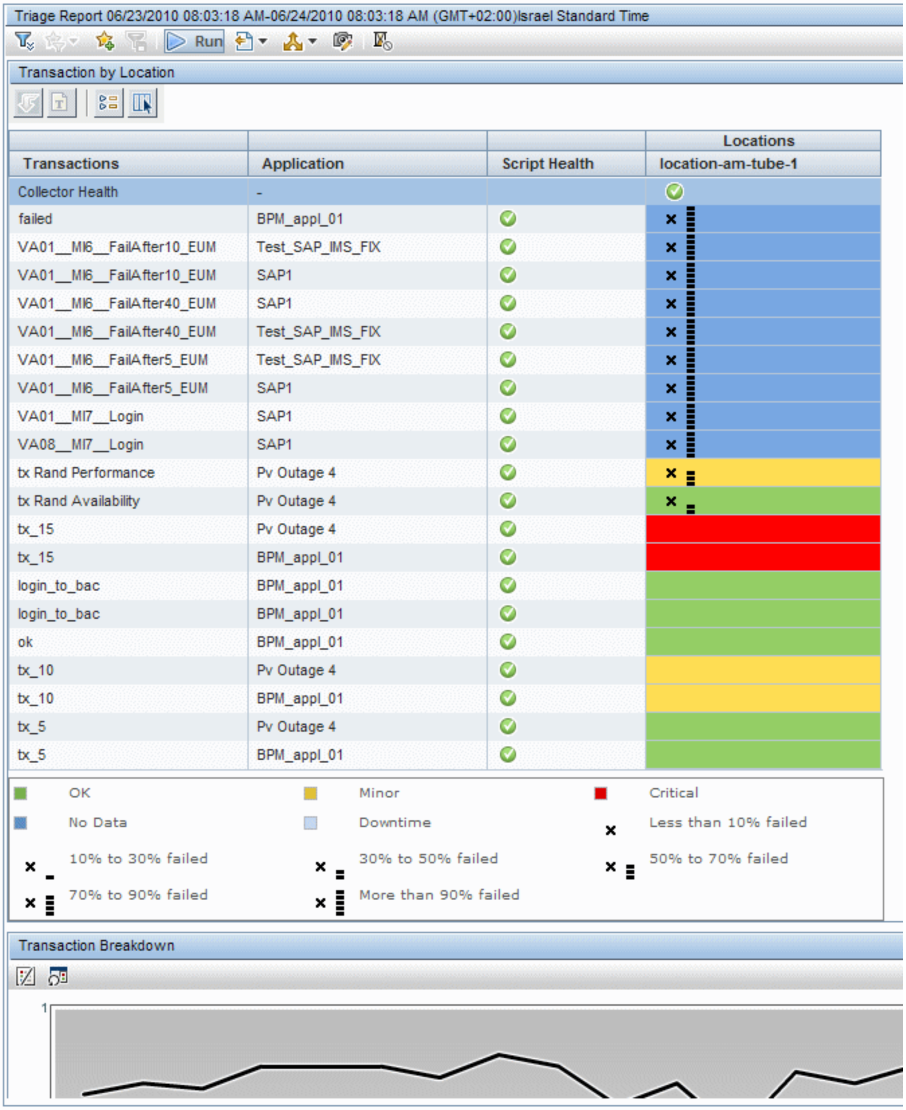
This scenario includes the following steps:

- "Background" on page 36
- "Add components to a Custom Report" on page 38
- "Add components to a Trend Report" on page 38
- "Create a Service Report" on page 38
- "Create a Custom Link" on page 38
- "Create an Excel Report" on page 38
- "Email a User Report" on page 39
- "Annotate a report" on page 39

1 Background

John Smith is the CEO for ABC Software Company. He wants to see the data output of the Triage report for all the applications that are monitored over the past day. He clicks **Application** > **End User Management** > **Analysis Reports** and selects the **Triage Report**. He configures the Time Range and Granularity bar to run the report to view the past day's data, he also selects the relevant applications, and the relevant transactions.

The report appears as follows:


Triage Report 06/23/2010 08:03:18 AM-06/24/2010 08:03:18 AM (GMT+02:00)Israel Standard Time
Run
Transaction by Location
Transaction Breakdown
1

			Locations
Transactions	**Application**	**Script Health**	**location-am-tube-1**
Collector Health	-		✓
failed	BPM_appl_01	✓	🟦 ×
VA01__MI6__FailAfter10_EUM	Test_SAP_IMS_FIX	✓	🟦 ×
VA01__MI6__FailAfter10_EUM	SAP1	✓	🟦 ×
VA01__MI6__FailAfter40_EUM	SAP1	✓	🟦 ×
VA01__MI6__FailAfter40_EUM	Test_SAP_IMS_FIX	✓	🟦 ×
VA01__MI6__FailAfter5_EUM	Test_SAP_IMS_FIX	✓	🟦 ×
VA01__MI6__FailAfter5_EUM	SAP1	✓	🟦 ×
VA01__MI7__Login	SAP1	✓	🟦 ×
VA08__MI7__Login	SAP1	✓	🟦 ×
tx Rand Performance	Pv Outage 4	✓	🟨 ×
tx Rand Availability	Pv Outage 4	✓	🟩 ×
tx_15	Pv Outage 4	✓	🟥
tx_15	BPM_appl_01	✓	🟥
login_to_bac	BPM_appl_01	✓	🟩
login_to_bac	BPM_appl_01	✓	🟩
ok	BPM_appl_01	✓	🟩
tx_10	Pv Outage 4	✓	🟨
tx_10	BPM_appl_01	✓	🟨
tx_5	Pv Outage 4	✓	🟩
tx_5	BPM_appl_01	✓	🟩

🟩	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		

2 Add components to a Custom Report

John wants to view a report that contains summary reports for each of the applications he oversees. He asks the Administrator to create such a report as described in "How to Configure a Custom Report - Use Case Scenario" on page 75.

3 Add components to a Trend Report

John also wants to receive a daily report comparison of Transaction Response Time and Download Time data within Business Process Monitor. For details, see How to Configure a Trend Report – Use Case Scenario on page 115.

4 Create a Service Report

John wants to view data collected from the Service Health KPIs data source. He clicks the **New** button, selects **New Service Report** and configures a Service report, as described in "How to Configure a Service Report in Report Manager" on page 171.

5 Create a Custom Link

John creates a link to a select report page by clicking the **New**, button selecting **New Custom Link**, and entering the URL of the report page he wants to view.

6 Create an Excel Report

John wants to view his report data in a more organized format, and decides to use Microsoft Excel for this purpose. John creates an Excel report as follows:

- **a** He selects **Applications** > **User Reports** > **Custom Query Builder** and creates a Web Query, as described in "How to Create a Custom Query" on page 250.
- **b** He opens Microsoft Excel and creates a Microsoft Excel report, as described in "How to Create a Microsoft Excel Report That Includes Business Service Management Data" on page 239.

c He selects **Applications** > **User Reports** > **Report Manager**, clicks the **New**, button selects **New Excel Report**, and browses to the file he saved. The Excel report is saved to Report Manager.

7 Email a User Report

John wants to send his Custom Report to an associate to show him the data that has been collected. He selects the Custom Report in Report Manager and clicks the **Send Email Now** button to choose a recipient from the Email dialog box and send the Custom Report using email.

8 Annotate a report

One of John’s associates has saved an annotated KPI Over Time report and sent it to John via email. John can view the areas in the report that have been highlighted by the annotations by opening the report sent by email. For details about creating an annotated report, see "How to Create an Annotated Report" on page 371.

Reference

Report Manager User Interface

This section includes (in alphabetical order):

- Default Header/Footer Dialog Box on page 40
- Report Manager Main Page on page 41
- Select Columns Dialog Box on page 45

Default Header/Footer Dialog Box

This dialog box enables you to create a default header and footer to be displayed for all custom and trend reports.

To access	Click the **Set default header/footer for all Custom & Trend Reports** button on the Report Manager Main Page.
Important information	The header and footer configured in the Default Header/Footer dialog box overrides the header and footer configured on the Infrastructure Settings page.

User interface elements are described below:

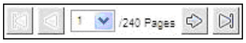
UI Element (A-Z)	Description
Footer HTML	Enter the footer text, either as plain text or with valid HTML tags.
Header HTML	Enter the header text, either as plain text or with valid HTML tags.
Preview	Click to preview the configured header and footer, which are then displayed at the bottom of the Default Header/Footer Dialog Box on page 40.

Report Manager Main Page

This page enables you to manage the contents of Report Manager and view, edit, and clone existing components, configure new user reports, email reports, and create a schedule for selected reports to run.

To access	**Applications** > **User Reports** > **Report Manager.**
Important information	➤ You can filter the contents of Report Manager by entering or selecting values in the cells under each column heading. ➤ Report Manager lists the favorite filters you created for your reports in other applications. For details, see Favorites ☆ in "Report Toolbar" on page 323.
See also	"Annotation Tool Dialog Box" on page 374

User interface elements are described below:

UI Element (A–Z)	Description
📊	**View Report.** Displays the selected report or report object. ➤ Select a report in the list of available reports and click the **View Report** button to display the report in a new window. Every subsequent report that you open in the same way, overrides the previous report in the same window. ➤ Select a report in the list of available reports, press CTRL and click the **View Report** button to display the report in a new window. Every subsequent report that you open in the same way, is displayed in a new window.
	Divides a table of data into pages. You move from page to page by clicking the relevant button: ➤ To view more items, click the **Next page** or **Last page** buttons. ➤ To view previous items in the list, click the **Previous page** or **First page** buttons.

UI Element (A–Z)	Description
✱ ▾	**New.** Displays a list of the options available to create a new report or report object. Choose from the following options: ➤ **New Custom Report.** For details, see "Custom Report Wizard" on page 85. ➤ **New Trend Report.** For details, see "Trend Report Wizard" on page 127. ➤ **New Service Report.** For details, see "Service Report Builder Wizard" on page 190. ➤ **New Custom Link.** For details, see "New Custom Link Page" on page 234. ➤ **New Excel Report.** For details, see "New Excel Report Page" on page 244.
✎	**Edit.** Opens the selected report so you can edit it.
⧉	**Clone.** Opens the selected report so you can edit it. The report default name is **Copy of <selected_report_name>**. **Note:** Any schedules configured for a specific report or report object are not cloned when selecting this option.
✕	**Delete.** Deletes the report or report object. **Note:** Deleting a report causes all schedules configured for the report to also be deleted.
✉	**Send email now.** Emails the selected report or report object. For details, see "Email Dialog Box" on page 62.
🕒	**Create new schedule for selected reports.** Creates a schedule to send the report or report object to specified individuals at specific intervals. For details, see "Create New Schedule Dialog Box" on page 52.

UI Element (A–Z)	Description
	Manage schedules list. Opens the Schedule Management dialog box and manages schedules configured for the selected report or report object. For details, see "Schedule Management Dialog Box" on page 55. A user with Administrator permissions can view and manage all schedules for all reports from the Report Schedule Manager. For details, see "Report Schedule Manager" in *Platform Administration*.
	Delete all schedules for selected reports. Deletes all schedules for the selected report.
	Resume all schedules for selected reports. Resumes all schedules for the selected report.
	Pause all schedules for selected reports. Pauses all schedules for the selected report.
	Set default header/footer for all Custom and Trend reports. Configures a default header and footer for all custom and trend reports in Report Manager. For details, see "Default Header/Footer Dialog Box" on page 40.
	Refresh. Refreshes the Report Manager page.
	Reset column widths. Resets the width of the columns to the default setting.
	Select Columns. Enables you to select the columns to be displayed in the table. For details, see "Select Columns Dialog Box" on page 45.
Description	The description of the report or report object. The value of this field is displayed as entered during configuration of the report or report object. **Note:** This element is not displayed for Custom and Trend reports.

UI Element (A–Z)	Description
Name	The name of the report or report object. The list includes the Custom Reports, Trend Reports, Service Reports, Custom Links, Excel Reports you created using Report Manager, as well as the Favorite Filter reports you created in application reports.
Owner	The user who created the report or report object.
Privilege	The privilege level of the report or report object. The available values are: ➤ **Private.** The report or report object is available only to the user who configured it. ➤ **Public.** The report or report object is available to administrators or any user with appropriate permissions. **Note:** This element is not displayed for Custom Reports, Trend reports, and Custom Links, which by default have the **Public** privilege level.

UI Element (A–Z)	Description
Scheduling	Indicates if schedules are configured for the selected report or filter, and displays a link to the list of schedules (if they exist). Click the indicated schedules link to open the Schedules Management dialog box and manage schedules for the selected item. For details on the user interface, see "Schedule Management Dialog Box" on page 55. **Note:** A user with Administrator permissions can view and manage all schedules for all reports from the Report Schedule Manager. For details, see "Report Schedule Manager" in *Platform Administration*.
Type	The type of User Report or report object displayed. **Tooltip:** Displays information on the report or report object according to the selected report type, as follows: ➤ **Custom Report.** The titles of the components added to the report in the Custom Report Wizard. ➤ **Trend Report.** The value of the **Name** field for the measurements added to the Trend report in the Trend Report Wizard. The tooltip is empty for Custom Links, Excel Reports, and Service Reports. **Note:** The value **PDF** represents a report that has been saved from another area of HP Business Service Management.

Select Columns Dialog Box

This dialog box enables you to choose the information you are interested in displaying in a table. You can change the display order of the columns, hide a column, or display a hidden column.

To access	Click the **Select columns** button.

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

UI Element (A–Z)	Description
⇨	Displays a hidden column. Moves the selected column from the **Available/Hidden Columns** pane to the **Visible Columns** pane.
⇦	Hides a selected column. Moves the selected column from the **Visible Columns** pane to the **Available/Hidden Columns** pane.
⇦	Displays all hidden columns. Moves all the columns from the **Available/Hidden Columns** pane to the **Visible Columns** pane.
⇇	Hides all selected columns. Moves all the columns from the **Visible Columns** pane to the **Available/Hidden Columns** pane.
⇩ ⇧	Moves one selected column up or down to determine the position of the column in the table.
Available/Hidden Columns	The columns in this pane do not appear in the table.
Visible Columns	The columns in this pane are visible in the table.

3

Schedule Reports

This chapter includes:

Concepts

➤ Schedule Reports Overview on page 48

Tasks

➤ How to Schedule a Report on page 49

Reference

➤ Schedule Reports User Interface on page 52

Troubleshooting and Limitations on page 57

Concepts

Schedule Reports Overview

You configure schedules to enable specified recipients to automatically receive reports, through email, at regularly defined intervals.

You can schedule Custom Reports, Trend Reports, and Service Reports defined in Report Manager, or reports saved from the specific report page. You can also schedule Favorite Filter reports. For details on Favorite Filters, see the Favorite Filter button in "Report Toolbar" on page 323.

For details on configuring report schedules, see "How to Schedule a Report" on page 49.

You can modify the default value that appears in the **From** field in the email containing scheduled reports. For details, see "Modify the default email settings – optional" on page 50.

Tasks

How to Schedule a Report

This task describes how to create a scheduled report to enable specific recipients to automatically receive reports, through email, at regularly defined intervals.

This task includes the following steps:

- "Prerequisites" on page 49
- "Create a schedule" on page 49
- "Modify the default email settings – optional" on page 50
- "Set up to correctly view scheduled reports received in Microsoft Outlook 2003 – optional" on page 50
- "Results" on page 51

1 Prerequisites

Ensure that you have at least one Custom Report, Trend report, Service report, or Favorite Filter report in Report Manager. For details on configuring reports and report objects, see "How to Create and Manage User Reports Using Report Manager" on page 33.

Make sure that you have **View** permissions for the Recipients resource and **Add** permissions for the Scheduled Reports resource. For details on assigning user permissions, see "How to Assign Permissions" in *Platform Administration*.

2 Create a schedule

- **a** Click the **Create new schedule for selected reports** button.
- **b** Enter the requested information in the Create New Schedule dialog box. For details on creating a new schedule in the Create New Schedule Dialog Box, see "Create New Schedule Dialog Box" on page 52.

Administrators can manage configured report schedules using the Report Schedule Manager tab, located at **Admin** > **Platform** > **Report Scheduling**. For details on managing report schedules using the Report Schedule Manager tab, see "Report Schedule Manager" in *Platform Administration*.

3 Modify the default email settings – optional

The default email sender, email subject template and email sender for scheduled reports are defined in the Infrastructure Settings. The default value that appears in the **From** field in the email containing the scheduled report is **HPBAC_Alert_Manager@<HP Business Service Management server name>**.

To modify the defaults, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**:

- Select **Foundations**.
- Select **Scheduled Reports**.
- In the Scheduled Reports - Email Configuration table, locate **Email sender** or **Email subject template**. Change the value as explained in "Infrastructure Settings Manager Page" in *Platform Administration*.

4 Set up to correctly view scheduled reports received in Microsoft Outlook 2003 – optional

To correctly view scheduled reports received in Microsoft Outlook 2003, in Outlook, select **Tools** > **Options** > **Security** > **Zone Settings**, select **Internet**; click **Custom Level** and specify the following settings in the Security Settings dialog box:

- **Download signed ActiveX control** = **Prompt**
- **Run ActiveX controls and plug-ins** = **Enable**
- **Script ActiveX controls marked safe for scripting** = **Enable**
- In the **Reset to** list, select **Medium**.

5 Results

The configured schedule’s status is indicated in the **Scheduling** column of Report Manager.

Click the link in the **Scheduling** column to open the Schedule Management dialog box and manage the configured schedules. For details on the Schedule Management dialog box, see "Schedule Management Dialog Box" on page 55.

Reference

Schedule Reports User Interface

This section includes (in alphabetical order):

- Create New Schedule Dialog Box on page 52
- Schedule Management Dialog Box on page 55

Create New Schedule Dialog Box

This dialog box enables you to schedule a report to be sent to specified recipients at specific intervals.

To access	Select one or more reports in Report Manager page and click one of the following buttons: ➤ The **Create new schedule for selected reports** button. ➤ The **New** button in the Schedules Management dialog box, accessible by clicking the listed schedules in the **Scheduling** column. **Note:** This dialog box is also accessible by navigating to **Admin** > **Platform** > **Report Scheduling**, and clicking the **Edit Selected Schedule** button. For details on the Report Schedule Manager, see "Report Schedule Manager" in *Platform Administration*.
Relevant tasks	"How to Schedule a Report" on page 49
See also	"Schedule Reports Overview" on page 48

User interface elements are described below:

UI Element (A–Z)	Description
Attachment Type	Select the type of report attachment to be used. The available attachment types are: ➤ **Embedded.** The report or report object is embedded into the body of the email. ➤ **Attached.** The report or report object is sent as an external attachment with the email. ➤ **Zipped.** The report or report object is sent as a .zip file attachment.
Format	Select the format in which the report should be displayed. **Available Formats:** ➤ HTML ➤ MHTML ➤ MHT ➤ CSV ➤ PDF
Generate data for the past X hours	Select the number of previous hours for which the report should be run. **Note:** This option is enabled only when the **Daily** recurrence pattern is selected for Custom and Trend reports.
New Recipients	Opens a dialog box where you can create new recipients. These recipients receive the report at the scheduled time. For user interface details, see "New or Edit Recipient Dialog Box" in *Platform Administration*.

UI Element (A–Z)	Description
Range of recurrence	Configure the start and end time of the schedule, as follows: ➤ **Start.** Click to configure the date for the schedule to start. ➤ **No end date.** Select for the schedule to run indefinitely. ➤ **End by.** Click to configure the date for the schedule to end.
Recipients	Select existing recipients. These recipients receive the report at the scheduled time.
Recur every day on	Select the days of the week on which the report is to run. **Note:** This element is displayed only if you have chosen **Daily** or **Weekly** as a recurrence pattern.
Recurrence Pattern	➤ For a Service Report, enables you to select how often the report or report object is to be sent. ➤ For a Custom Report and Trend Report, enables you to select how often the report is to be sent and enables you to select the time frame for when the report data is to be run. You also select the following configurations: ➤ How often the report schedule is to be sent out. Choose from: ➤ Daily ➤ Weekly ➤ Monthly ➤ Quarterly ➤ The days of the week the you want the report schedule to be sent out, if you chose **Daily** or **Weekly**. ➤ The first or last day of every month or quarter, if you chose **Monthly** or **Quarterly**. ➤ The specific day of the month or quarter, if you chose **Monthly** or **Quarterly**.

UI Element (A–Z)	Description
Report generation time	If, in the Time period section of the Custom Report wizard, you chose: ➤ **Use global setting for all reports,** you set the end time for the report's data to be collected, and the time zone in which the generation should take place. The Scheduled Report is then sent to the selected recipients at the time specified in this setting. ➤ **Use separate time period for each report,** the time you configure here determines only when the report is sent out, and does not override the report coverage time settings configured in the filter of the report components.
Select language	Select the language in which the report is to be sent. **Note:** The server from which the report is being sent must support the selected language for the report to display properly.
Time Zone	Select the time zone. The report schedule works according to that time zone and sends the scheduled report accordingly.

Schedule Management Dialog Box

This dialog box enables you to manage configured schedules.

To access	Click one of the following: ➤ The link in the **Scheduling** column next to the relevant item on the Report Manager Main Page. ➤ The **Manage schedules list** button on the Report Manager Main Page.
See also	"Create New Schedule Dialog Box" on page 52

User interface elements are described below:

UI Element (A–Z)	Description
✱	**Create new schedule.** Opens the Create New Schedule dialog box where you can create a new schedule for the selected report or report object. For details on creating schedules, see "Create New Schedule Dialog Box" on page 52.
✎	**Edit selected schedule.** Opens the Edit Schedule for <report_name> dialog box. For user interface details, see "Report Schedule Manager Main Page" in *Platform Administration*.
✖	**Delete selected schedules.** Deletes the selected schedule. **Note:** Deleting the schedule does not delete the report or report object.
▷	**Resume selected schedules.** Resumes the selected schedule according to its configured running time. **Note:** This description refers to the icon that appears above the table, and not to the icon displayed in the table.
⏸	**Pause selected schedules.** Temporarily stops (pauses) the selected schedule. **Note:** This description refers to the icon that appears above the table, and not to the icon displayed in the table.
Generation Time	The time (in the indicated time zone) when the report is to be run.
Recipients	The recipients configured to receive the selected schedule.

UI Element (A–Z)	Description
Recurrence	The recurrence pattern for the selected schedule.
Status	The current status of the schedule, displayed with an icon indicating one of the following: ➤ ▷ **Active.** ➤ ⏸ **Paused.** **Note:** If an error status is indicated, see the scheduler log located in: <**HPBSM root directory**>\hpbac\log\schedulergw\scheduler.log>

Troubleshooting and Limitations

This section describes troubleshooting and limitations for scheduling reports.

When attempting to schedule multiple reports or report objects at the same time, you must ensure that your selections are from the same group. The items are grouped as follows:

- Service Report
- Custom Report and Trend Report

4

Email a Report

This chapter includes:

Concepts

➤ Email a Report Overview on page 60

Tasks

➤ How to Email a Report on page 61

Reference

➤ Email Dialog Box on page 62

Troubleshooting and Limitations on page 65

Concepts

Email a Report Overview

You can email Custom Report, Trend report, or Service report to selected individuals using selected formats.

In addition, you can also email a scheduled report to enable specific recipients to automatically receive the report, at regularly defined intervals. For concept details, see "Schedule Reports Overview" on page 48.

For user interface details, see "Email Dialog Box" on page 62.

Tasks

How to Email a Report

This task describes how to email a specific report.

This task includes the following steps:

- "Prerequisites" on page 61
- "Specify the email" on page 61
- "Results" on page 61

1 Prerequisites

Ensure that one Custom Report, Trend report, or Service report was defined in Report Manager. For details on configuring reports and report objects, see "How to Create and Manage User Reports Using Report Manager" on page 33.

2 Specify the email

In Report Manager, select the relevant Custom Report, Trend report, or Service report, and:

a Click the **Email** button.

b Enter the requested information in the Email dialog box. For user interface details, see "Email Dialog Box" on page 62.

3 Results

The selected report is immediately sent to the selected email.

Reference

Email Dialog Box

This dialog box enables you to send the selected report or report object using email.

To access	Select a report and click the **Email** ✉ button on the Report Manager Main Page.
Important information	You must have at least **View** permissions to email a report.
Relevant tasks	"How to Email a Report" on page 61

Recipients Area

This area enables you to select or specify the recipients of the email.

User interface elements are described below:

UI Element (A-Z)	Description
Attachment type	Select how to attach the report to the email. The available attachment types are: ➤ **Embedded.** The report or report object is embedded into the body of the email. ➤ **Attached.** The report or report object is sent as an external attachment with the email. ➤ **Zipped.** The report or report object is sent as a .zip file attachment with the email.
Available Email Recipients/Selected Recipients	Select existing recipients. These recipients receive the report by email. For details, see "Recipients Area" on page 65.

UI Element (A-Z)	Description
Format	Select the format you want to use to display the report: ➤ **HTML** ➤ **MHTML** ➤ **MHT** ➤ **CSV** ➤ **PDF**
New Recipients	Opens the New Recipient dialog box where you can create new recipients. These recipients receive the report by email. For user interface details, see "New or Edit Recipient Dialog Box" in *Platform Administration*.
Select language	Select the language of the report attachment. The server from which the email is sent must support the selected language for the report to display properly.

Report Coverage Time Area

This area enables you to configure the time frame to be used as the time frame of the report sent by email.

Note: This field is enabled only when selecting a Custom or Trend Report.

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

UI Element (A–Z)	Description
⇦	**Back.** Moves the report time frame back by an interval corresponding to the time frame specified in the **View** field. **Example:** If you have chosen **Week** in the **View** field, clicking this button moves the report time frame to one week earlier than its current configuration.
⇨	**Forward.** Moves the report time frame forward by an interval corresponding to the time frame specified in the **View** field. **Example:** If you have chosen **Week** in the **View** field, clicking this button moves the report time frame forward to one week later than its current configuration.
<Time zone drop down>	Select the time zone to be used as the reference for the report generation time frame.
From	Click to select the start date and time for the generated report.
To	Click to select the end date and time for the generated report.
View	Select the time frame that the emailed report is to cover.

Recipients Area

User interface elements are described below:

UI Element (A–Z)	**Description**
⇨	Moves recipients to the Selected Recipients pane. You must select recipients in the **Available Email Recipients** pane before clicking this button.
⇦	De-selects recipients by highlighting and moving them to the Available Email Recipients pane. You must highlight recipients in the Selected Recipients pane before clicking this button.
Available Email Recipients	The list of configured recipients who are currently not selected to receive email on the report or report object.
New Recipient	Click to add a new recipient to receive email on the report or report object. For details, see "New or Edit Recipient Dialog Box" in *Platform Administration*.
Selected Recipients	The list of configured recipients who currently are selected to receive email on the report or report object.

Troubleshooting and Limitations

This section describes troubleshooting and limitations for emailing reports.

When attempting to email multiple reports or report objects at the same time, you must ensure that your selections are from the same group. The items are grouped as follows:

- Service Report
- Custom Report and Trend Report

5

Configure Custom Reports Using Report Manager

This chapter includes:

Concepts

- Custom Reports - Overview on page 68
- BPM Reports with Group By Option on page 69
- Time Ranges in Service Level Management Component Reports on page 70
- Understanding the Header/Footer Page in the Custom Report Wizard on page 73

Tasks

- How to Configure a Custom Report on page 74
- How to Configure a Custom Report - Use Case Scenario on page 75

Reference

- Custom Reports User Interface on page 81

Troubleshooting and Limitations on page 106

Concepts

Custom Reports - Overview

You create a Custom Report by adding individual HP Business Service Management application reports to the active Custom Report. The selected components enable you to focus on the data you are most interested in tracking.

You can configure settings for each component, including format (chart or table), layout, and time settings. You also specify active filters, which enable you to design the report to focus on the specific information that you most want to track (for example, business-critical transactions or critical alerts). In addition, you can add a custom header and footer to the report.

Tip: To create meaningful custom reports, add a component for each critical element that you want to appear in the report, and then use active filters to focus on that element. For example, to focus on two business-critical transactions from two separate locations, create four components, and set the active filters to focus on each transaction from each location.

You configure Custom reports from the Custom Report Wizard, located in Report Manager. For details on configuring Custom report components, see "Custom Report Wizard" on page 85.

Note: When a Custom report based on a **Custom** time range (selected in the time range and granularity bar) contains Service Level Management components, the time ranges used for these components are adjusted to fit Service Level Management tracking periods. For more information, see "Time Ranges in Service Level Management Component Reports" on page 70.

BPM Reports with Group By Option

In standard BPM reports, there is an option to group the data by locations, transactions, or applications. This option is disabled in Custom Reports, but in its place, reports that are already grouped have been added.

The following table lists standard BPM reports and the equivalent grouped reports available only in the Custom Reports Wizard.

BPM Report	**For details, see in** *Using End User Management*:	**Grouped Reports in Custom Reports Wizard**
BPM Performance Status	"BPM Performance Status Report"	Performance Status by Applications
		Performance Status by Transactions
		Performance Status by Locations
		Performance Status by Mobile Devices
BPM Response Time by Percentile	"BPM Response Time by Percentile Report"	Response Time by Percentile by Locations
		Response Time by Percentile by Transactions
BPM Performance Over Time (Performance Matrix component)	"BPM Performance Over Time Report"	Performance Matrix by Transactions
		Performance Matrix by Locations
		Performance Matrix by Mobile Devices

BPM Report	**For details, see in** ***Using End User Management*****:**	**Grouped Reports in Custom Reports Wizard**
BPM Error Summary	"BPM Error Summary Report"	Error Summary by Category
		Error Summary by Locations
		Error Summary by Mobile Devices
		Error Summary by Type

Time Ranges in Service Level Management Component Reports

When a Custom report is set to use a global time frame for all components (so that the time frame and granularity bar is displayed at the top of the Custom report), and you select to base the report on a **Custom** time frame (selected in the **View** box), the time frame you define might not fit the tracking periods for Service Level Management components included in the report.

In this case, the time frame for each Service Level Management component is automatically adjusted to correlate with Service Level Management tracking periods. The adjustment is made based on the **From** and **To** dates defined for the Custom Report time frame.

For over time reports (CIs Over Time Report or CI Time Comparison Report), the automatic adjustment for both dates is to the nearest hour or nearest midnight, as appropriate.

Note: The granularity supported for these report components is every 1 hour, week, month, or year, as appropriate for the time frame, with a maximum of 60 data points. For example, if you select a granularity of 1 day for a time frame of a year, this would create 365 data points, so the component report cannot be run for this granularity.

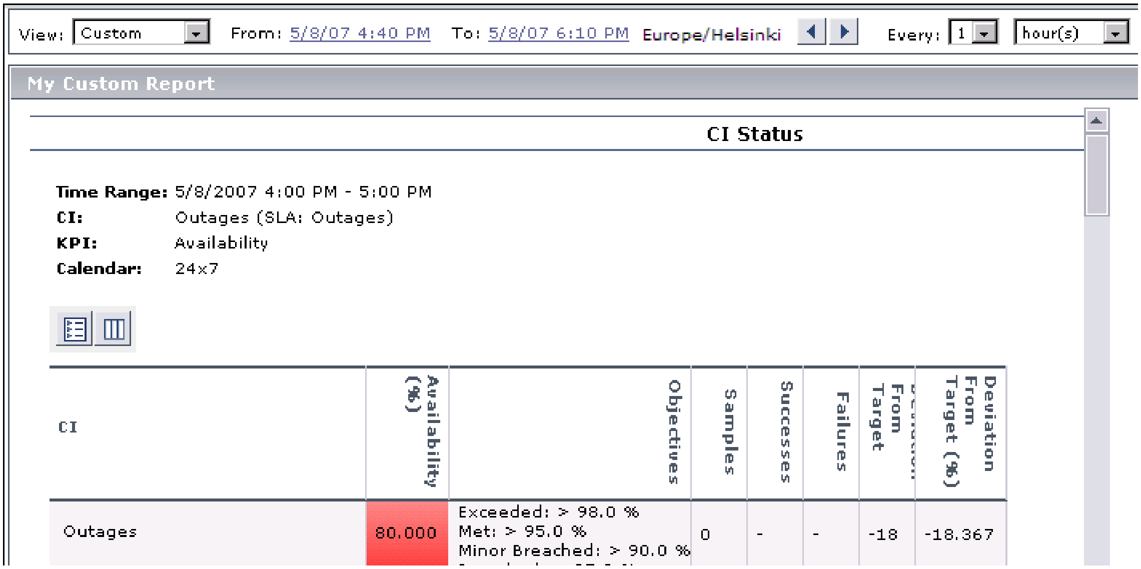
For all other Service Level Management reports, the adjustment is made as follows:

If the difference between the From and To Date is	Adjustment
Under 2 hours	The time is adjusted to show the hour that starts from the **From** date and time (rounded back to the nearest hour).
At least 2 hours and under 2 days	The time is adjusted to show the day that starts from the **From** date (rounded back to the nearest midnight).
At least 2 days and under 2 weeks	The time is adjusted to the week that starts from the **From** date (rounded back to the first weekday of that week).
At least 2 weeks and under 61 days	The time is adjusted to the month that starts from the **From** date (rounded back to the first day of that month).
From 61 days to 121 days	The time is adjusted to the quarter that starts from the **From** date (rounded back to the first day of that quarter).
122 days or more	The time is adjusted to the year that starts from the **From** date (rounded back to the first day of that year).

The adjusted time frame used for the Service Level Management component is displayed at the top of the component report. (The settings in the time frame bar of the Custom Report remain as defined.)

Example

In the following graphics, the custom time frame for My Custom Report is set to 1.5 hours—from 4:40 pm to 6:10 pm. In the CI Status report component, the time frame has been automatically adjusted to the hour from 4:00 pm - 5:00 pm; In the CIs Over Time report component, the time frame has been automatically adjusted to the two hour period from 4:00 pm - 6:00 pm:



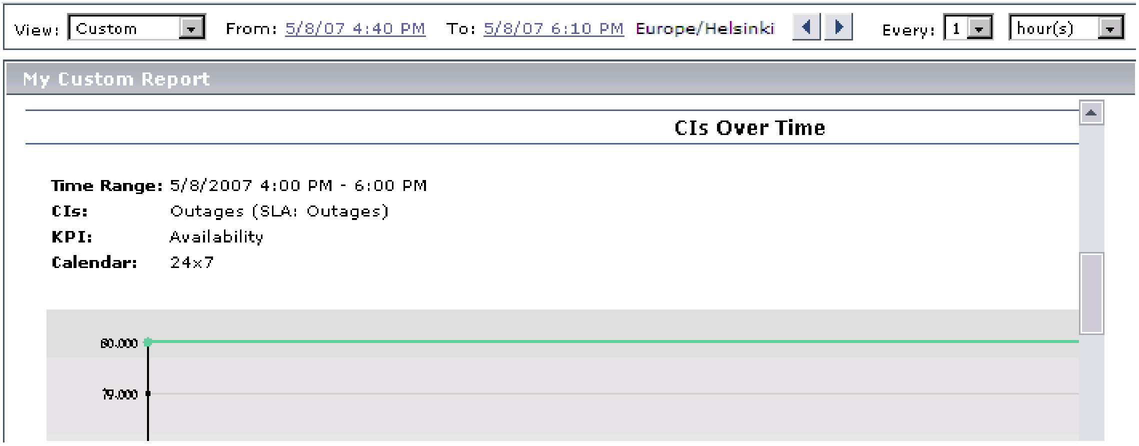
View: Custom From: 5/8/07 4:40 PM To: 5/8/07 6:10 PM Europe/Helsinki Every: 1 hour(s)

My Custom Report

CI Status

Time Range: 5/8/2007 4:00 PM - 5:00 PM
CI: Outages (SLA: Outages)
KPI: Availability
Calendar: 24x7

CI	Availability (%)	Objectives	Samples	Successes	Failures	From Target	Deviation From Target (%)
Outages	80.000	Exceeded: > 98.0 % Met: > 95.0 % Minor Breached: > 90.0 %	0	-	-	-18	-18.367



View: Custom From: 5/8/07 4:40 PM To: 5/8/07 6:10 PM Europe/Helsinki Every: 1 hour(s)

My Custom Report

CIs Over Time

Time Range: 5/8/2007 4:00 PM - 6:00 PM
CIs: Outages (SLA: Outages)
KPI: Availability
Calendar: 24x7

Understanding the Header/Footer Page in the Custom Report Wizard

You can add a custom header and footer to your Custom report, using the **Header/Footer page** in the Custom Report Wizard. The custom header and footer can include free text, HTML tags used to mark up the text, hypertext links, JavaScript, as well as references to external resources such as images, Flash files, and so on. If you do not mark up the text, it is formatted according to the browser defaults.

You add the Custom Header and Footer into the **Report Header** and **Report Footer** panes, respectively.

HP Business Service Management adds the HTML header to the report below the report filter, and the HTML footer at the end of the report, immediately before closing the body tag.

Note:

- The header and footer you configure on the Header/Footer page overrides the default header and footer configured from the **Set default header/footer for all Custom & Trend reports** button in Report Manager.
- Use caution when marking up the header and footer fields, as some HTML code can affect the behavior of BSM. For example, a linked URL may contain JavaScript that causes the URL to be wider than the frames. Make sure you use valid HTML.
- It is recommended that you perform an external check of the HTML code used in the header and footer, as BSM does not perform any validity checks on the header and footer content.

For user interface details, see "Header/Footer Page" on page 88.

Tasks

How to Configure a Custom Report

This task describes how to configure a Custom Report.

This task includes the following steps:

- "Configure a Custom Report" on page 74
- "Specify a header/footer for the Custom Report – optional" on page 75
- "Schedule when to automatically run and email the Custom Report – optional" on page 75
- "Email the active Custom Report – optional" on page 75
- "Results" on page 75

1 Configure a Custom Report

You can create a customized report that includes selected application reports such as End User Management or System Availability Management reports.

You can also add URLs, Service Reports, or Custom Query reports that you configure inside Report Manager. You select these reports to present the data most relevant to you.

You configure Custom reports using the Custom Report Wizard, accessed from Report Manager. For user interface details, see "Custom Report Wizard" on page 85.

2 Specify a header/footer for the Custom Report – optional

You can specify a header/footer for the Custom Report. For concept details, see "Understanding the Header/Footer Page in the Custom Report Wizard" on page 73. For user interface details, see "Header/Footer Page" on page 88.

You can also specify a header/footer while configuring a Custom Report in the Custom Report Wizard. For user interface details, see "Custom Report Wizard" on page 85.

3 Schedule when to automatically run and email the Custom Report – optional

You can schedule when to automatically run and email the Custom Report. For task details, see "How to Schedule a Report" on page 49.

4 Email the active Custom Report – optional

You can email the active Custom Report. For task details, see "How to Email a Report" on page 61.

5 Results

The Custom Report you created includes the individual application reports you selected and enables you to focus on the data you are most interested in tracking. For details, see "Custom Report Page" on page 82.

How to Configure a Custom Report - Use Case Scenario

This use-case scenario describes how to configure a Custom Report.

Note: For a task related to this scenario, see "How to Configure a Custom Report" on page 74.

This scenario includes the following steps:

- "Configure the Custom Report" on page 76
- "Scheduling when to automatically run and email the Custom Report" on page 79
- "Analyzing the results" on page 80

1 Configure the Custom Report

The Administrator creates, for a specific user, a Custom Report that contains summary reports for each of the applications under the ownership of the user (Application Owner). The user wants the report to be generated every week on Monday morning at 8:00 am. The user also wants to be able to compare the report for the current week and the previous week to understand the trends. The report should also show the status of all applications sorted by location.

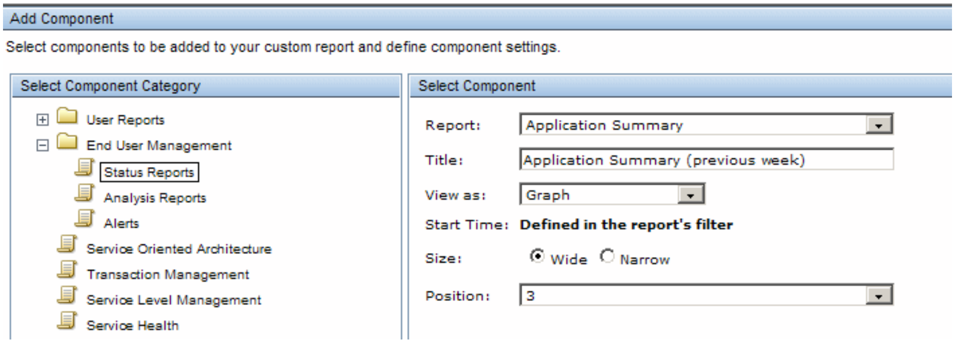
The Administrator:

a Selects **Applications** > **User Reports** > **Report Manager.**

b Clicks the **New** button and select **New Custom Report**. For user interface details, see "Custom Report Wizard" on page 85.

c Enters Application Summary Report in the **Report Name** box in the Report Properties page, and **Use separate time period for each report** (to enable the comparison of reports for the current week and the previous week) and clicks **Next**.

d In the Reports page, the Administrator clicks the **Add New Component** button and in the Add Component dialog box, he selects **End User Management** > **Status Report**; the Administrator then selects the Application Summary report in the **Type** box. The Administrator also enters a title in the **Title** box, and clicks **OK**.



Add Component

Select components to be added to your custom report and define component settings.

Select Component Category

- User Reports
- End User Management
  - Status Reports
  - Analysis Reports
  - Alerts
- Service Oriented Architecture
- Transaction Management
- Service Level Management
- Service Health

Select Component

Report: Application Summary

Title: Application Summary (previous week)

View as: Graph

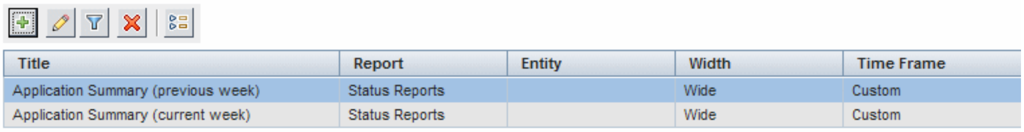
Start Time: **Defined in the report's filter**

Size: ● Wide ○ Narrow

Position: 3

e The Administrator clicks again the **Add New Component** button and in the Add Component dialog box, selects **End User Management** > **Status Report**. The Administrator then selects the Application Summary report in the **Type** box. The Administrator also enters a different title in the **Title** box, and clicks **OK**.

The list of selected reports is as follows:



Title	Report	Entity	Width	Time Frame
Application Summary (previous week)	Status Reports		Wide	Custom
Application Summary (current week)	Status Reports		Wide	Custom

f The administrator selects the first report, and clicks the **Edit Filter** button, selects the Past Week in the **View** list, and clicks **Configuration Items**. In the Configuration Items dialog box the Administrator selects all the relevant applications.

g The Administrator then clicks the **Active Filters** link to open the Active Filters dialog box and selects the relevant locations.

h The administrator selects the second report, and clicks the **Edit Filter** button, selects the Week in the **View** list, and clicks **Configuration Items** to open the Configuration Items dialog box. The Administrator can then select the same applications as for the first report.

i The Administrator then clicks the **Active Filters** link to open the Active Filters dialog box, and then selects the same locations as for the first report.

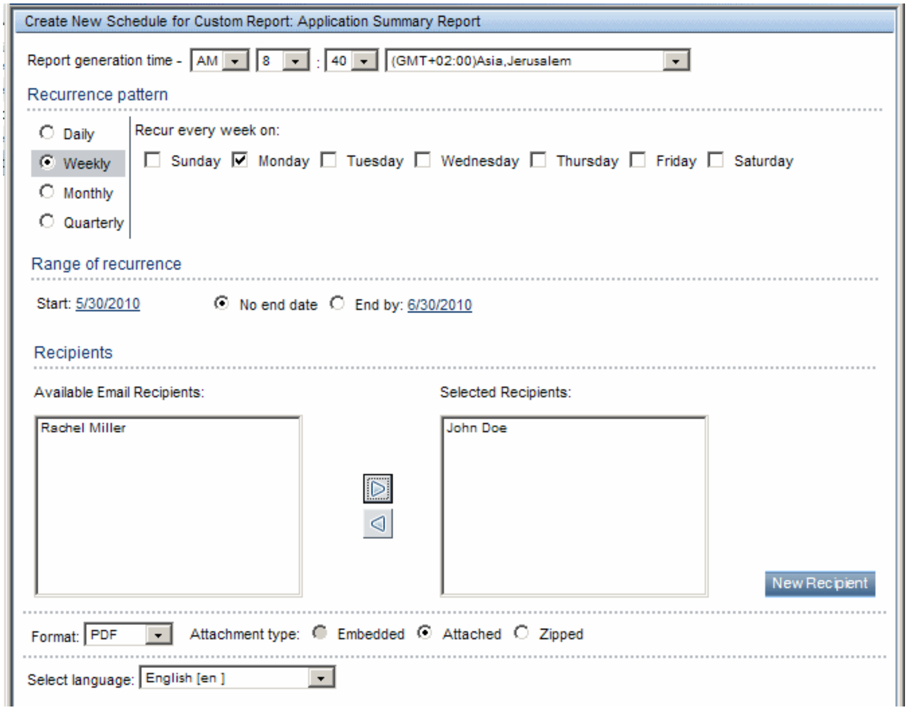
j The Administrator then clicks **Next**, and again **Next**, and previews the report in the **Preview** page. The Administrator selects to view the past week information. The Administrator then clicks **Finish** to save the report in Report Manager.

2 Scheduling when to automatically run and email the Custom Report

The Administrator selects to schedule the report to be sent every week on Monday morning (8:00 am).

a In Report Manager, the Administrator selects the Application Summary Report and clicks the **Create new schedule for selected reports** button to open the Create New Schedule for Custom Report Application Summary Report.

b The Administrator sets the **Report generation time** to 8:00 am, the **Recurrence pattern** to Weekly and Monday, and selects the relevant recipient and the report format as follows, and clicks **OK**.



Create New Schedule for Custom Report: Application Summary Report

Report generation time - AM 8 : 40 (GMT+02:00)Asia,Jerusalem

Recurrence pattern

○ Daily
● Weekly
○ Monthly
○ Quarterly

Recur every week on:
☐ Sunday ☑ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday

Range of recurrence

Start: 5/30/2010 ● No end date ○ End by: 6/30/2010

Recipients

Available Email Recipients: Rachel Miller

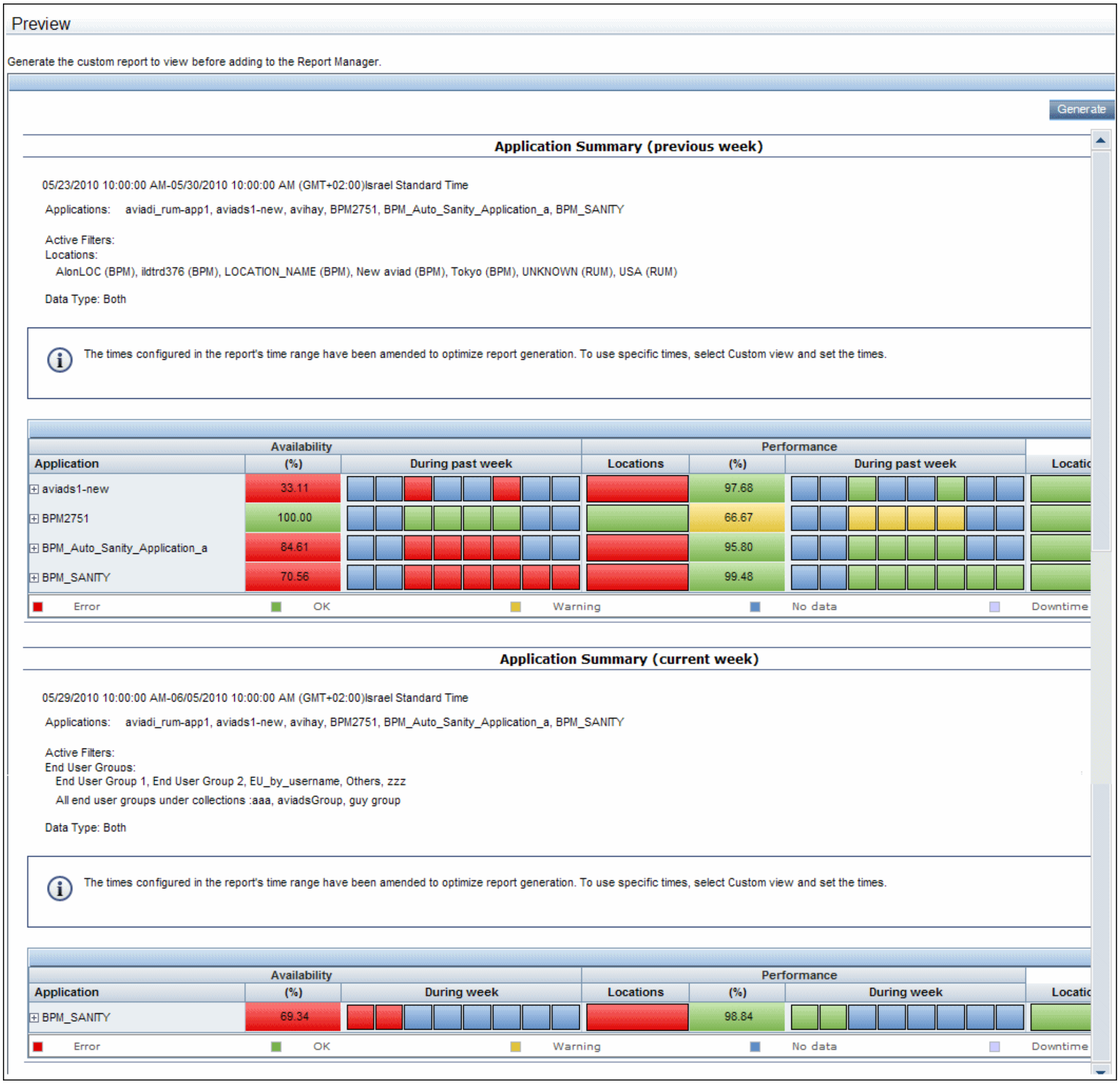
Selected Recipients: John Doe

Format: PDF Attachment type: ○ Embedded ● Attached ○ Zipped

Select language: English [en]

3 Analyzing the results

The report shows the same report for the current week and the past week. The report displays the applications sorted by availability. The user can analyze the report and look for the applications with bad availability or performance.



Generate the custom report to view before adding to the Report Manager.

Application Summary (previous week)

05/23/2010 10:00:00 AM-05/30/2010 10:00:00 AM (GMT+02:00)Israel Standard Time

Applications: aviadi_rum-app1, aviads1-new, avihay, BPM2751, BPM_Auto_Sanity_Application_a, BPM_SANITY

Active Filters:
Locations:
AlonLOC (BPM), ildtrd376 (BPM), LOCATION_NAME (BPM), New aviad (BPM), Tokyo (BPM), UNKNOWN (RUM), USA (RUM)

Data Type: Both

The times configured in the report's time range have been amended to optimize report generation. To use specific times, select Custom view and set the times.

	Availability		Performance			
Application	**(%)**	**During past week**	**Locations**	**(%)**	**During past week**	**Locatic**
⊞ aviads1-new	33.11	🟦🟦🟥🟦🟦🟥🟦🟦	🟥	97.68	🟦🟦🟩🟦🟦🟩🟦🟦	🟩
⊞ BPM2751	100.00	🟦🟦🟩🟩🟩🟩🟦🟦	🟩	66.67	🟦🟦🟨🟨🟨🟨🟦🟦	🟩
⊞ BPM_Auto_Sanity_Application_a	84.61	🟦🟦🟥🟥🟥🟥🟦🟦	🟥	95.80	🟦🟦🟩🟩🟩🟩🟦🟦	🟩
⊞ BPM_SANITY	70.56	🟦🟦🟥🟥🟥🟥🟥🟥	🟥	99.48	🟦🟦🟩🟩🟩🟩🟩🟩	🟩

🟥 Error 🟩 OK 🟨 Warning 🟦 No data ▢ Downtime

Application Summary (current week)

05/29/2010 10:00:00 AM-06/05/2010 10:00:00 AM (GMT+02:00)Israel Standard Time

Applications: aviadi_rum-app1, aviads1-new, avihay, BPM2751, BPM_Auto_Sanity_Application_a, BPM_SANITY

Active Filters:
End User Groups:
End User Group 1, End User Group 2, EU_by_username, Others, zzz
All end user groups under collections :aaa, aviadsGroup, guy group

Data Type: Both

The times configured in the report's time range have been amended to optimize report generation. To use specific times, select Custom view and set the times.

	Availability		Performance			
Application	**(%)**	**During week**	**Locations**	**(%)**	**During week**	**Locatic**
⊞ BPM_SANITY	69.34	🟥🟥🟦🟦🟦🟦🟦🟦	🟥	98.84	🟩🟩🟦🟦🟦🟦🟦🟦	🟩

🟥 Error 🟩 OK 🟨 Warning 🟦 No data ▢ Downtime

Reference

Custom Reports User Interface

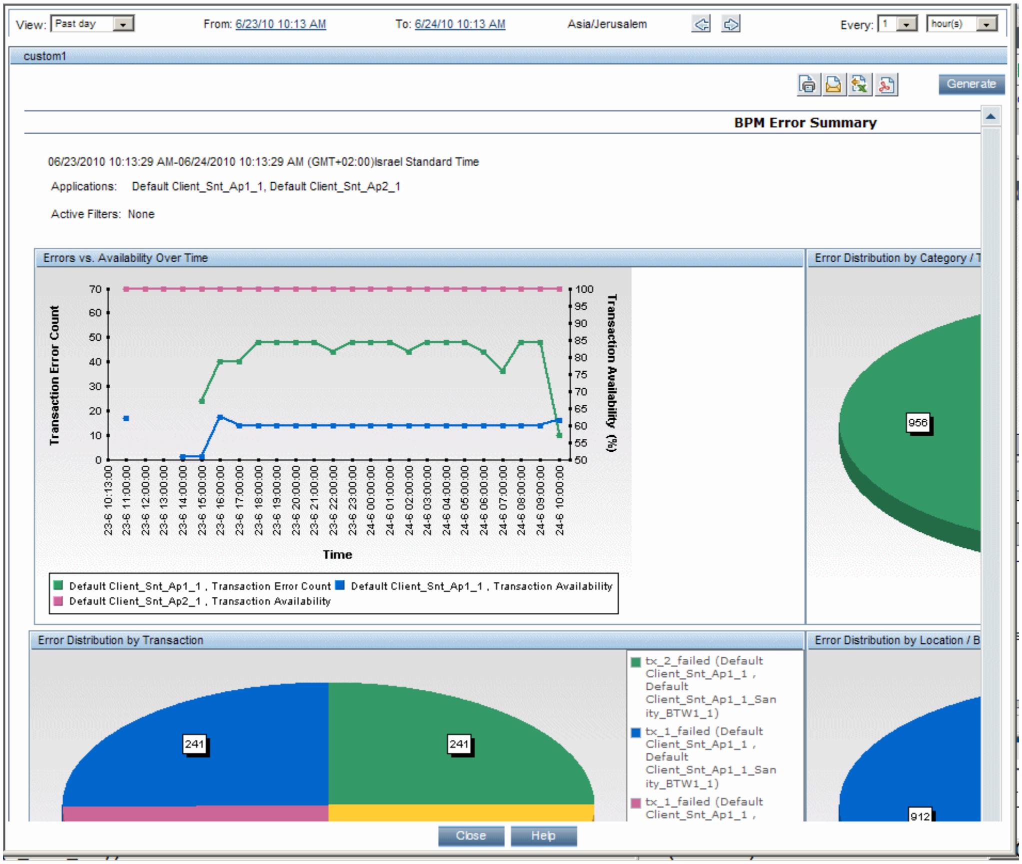
This section describes:

- Custom Report Page on page 82
- Custom Report Wizard on page 85
- Add Component Dialog Box on page 89
- Edit Component Properties Dialog Box on page 104
- Filters Dialog Box on page 105

Custom Report Page

This report displays the Custom report created in the Custom Report Wizard. You create Custom reports to view the data that you are most interested in tracking.

This is an example of a Custom report:



View: Past day
From: 6/23/10 10:13 AM
To: 6/24/10 10:13 AM
Asia/Jerusalem
Every: 1 hour(s)

custom1

BPM Error Summary

06/23/2010 10:13:29 AM-06/24/2010 10:13:29 AM (GMT+02:00)Israel Standard Time

Applications: Default Client_Snt_Ap1_1, Default Client_Snt_Ap2_1

Active Filters: None

Generate
Errors vs. Availability Over Time
Transaction Error Count
70
60
50
40
30
20
10
0
100
95
90
85
80
75
70
65
60
55
50
Transaction Availability (%)
23-6 10:13:00
23-6 11:00:00
23-6 12:00:00
23-6 13:00:00
23-6 14:00:00
23-6 15:00:00
23-6 16:00:00
23-6 17:00:00
23-6 18:00:00
23-6 19:00:00
23-6 20:00:00
23-6 21:00:00
23-6 22:00:00
23-6 23:00:00
24-6 00:00:00
24-6 01:00:00
24-6 02:00:00
24-6 03:00:00
24-6 04:00:00
24-6 05:00:00
24-6 06:00:00
24-6 07:00:00
24-6 08:00:00
24-6 09:00:00
24-6 10:00:00
Time
Default Client_Snt_Ap1_1 , Transaction Error Count
Default Client_Snt_Ap1_1 , Transaction Availability
Default Client_Snt_Ap2_1 , Transaction Availability
Error Distribution by Category / T
956
Error Distribution by Transaction
241
241
tx_2_failed (Default Client_Snt_Ap1_1 , Default Client_Snt_Ap1_1_Sanity_BTW1_1)
tx_1_failed (Default Client_Snt_Ap1_1 , Default Client_Snt_Ap1_1_Sanity_BTW1_1)
tx_1_failed (Default Client_Snt_Ap1_1 ,
Error Distribution by Location / B
912
Close
Help

To access	Select a Custom report in Report Manager main page and click the **View Report** button. The information displayed in the Custom report is dependent on the report components you added when configuring the report in the Custom Report Wizard.
See also	"Custom Reports - Overview" on page 68 "Custom Report Wizard" on page 85

Report Settings

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

UI Element (A-Z)	Description
<**Common report settings**>	For details, see "Common Report and Page Elements" on page 322.

UI Element (A-Z)	Description
<Header/Footer>	The header and footer of the report that were configured in one of the following locations: ➤ The Header/Footer page of the Custom Report Wizard. For user interface details, see "Header/Footer Page" on page 88. ➤ The Default Header/Footer dialog box which is displayed after clicking the **Set default header/footer for all Custom & Trend Reports** button on the Report Manager main page. For user interface details, see "Default Header/Footer Dialog Box" on page 40. ➤ The static report header and static report footer. To configure the static report header and footer, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**: ➤ Click the **Customer Settings** tab. ➤ Select **Foundations.** ➤ Select **Reporting**. ➤ In the Reporting - Display table locate **Display static report header** and **Display static report footer**. Modify the **Customer's Value** to the desired header and footer, as appropriate. **Note:** ➤ Settings configured in the Header/Footer page of the Custom Report Wizard override settings configured in the Default Header/Footer dialog box. ➤ Settings configured in the Default Header/Footer dialog box override settings configured in the HP Business Service Management Infrastructure Settings.
<Report Components>	The title of the report component, as configured in the Custom Report Wizard. The specific report components are described in the documentation for the specific report that you are viewing. For a list of all HP Business Service Management reports, see "Reports Overview" on page 22.

Custom Report Wizard

This wizard enables you to create customized reports that present the data most relevant to you.

To access	**Applications** > **User Reports** > **Report Manager**, click the **New** icon ✱▾ and select **New Custom Report**.
Important information	If you configure user-level or global-level report filters to filter specific transactions, locations, or groups from reports after creating a Custom report, the filtered values still appear in the reports. To remove any newly filtered values from existing Custom reports, you must remove and re-add the components containing the elements for which filters have been set, and save the report.
Wizard map	The Custom Report Wizard contains: Report Properties Page > Report Components Page > Header/Footer Page > Preview Page
See also	"Custom Reports - Overview" on page 68

Report Properties Page

This page enables you to configure general properties for your Custom report.

Important information	General information about the wizard is available at "Custom Report Wizard" on page 85.
Wizard map	The Custom Report Wizard contains: **Report Properties Page** > Report Components Page > Header/Footer Page > Preview Page

User interface elements are described below:

UI Element (A–Z)	Description
Automatic Generation	Choose an automatic generation setting for your report. Select from the following options: ➤ **Do not generate the report automatically.** Select to ensure that the report is run only on demand. ➤ **Refresh the report every x minutes.** Select to run and refresh the report every x minutes. Select the number of minutes from the drop down box.
Insert a page break after each component when printing the report	Select to insert a page break after each report component when printing the report.
Page Title	Enter a descriptive title for the Custom report. The title is displayed at the top of the page when you view the report.
Report Name	Enter a descriptive name for the Custom report. **Note:** This field automatically defaults to the value of the **Page Title** field.
Time Period	Choose whether you want to enable one time frame for all components in the Custom Report, or a separate time frame for each component.

Report Components Page

This page enables you to add components that contain the data most important to you to the Custom report.

Important information	General information about the wizard is available at "Custom Report Wizard" on page 85.
Wizard map	The Custom Report Wizard contains: Report Properties Page > **Report Components Page** > Header/Footer Page > Preview Page

User interface elements are described below:

UI Element (A–Z)	Description
➕	**Add new component.** Opens the Add Component dialog box where you can add a component to the customized report. You add a component based on the information you want to monitor. For user interface details, see "Add Component Dialog Box" on page 89.
✎	**Edit selected component.** Opens the Edit Component Properties dialog box where you can edit the selected component. For details user interface details, see "Edit Component Properties Dialog Box" on page 104.
✖	**Remove selected components.** Removes the selected components from the custom report.
▽	**Edit filter.** Enables you to configure filters and specify the information to be retrieved for the selected component. For details, see "Filters Dialog Box" on page 105. **Note:** ➤ The elements displayed on the Component Filters dialog box depend on the component for which you are filtering. ➤ This button may not be enabled for all components.
☰	**Reset column width.** Resets the width of columns in the report components table. You click this button after you have modified the width of the table’s columns to return the width to its original state.
Entity	The profile, if applicable, to which the report component belongs. **Note:** This field is available only for the SiteScope Monitor Performance component category.
Report	The report component selected in the Add Component dialog box.

UI Element (A–Z)	Description
Time Frame	Displays a method for time range display for the component. ➤ **Global.** One time range is applied to all report components. This is displayed if you chose **Use one time period for all reports** in the **Time Period** field on the Reports Properties page. ➤ **<Time Interval>.** The interval at which the report is to be run. This is displayed if you chose **Use separate time period for each report** in the **Time Period** field on the Reports Properties page.
Title	The title of the component, as configured in the Add Component dialog box.
Width	Displays the size of the report component, as configured on the Component Properties page: ➤ **Wide.** The component is displayed across the whole page. ➤ **Narrow.** The component is displayed across half the page.

Header/Footer Page

This page enables you to add a Custom header or footer to your Custom report.

Important information	➤ The header and footer you configure on the Header/Footer page overrides the default header and footer configured from the **Set default header/footer for all Custom & Trend reports** button in Report Manager. ➤ General information about the wizard is available at "Custom Report Wizard" on page 85.
Wizard map	The Custom Report Wizard contains: Report Properties Page > Report Components Page > **Header/Footer Page** > Preview Page

Preview Page

This page displays the Custom report according to the properties configured in the Custom Report Wizard.

Important information	➤ The **Preview** page only displays the configured report; you cannot modify report parameters on the **Preview** page. ➤ **Note to HP Software-as-a-Service Customers:** If you selected **Do not generate the report automatically** in the Automatic Generation field on the Report Properties page, you must click the **Generate** button to view the report data. ➤ General information about the wizard is available at "Custom Report Wizard" on page 85.
Wizard map	The Custom Report Wizard contains: Report Properties Page > Report Components Page > Header/Footer Page > **Preview Page**

Add Component Dialog Box

This dialog box enables you to choose a component type and specific report to be included in your Custom report.

To access	Click the **Add New Component** ✳ button on the Report Components page in the Custom Report Wizard.
Important information	➤ Before selecting the **Service Report Builder** in the User Reports context, you must first create a Service Report in Report Manager to enable you to add that Service Report as a component to your Custom Report. For task details, see "How to Configure a Service Report in Report Manager" on page 171. ➤ Not all elements are available for all report components within each context. ➤ General information about the wizard is available at "Custom Report Wizard" on page 85.

See also	"Custom Report Wizard" on page 85 "Report Components Page" on page 86

User interface elements are described below:

UI Element (A–Z)	Description
Select Component	Customize the specific component you want added to your Custom report, based on the information you want to monitor. The contents of this area depend on the component category you selected.
Select Component Category	Select the type of report component you want added to your Custom report: ➤ "End User Management Components" on page 90 ➤ "User Report Components" on page 92 ➤ "System Availability Management Components" on page 95 ➤ "Service Oriented Architecture" on page 101 ➤ "Service Level Management Components" on page 102 ➤ "Service Health Report Components" on page 103 You must click the expand button next to the application contexts to view the available categories to choose from.

End User Management Components

User interface elements are described below (listed alphabetically):

UI Element (A–Z)	Description
Position	Select the position for the component within the Custom report, relative to the other components. Selecting 1 instructs HP Business Service Management to place the component at the top of the list (for the first component, you must select 1). **Note:** For a component to appear in the **Narrow** format (as configured in the **Size** field), you must have two **Narrow** components positioned consecutively.

UI Element (A–Z)	Description
Report	Select a report from the Report list. The list of available reports depends on the subcategory you selected. ➤ **Status Reports.** The BPM Performance Matrix, Most Active End User Subgroups, Most Popular Actions, Actions with Most Errors, Actions with Slowest Server Time, and Slowest End User Subgroups reports are part of the Global Statistics report available in EUM. For details about the available reports, see "Status Reports User Interface" in *Using End User Management*. ➤ **Analysis Reports.** For details about the available reports, see "Analysis Reports User Interface" in *Using End User Management*. ➤ **Alerts.** For details about the available reports, see "EUM Alert Reports User Interface" in *Using End User Management*.
Size	Select the size of the component's display: ➤ **Wide.** The component is to be displayed across the whole page. ➤ **Narrow.** The component is to be displayed across half the page.
Start Time	Select the default time period when the report initially starts running. You can select this time period only if you selected **Use separate time period for each report** when defining the report properties. If you selected **Use global setting for all reports**, this field displays **Use global settings**.
Title	Type the descriptive title that you want to appear in the report components table, or accept the default.
View As	Select **Graph** or **Table**, depending on the format in which you want HP Business Service Management to display the report. These options are not available for all reports. In a report with multi-tab layout, all tabs are displayed one after another.

User Report Components

This category includes the following subcategories:

- "URL" on page 92
- "Custom Query" on page 94
- "Service Report Builder" on page 95

URL

User interface elements are described below (listed alphabetically):

UI Element (A–Z)	Description
Height	Select the height of the frame size for the component. **Important:** Keep in mind the required frame size for correctly viewing the Web page content being accessed.
Interval	If you selected **Use separate time period for each report** when defining the report properties, select the time frame for which HP Business Service Management should run the report. Then configure when the report should start running in the **Start Time** field. If you selected **Enable time period per component** when defining the report properties, this field reads **Use global settings**.
Position	Select the position for the component within the Custom report, relative to the other components. Selecting **1** instructs HP Business Service Management to place the component at the top of the list (for the first component, you must select **1**). **Note:** For a component to appear in the Narrow format (as configured in the Size field), you must have two Narrow components positioned consecutively.
Size	Select the size to be displayed for the report component: ➤ **Wide.** The component is displayed across the whole page. ➤ **Narrow.** The component is displayed across half the page.

UI Element (A–Z)	Description
Title	Type the descriptive title that you want to appear in the report components table, or accept the default.
URL	Enter the URL you want to display in the report. The URL should contain the protocol (HTTP/HTTPS) string. If the URL includes parameters, specify them as required. For example, you can integrate links to external charts generated by third-party EMS software into the Custom report. You specify the URL as well as any parameters that you want the URL to process at runtime. **URL runtime templates** and **Add Template.** BSM provides two templates that you can use as the arguments for parameters that process report times: ➤ **Start Time.** Uses the argument **$$startTime$$** to return the start time for the report. ➤ **End Time.** Uses the argument **$$endTime$$** to return the end time for the report. To use one of the predefined arguments with a parameter in the URL, place the insertion point in the URL where you want to add the argument, select the required argument from the URL runtime templates list, and click **Add Template**. **Example:** A URL that uses parameters to return the chart type and start time of a report is: `http://www.myapp.com?graph=responsetime;starttime=$$startTime$$` **Note:** ➤ If the specified Web page includes JavaScript code that attempts to access the top frame, the browser displays an "access denied" error. To avoid this issue, set the browser to ignore JavaScript errors. ➤ This field is available only when the URL component category is selected.
Width	Select the width of the frame size for the component. **Important:** Keep in mind the required frame size for correctly viewing the Web page content being accessed.

Custom Query

User interface elements are described below (listed alphabetically):

UI Element (A–Z)	Description
Position	Select the position for the component within the Custom report, relative to the other components. Selecting **1** instructs HP Business Service Management to place the component at the top of the list (for the first component, you must select **1**). **Note:** For a component to appear in the Narrow format (as configured in the Size field), you must have two Narrow components positioned consecutively.
Report	Select to add the Custom Query Builder report component. For details on the Custom Query Builder report, see "Build a Custom Query Using Custom Query Builder" on page 247.
Size	Select the size to be displayed for the report component: ➤ **Wide.** The component is displayed across the whole page. ➤ **Narrow.** The component is displayed across half the page.
Start Time	Select the default time period when the report initially starts running. You can select this time period only if you selected **Use separate time period for each report** when defining the report properties. If you selected **Use one time period for all reports**, this field displays **Use global settings**.

Service Report Builder

User interface elements are described below (listed alphabetically):

UI Element (A–Z)	Description
Position	Select the position for the component within the Custom report, relative to the other components. Selecting **1** instructs HP Business Service Management to place the component at the top of the list (for the first component, you must select **1**). **Note:** For a component to appear in the Narrow format (as configured in the Size field), you must have two Narrow components positioned consecutively.
Report Title	Enter a descriptive title for the report. **Note:** This field is available only for the Service Report Builder component.
Select Report	Select a report to be included as a component for your Custom report. **Note:** This field is available only for the Service Report Builder component, after you have created a Service Report in Report Manager.
Size	Select the size to be displayed for the report component: ➤ **Wide.** The component is displayed across the whole page. ➤ **Narrow.** The component is displayed across half the page.

System Availability Management Components

This category includes the following subcategories:

- "SiteScope Monitor Performance" on page 96
- "SiteScope Cross-Performance" on page 98
- "SiteScope Reports" on page 99

SiteScope Monitor Performance

Use this selection to add the SiteScope Monitor Performance report to the active Custom Report. For user interface details, see "Monitor Performance Report" in *Using System Availability Management*.

User interface elements are described below (listed alphabetically):

UI Element (A–Z)	Description
Display	Select whether you want HP Business Service Management to display the best- or worst-performing monitors, and choose the number of monitors to be displayed in the report in the **Monitors** list. **Note:** This element is displayed only for the SiteScope Monitor Performance report.
Interval	➤ If you selected **Use separate time period for each report** when defining the report properties, select the time frame for which the report should start running. Then configure when the report should start running in the **Start Time** field. ➤ If you selected **Enable time period per component** when defining the report properties, select the time period when the report initially starts running in the **Interval** list.

UI Element (A–Z)	Description
Monitor Title	Specify the monitors (by their title, as defined in SiteScope) that you want to use as the data source for the custom report data. Leave empty to instruct HP Business Service Management to base the report on all values. You can use the asterisk symbol (*) as a wildcard to base the report on a subset of all values. For example, to name all CPU monitors in SiteScope with the naming convention cpu_<servername>, specify cpu* to include all CPU monitors in the Custom report. **Note:** ➤ It is not recommended to enter a wildcard as the first character in a string because the system is unable to use the Index tables when querying the database, thus slowing report generation times. ➤ The Monitor Title field is available only for the SiteScope Monitor Performance component.
Monitor Type	Select the monitor on which you want the Custom report data to be based. To base the report on all monitors, choose **All types**. **Note:** This field is available only for the SiteScope Monitor Performance component.
Position	Select the position for the component within the Custom report, relative to the other components. Selecting 1 instructs HP Business Service Management to place the component at the top of the list (for the first component, you must select 1). **Note:** For a component to appear in the **Narrow** format (as configured in the **Size** field), you must have two **Narrow** components positioned consecutively.
Profile	Select a profile for the SiteScope Monitor Performance report. **Note:** This field is available only for the SiteScope Monitor Performance component category.

UI Element (A–Z)	Description
Server Name	Specify the servers on which you want the Custom report data to be based. Leave empty to instruct HP Business Service Management to base the report on all values. **Note:** This field is available only for the SiteScope Monitor Performance component category.
Size	Select the size of the component's display: ➤ **Wide.** The component is to be displayed across the whole page. ➤ **Narrow.** The component is to be displayed across half the page.
Title	Type the descriptive title that you want to appear in the report components table, or accept the default.

SiteScope Cross-Performance

Use this selection to add the SiteScope Cross-Performance report to the active Custom Report. For user interface details, see "Cross-Performance Report" in *Using System Availability Management*.

User interface elements are described below (listed alphabetically):

UI Element (A–Z)	Description
Position	Select the position for the component within the Custom report, relative to the other components. Selecting 1 instructs HP Business Service Management to place the component at the top of the list (for the first component, you must select 1). **Note:** For a component to appear in the **Narrow** format (as configured in the **Size** field), you must have two **Narrow** components positioned consecutively.
Report	Displays Cross-Performance, to add the Cross-Performance report component to the Custom report. **Note:** This field is available only for the SiteScope Cross-Performance component category.

UI Element (A–Z)	Description
Size	Select the size of the component's display: ➤ **Wide.** The component is to be displayed across the whole page. ➤ **Narrow.** The component is to be displayed across half the page.
Start Time	Select the default time period when the report starts running. You can select this time period only if you selected **Use separate time period for each report** when defining the report properties. If you selected **Use one time period for all reports**, this field displays **Use global settings**.
Title	Type the descriptive title that you want to appear in the report components table, or accept the default.
View As	Select **Graph** or **Table**, depending on the format in which you want HP Business Service Management to display the report. In a report with multi-tab layout, all tabs are displayed one after another.

SiteScope Reports

User interface elements are described below (listed alphabetically):

UI Element (A–Z)	Description
Position	Select the position for the component within the Custom report, relative to the other components. Selecting 1 instructs HP Business Service Management to place the component at the top of the list (for the first component, you must select 1). **Note:** For a component to appear in the **Narrow** format (as configured in the **Size** field), you must have two **Narrow** components positioned consecutively.

UI Element (A–Z)	Description
Report	Select the relevant report. For details about the available reports, see "SAM Reports User Interface" in *Using System Availability Management*. **Note:** This field is available only for the SiteScope Cross-Performance component category.
Size	Select the size of the component's display: ➤ **Wide.** The component is to be displayed across the whole page. ➤ **Narrow.** The component is to be displayed across half the page.
Start Time	Select the default time period when the report initially starts running. You can select this time period only if you selected **Use separate time period for each report** when defining the report properties. If you selected **Use one time period for all reports**, this field displays **Use global settings**.
Title	Type the descriptive title that you want to appear in the report components table, or accept the default.
View As	Select **Graph** or **Table**, depending on the format in which you want HP Business Service Management to display the report. In a report with multi-tab layout, all tabs are displayed one after another.

Service Oriented Architecture

For future use. User interface elements are described below (listed alphabetically):

UI Element (A–Z)	Description
Position	Select the position for the component within the Custom report, relative to the other components. Selecting **1** instructs HP Business Service Management to place the component at the top of the list (for the first component, you must select **1**). **Note:** For a component to appear in the **Narrow** format (as configured in the Size field), you must have two **Narrow** components positioned consecutively.
Report	Select the relevant report. For details about the available reports, see "SOA Views and Reports User Interface" in *Solutions and Integrations*.
Size	Select the size to be displayed for the report component: ➤ **Wide.** The component is displayed across the whole page. ➤ **Narrow.** The component is displayed across half the page.
Start Time	Select the default time period when the report initially starts running. You can select this time period only if you selected **Use separate time period for each report** when defining the report properties. If you selected **Use one time period for all reports**, this field displays **Use global settings**.
Title	Type the descriptive title that you want to appear in the report components table, or accept the default.
View As	Select **Graph** or **Table**, depending on the format in which you want HP Business Service Management to display the report. In a report with multi-tab layout, all tabs are displayed one after another.

Service Level Management Components

User interface elements are described below (listed alphabetically):

UI Element (A–Z)	Description
Position	Select the position for the component within the Custom report, relative to the other components. Selecting 1 instructs HP Business Service Management to place the component at the top of the list (for the first component, you must select 1). **Note:** For a component to appear in the **Narrow** format (as configured in the **Size** field), you must have two **Narrow** components positioned consecutively.
Report	Select one of the listed reports. For details about the available reports, see "Service Level Management Application User Interface" in *Using Service Level Management*.
Size	Select the size to be displayed for the report component: ➤ **Wide.** The component is displayed across the whole page. ➤ **Narrow.** The component is displayed across half the page.
Start Time	Select the default time period when the report initially starts running. You can select this time period only if you selected **Use separate time period for each report** when defining the report properties. If you selected **Use one time period for all reports**, this field displays **Use global settings**.
Title	Type the descriptive title that you want to appear in the report components table, or accept the default.

Service Health Report Components

User interface elements are described below (listed alphabetically):

UI Element (A–Z)	Description
Position	Select the position for the component within the Custom report, relative to the other components. Selecting **1** instructs HP Business Service Management to place the component at the top of the list (for the first component, you must select **1**). **Note:** For a component to appear in the **Narrow** format (as configured in the Size field), you must have two **Narrow** components positioned consecutively.
Report	Select the report you want added to your Custom report. For details about the available reports, see "CI Status Reports User Interface" and "CI Status Alert Reports User Interface" in *Using Service Health*.
Size	Select the size to be displayed for the report component: ➤ **Wide.** The component is displayed across the whole page. ➤ **Narrow.** The component is displayed across half the page.
Start Time	Select the default time period when the report initially starts running. You can select this time period only if you selected **Use separate time period for each report** when defining the report properties. If you selected **Use one time period for all reports**, this field displays **Use global settings**.
Title	Type the descriptive title that you want to appear in the report components table, or accept the default.

Edit Component Properties Dialog Box

This dialog box enables you to edit the component's properties.

To access	Select a custom report component in the Report Components page in the Custom Report wizard and click the **View Report** button.
See also	"Custom Reports - Overview" on page 68 "Custom Report Wizard" on page 85

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

UI Element (A-Z)	Description
Position	Select the position for the component within the Custom report, relative to the other components. You must select 1 for the first component. That component is displayed at the top of the list of components. **Note:** For a component to appear in the **Narrow** format (as configured in the **Size** field), you must have two **Narrow** components positioned consecutively.
Report	The name of the report component.
Size	The display size of the report component in the active custom report. It can be **Wide** where the report component takes up the whole width of the custom report or **Narrow** where the report component takes up the half the width of the custom report.
Start time	The start time of the report component in the active custom report.
Title	The title of the report component in the active custom report.

Filters Dialog Box

This dialog box enables you to configure filters for the selected component.

To access	Click the **Edit Filter** button on the Reports page in the Custom Report Wizard. The **Edit Filter** button is not enabled for the Service Report Builder and URL components in the User Reports category.
Important information	➤ The elements displayed in this dialog box depend on the particular report you have selected. For details on the elements that are displayed, see the relevant documentation for the selected report. ➤ For a component that includes a time range comparison, the Component Filters window includes a **Time Ranges** option where you set the time ranges to be compared in the report. ➤ When the Custom report is set to **Use global settings for all components**, the available time ranges include **Global Time**. The global time range is determined by the time range selected when the report starts running, or by the time range set by the report schedule. ➤ If you do not have access permissions to the profile in the component (or to at least one of the profiles in a multi-profile component), or if the profile has been removed from the database, you cannot edit component filters.

User interface elements are described below:

UI Element (A–Z)	Description
Active Filters	Click the link to select the relevant transactions and/or locations by view or by CI.
Applications	Click the link to select the relevant applications by view or by CI.

Troubleshooting and Limitations

This section describes troubleshooting and limitations for Custom reports.

This section includes the following topics:

- "General" on page 106
- "Report Components" on page 107

General

This section describes general limitations of Custom reports.

- Within any one specific component, HP Business Service Management can display only those applications or business transaction flows that have the same settings for outlier values. Therefore, in the Custom Report Wizard, you should select a set of applications or business transaction flows that have the same setting for outlier values. For details on modifying outlier value settings for an application or for a business transaction flow, see "Edit Thresholds Dialog Box" in *Using End User Management*.
- After creating Custom reports, if you then configure user or global-level report filters to filter specific transactions, locations, or groups from reports, the filtered values still appear in the reports. To remove any newly filtered values from existing Custom reports, you must remove and re-add the components containing the elements for which filters have been set, and save the report.

Report Components

This section describes limitations relating to individual reports components.

- When configuring the Service Level Management report component and selecting **Use global settings for all components**, if a global time range is selected (at report generation) that does not match the time ranges of the SLA filtered in the Service Level Management component, the following message is displayed upon report generation: `No associated tracking periods exist.`
- If you have upgraded from a previous version of HP Business Service Management and have a Custom report containing the Response Time by Percentile Report component whose time period ends in the past (for example, two days ago, three days ago, and so forth), the time range for the report defaults to the shortest predefined time range that includes the previous setting. For example, for a report that was configured to end two days ago, the **Past Week** time range is used. For a report that was configured to end eight days ago, the **Past Month** time range is used. This limitation applies only if you have selected the **Use separate time period for each report** option in the Report Properties page of the Custom Report Wizard.
- To see data in the report after adding specific components, you must select CIs and KPIs in the filter.
- **Performance Analysis component limitation.**
  - When you open the Performance Analysis report (Go to **Application** > **EUM** > **Analysis Reports** > **Performance Analysis**, and select any time period, any application, and **Real User Data** in the report filter, the **Threshold Breaches by Location/Transaction** areas includes data. In the regular report, the Threshold Breaches by Location/Transaction component areas depend on the row selected in the top component of the report.
  - When you add a Performance Analysis component to a Custom Report (Go to **Applications** > **User Reports** > **Custom Report and select EUM** > **Analysis Reports** > **Performance Analysis**), the **Threshold Breaches by Location/Transaction** areas do not include data. In custom report, events are not supported, so the Threshold Breaches by Location/Transaction component is empty.

- **Workaround**: Create a Favorite Filter report instead of a custom report with the Performance Analysis component. To do that, select **Applications** > **EUM** > **Analysis Reports** > **Performance Analysis report**. Generate the Performance Analysis report with following filter: the relevant time period, the relevant applications, and the **Real User data** option. Click the **Save Favorite** button and specify the Favorite Filter name. In Custom Report, the Favorite Filter you have just created is listed in Report Manager.

6

Trend Reports

This chapter includes:

Concepts

- Trend Reports - Overview on page 110
- Understanding the Trend Report Scale on page 111
- Understanding the Header/Footer Page in the Trend Report Wizard on page 112

Tasks

- How to Configure a Trend Report on page 114
- How to Configure a Trend Report – Use Case Scenario on page 115

Reference

- Trend Reports User Interface on page 118

Troubleshooting and Limitations on page 139

Concepts

Trend Reports - Overview

Trend reports enable you to compare multiple measurements based on data collected by Business Process Monitor, Real User Monitor, and SiteScope. You can also add custom monitor data—including Real User Monitor data—to Trend reports.

Combining measurements for several monitors on the same chart enables you to:

- Analyze the relationship between transaction response time and availability.
- Analyze the relationship between network and server health.
- Analyze the same set of measurements over two time periods (for example, you can compare measurements for the past hour and the hour before that).
- Monitor infrastructure machine performance over a selected time range.

When viewing Trend reports, you can:

- Display data using different data aggregation methods and according to different groupings.
- Adjust the scale used when displaying a measurement.
- Add a custom header and footer to the report.
- View raw data when choosing a time range of two days or less.

When HP Business Service Management runs the Trend report, it displays data in time segments that differ depending on the time granularity you select in the Time Range and Granularity bar. For details on using the Time Range and Granularity bar, see "Running Reports" on page 306.

Trend reports are configured in the Trend Report Wizard, accessible from Report Manager in the User Reports context. For details on configuring a Trend report, see "Trend Report Wizard" on page 127.

To display an existing Trend report, select the relevant Trend report in Report Manager and click the **View Report** button. For details on the Trend report User Interface, see "Trend Report Page" on page 119.

Understanding the Trend Report Scale

Measurement values in the Trend report are displayed along the y-axis using a normalized scale. By default, the scale factor is automatically set for each measurement. If required, you can manually modify the scale factor for any measurement in the table on the Select Measurements page, for example, to better view multiple measurements whose data values span a wide range. For details, see "Select Measurements Page" on page 129.

When you manually modify the scale factor, the measurement values are automatically scaled by dividing the actual value by the value chosen in the scale list. Thus, a value of 100 with a scale setting of 0.1 is shown as 1000 along the y-axis. A value of 100 with a scale setting of 10 is shown as 10 along the y-axis.

Example: If at a given point in time Measurement A (whose scale value is set to Auto) has a value of 10 and Measurement B (whose scale value is set to 0.1) has a value of 90, the y-axis displays a range from 0-1000 to accommodate both values. If both measurements' scale settings are set to Auto the y-axis value ranges from 0-100.

Understanding the Header/Footer Page in the Trend Report Wizard

You can add a Custom Header and Footer to your Trend report, using the **Header/Footer page** in the Trend Report Wizard. The Custom Header and Footer can include:

- Free text
- HTML tags used to mark up the text
- Hypertext links
- JavaScript

The Custom Header and Footer can also include references to external resources such as images, Flash files, and so on. If you do not mark up the text, it is formatted according to the browser defaults.

You add the Custom Header and Footer into the **Report Header** and **Report Footer** panes, respectively.

HP Business Service Management adds the HTML header to the report directly below the report filter, and the HTML footer at the end of the report, immediately before closing the body tag.

Note:

- The header and footer you configure on the **Header/Footer** page overrides the default header and footer configured using the **Set default header/footer for all Custom & Trend reports** button in Report Manager.
- Use caution when marking up the header and footer fields, as some HTML code may affect the behavior of BSM. For example, a linked URL may contain JavaScript that causes the URL to "break out" of frames. Make sure you use valid HTML.
- It is recommended that you perform an external check of the HTML code used in the header and footer, as BSM does not perform any validity checks on the header and footer content.

For details on the **Header/Footer** page, see "Header/Footer Page" on page 138.

Tasks

How to Configure a Trend Report

This task describes how to configure a Trend report.

This task includes the following steps:

- "Configure a Trend Report" on page 114
- "Modify the maximum number of measurements displayed in the report – optional" on page 114
- "Specify a header/footer for the Trend Report – optional" on page 115
- "Schedule when to automatically run the Trend Report and send it by email – optional" on page 115
- "Email the active Trend Report – optional" on page 115
- "Results" on page 115

1 Configure a Trend Report

You configure Trend Reports from the Trend Report Wizard, accessed from Report Manager. For user interface details, see "Trend Report Wizard" on page 127.

2 Modify the maximum number of measurements displayed in the report – optional

To modify the maximum number of measurements displayed in a Trend report, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**.

- Select **Applications**.
- Select **End User Management/System Availability Management**.
- In the **End User Management/System Availability Management - Data** table, locate **Max Trend Report Measurements.** Change the value as necessary.

3 Specify a header/footer for the Trend Report – optional

You can specify a header/footer for the Trend Report. For concept details, see "Understanding the Header/Footer Page in the Trend Report Wizard" on page 112. For user interface details, see "Default Header/Footer Dialog Box" on page 40.

You can also specify a header/footer while configuring a Trend Report in the Trend Report Wizard. For user interface details, see "Trend Report Wizard" on page 127.

4 Schedule when to automatically run the Trend Report and send it by email – optional

You can schedule when to automatically run the Trend Report. For task details, see "How to Schedule a Report" on page 49.

5 Email the active Trend Report – optional

You can email the active Trend Report. For task details, see "How to Email a Report" on page 61.

6 Results

The Trend Report you created enables you to compare multiple measurements based on data collected by Business Process Monitor, Real User Monitor, and SiteScope.

How to Configure a Trend Report – Use Case Scenario

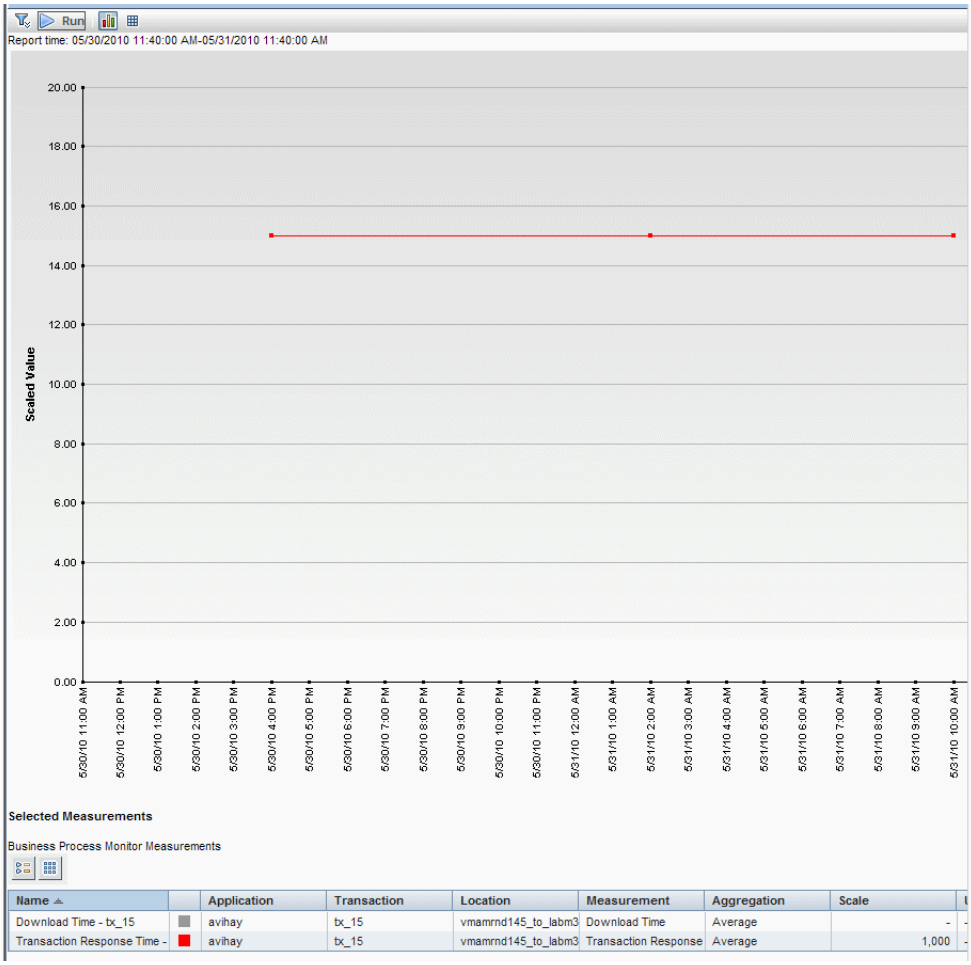
John also wants to receive a daily report comparison of Transaction Response Time and Download Time data within Business Process Monitor.

To receive such a report, John proceeds as follows:

1. He selects **Applications** > **User Reports** > **Report Manager.**
2. He clicks the **New** button, selects **New Trend Report** and navigates to the Select Measurements page.

3. He clicks the **Add New Component** button to open the Measurement Selection page, where he selects Business Process Monitor in the **Monitor type** box, and the relevant Application, Business Transaction Flow, Business Transaction, Location, and the counters he wants to compare: Transaction Response Time. He clicks **OK**.
4. He does the same selections as above, and in the **Counters** column he selects Download Time and clicks **OK**.
5. He can modify the default measurement color by clicking **Color Swatch** . For details on how to perform this task, see "Select Measurements Page" on page 129.
6. He clicks **Next** to add a header and footer to the Trend report.
7. He clicks **Next** to preview the report. In the Preview Report page, he selects the time period for which he wants to run the report.

8 The table below the graph lists the colors corresponding to each measurement and the graph displays the trend for these measurements.



Report time: 05/30/2010 11:40:00 AM-05/31/2010 11:40:00 AM

Selected Measurements

Business Process Monitor Measurements

Name ▲		Application	Transaction	Location	Measurement	Aggregation	Scale	U
Download Time - tx_15	▨	avihay	tx_15	vmamrnd145_to_labm3	Download Time	Average	-	-
Transaction Response Time -	🟥	avihay	tx_15	vmamrnd145_to_labm3	Transaction Response	Average	1,000	-

9 He clicks **Finish** to save the report. The new report is listed in Report Manager. He can now email the report, and schedule it to run at selected times.

Reference

Trend Reports User Interface

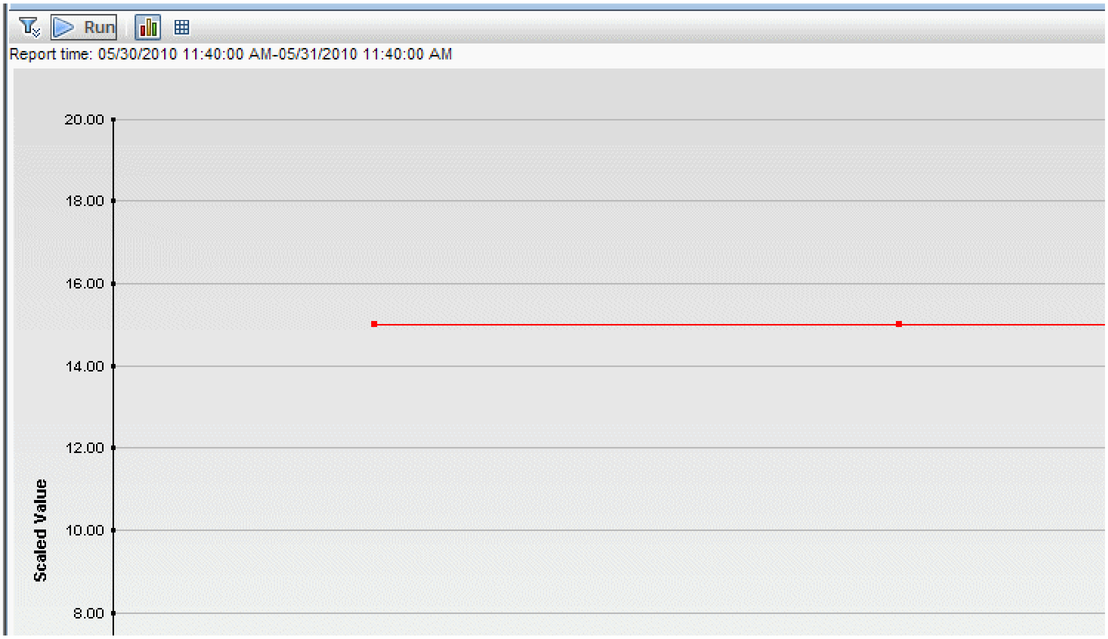
This section describes:

- Trend Report Page on page 119
- Trend Report Wizard on page 127

Trend Report Page

This report displays a data comparison of multiple measurements collected by Business Process Monitor and SiteScope. Trend reports enable you to analyze the effect of various aspects of your system on transaction response time.

This is an example of a Trend report:



To access	**Applications** > **User Reports** > **Report Manager**, select a Trend report in the table and click the **View Report** button to view the Trend report. ➤ Choose the **View as Graph** tab to view the Trend report data in graph format. ➤ Choose the **View as Table** tab to view the Trend report data in table format.
See also	"Trend Reports - Overview" on page 110

Report Settings

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

UI Element (A-Z)	Description
<Common report settings>	For details, see "Common Report and Page Elements" on page 322.
Every	Click to set a granularity by which to view the report. For details on setting the granularity of reports, see "Running Reports" on page 306.
Raw Data	Click to view every instance of data output for the selected transaction. **Note:** ➤ A point on the graph appears when there is a change in the data value or measurement frequency from the previous time point on the graph. However, if there has been no change in either of these areas over the course of one hour, a point is nevertheless displayed on the graph. ➤ A straight line on the graph with no points indicates the following: ➤ There has been no change in the value of the incoming data from the previous time point on the graph. ➤ There has been no change in the frequency that the incoming data is measured in since the previous time point on the graph. ➤ A gap in the graph indicates that no data has been retrieved for the specific time period.

Report Content as Graph

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

UI Element (A-Z)	Description
<**Data points**>	The time intervals that data is displayed for, based on the chosen granularity. For example, if you chose to view data every hour from March 18, 2008 at 2:00 PM to March 19, 2008 at 2:00 PM, the x-axis displays points of data for every hour from the report's start time to its end time. If **Raw data** is chosen instead of a granularity, every instance of a change in data output for the select transaction is displayed.
Comparison Time	The time range with which the selected Trend report is being compared. **Note:** This table is visible only if you selected the **Comparison Time** check box on the Trend Properties page of the Trend Report Wizard. The Comparison Time graph contains: ➤ **y-axis.** The value of the y-axis, as configured on the Trend Properties page in the Trend Report Wizard. ➤ <**Time stamp**>**.** The time range and granularity for which report data is displayed, based on the configurations set on the Time Range and Granularity Bar. For details on the Time Range and Granularity Bar, see "Running Reports" on page 306.
Report Time	The time range of the generated report. The Report Time graph contains: ➤ **y-axis.** The value of the y-axis, as configured in the Trend Properties page in the Trend Report Wizard. ➤ <**Time stamp**>**.** The time range and granularity for which report data is displayed, based on the configurations set on the Time Range and Granularity Bar. For details on the Time Range and Granularity Bar, see "Running Reports" on page 306.

UI Element (A-Z)	Description
Selected Measurements	The measurements chosen for the Trend report, grouped by monitor type, as configured in the Trend Report Wizard. For details on choosing Trend report measurements, see "Selected Measurements Table" on page 122.
Time Comparison	The time frames used for the comparison. This table contains the following elements: ➤ **<Left most column>.** Lists the table on which the time comparison is being measured. ➤ **From.** The time that the data comparison in the selected Trend report is to start. ➤ **To.** The time that the data comparison in the selected Trend report is to end. **Note:** This table is visible only if you selected the **Comparison Time** check box on the Trend Properties Page on page 128 of the Trend Report Wizard.

Selected Measurements Table

The Selected Measurements table contains the following elements (not all elements appear for all monitor types; unlabeled elements are shown in angle brackets):

UI Element (A-Z)	Description
<Color box/color swatch>	Displays the color of the selected measurement in the report, as configured in the Trend Report Wizard. Click the color swatch to customize the color.
Aggregation	The data aggregation method for the selected measurement, as configured in the Measurement Selection dialog box.
Group	The monitor group, as defined in the host properties.
Location	The location of the host machine. **Note:** This field is visible only for Business Process Monitor measurements.

UI Element (A-Z)	Description
Measurement	The measurement being monitored by the Trend report, as configured in the Measurement Selection dialog box.
Name	The name of the Trend report. **Tooltip:** The full name of the Trend report, as per the counter and transaction configured on the Measurement Selection page.
Profile	The monitor profile with which the selected measurement is associated.
Scale	The scale setting configured in the Trend Report Wizard which HP Business Service Management divides by the actual measurement value. Thus, a value of 100 with a scale setting of 0.1 is shown as 1000 along the y-axis. A value of 100 with a scale setting of 10 is shown as 10 along the y-axis.
Transaction	The monitor transaction with which the selected measurement is associated.
Used Aggr. Data	Displays the aggregation table from which data was taken. Options are: ➤ Daily ➤ Hourly **Note:** This option is not relevant for raw data.

Report Content as Table

When the View as Table option is chosen, the elements displayed depend on whether you have chosen to view aggregated data or raw data:

Aggregated Data Elements

The following elements are displayed when the **Every** option is selected on the Time Range and Granularity Bar (unlabeled elements are shown in angle brackets):

UI Element (A-Z)	Description
<Color box/color swatch>	Displays the color of the selected measurement in the report, as configured in the Trend Report Wizard. Click the color swatch to customize the color.
<Measurement name headers>	The measurement name headers correspond to the selections made on the Measurement Selection page, accessible from the Select Measurements page in the Trend Report Wizard. For details, see "Measurement Selection Page" on page 131. **Note: <Measurement name headers>** are displayed only when the **Every** option is selected on the Time Range and Granularity bar. For details on the Time Range and Granularity bar, see "Running Reports" on page 306.
<Time intervals>	Data output for the displayed time. **Note: <Time intervals>** are displayed only when the **Every** option is selected on the Time Range and Granularity bar. For details on the Time Range and Granularity Bar, see "Running Reports" on page 306.
Report Time	The time range of the generated report. The Report Time graph contains: ➤ **y-axis.** The value of the y-axis, as configured in the Trend Properties page in the Trend Report Wizard. ➤ **<Time stamp>.** The time range and granularity for which report data is displayed, based on the configurations set on the Time Range and Granularity Bar. For details on the Time Range and Granularity Bar, see "Running Reports" on page 306.

UI Element (A-Z)	Description
Selected Measurements	The measurements chosen for the Trend report, grouped by monitor type, as configured in the Trend Report Wizard. For details, see "Selected Measurements Table" on page 122.
Time Comparison	The comparison time frames. This table contains the following elements: ➤ **Name.** The name of the transaction being measured. ➤ <**Date and Time**> The date and time for which the data is being calculated. The data and time entries that appear are dependent on the configurations set on the Time Range and Granularity bar. For details on the Time Range and Granularity Bar, see "Running Reports" on page 306. **Note:** This table is visible only if you selected the **Comparison Time** check box on the Trend Properties page of the Trend Report Wizard.

Raw Data Elements

The following elements are displayed when the **Raw Data** option is selected on the Time Range and Granularity bar:

The last two tables are the same as in Aggregated Data Element. The difference is in Time, Measurement, and Value.

UI Element (A-Z)	Description
Comparison Time	The comparison time frames. **Note:** This table is visible only if you selected the **Comparison Time** check box on the Trend Properties page of the Trend Report Wizard. The Comparison Time Graph contains: ➤ **y-axis.** The value of the y-axis, as configured in the Trend Properties page in the Trend Report Wizard. ➤ **<Time stamp>.** The time range and granularity for which report data is displayed, based on the configurations set on the Time Range and Granularity bar. For details on the Time Range and Granularity Bar, see "Running Reports" on page 306.
Report Time	The time range of the generated report, based on the configurations set on Time Range and Granularity bar. This table displays the following elements: ➤ **Time.** The time that the selected data is generated for in the Trend report. ➤ **Measurement.** The measurement being monitored by the Trend report. ➤ **Value.** The value of the data in the specific measurement being monitored by the Trend report.
Selected Measurements	Displays tables of the measurements selected on the Measurement Selection Page, accessed from the Select Measurement page of the Trend Report Wizard. For details, see "Measurement Selection Page" on page 131.

UI Element (A-Z)	Description
Time Comparison	The comparison time frames. This table contains the following elements: ➤ **<Left most column>.** Lists the table on which the time comparison is being measured. ➤ **From.** The time that the data comparison in the selected Trend report is to start. ➤ **To.** The time that the data comparison in the selected Trend report is to end. **Note:** This table is visible only if you selected the **Comparison Time** check box on the Trend Properties page of the Trend Report Wizard.

Trend Report Wizard

This wizard enables you to configure a Trend report in Report Manager to compare multiple measurements from various monitors.

To access	**Applications** > **User Reports** > **Report Manager**, click the **New** icon ✳ ▾ and select **New Trend Report**.
Wizard map	The Trend Report Wizard contains: Trend Properties Page > Select Measurements Page > Measurement Selection Page > Header/Footer Page > Preview Report Page
See also	"Trend Reports - Overview" on page 110

Trend Properties Page

This page enables you to configure properties for your Trend report.

To access	**Applications** > **User Reports** > **Report Manager**, click the **New** icon ✳ ▾ and select **New Trend Report**.
Wizard map	The Trend Report Wizard contains: **Trend Properties Page** > Select Measurements Page > Measurement Selection Page > Header/Footer Page > Preview Report Page

User interface elements are described below:

UI Element (A-Z)	Description
Comparison start time	Click the checkbox to enable comparison of the measurements in the Trend report over multiple time periods. Click the date and time link to select a date and time for the comparison data to be measured. **Example:** To compare performance over two consecutive days, you could run a Trend report for one day starting Dec. 12 at midnight, and then generate the comparison data for one day starting Dec. 11 at midnight.
Page title	Enter a descriptive name for the report. This name appears at the top of the report display page.
Report name	Specify a report name to appear in Report Manager. **Default value:** The page title value.
Y-axis label	Enter the required label of the Y-axis. This text is used for the Y-axis in report charts.

Select Measurements Page

This page enables you to select the measurements to display in the merged report chart.

To access	Enter information in the Trend Properties page of the Trend Report Wizard.
Important information	➤ The fields displayed on the tables that appear on this page are configured on the measurement selection page. For an explanation of these fields, see "Measurement Selection Page" on page 131. ➤ You can compare the measurements in a Trend report for the selected time range to the same set of measurements over a similar time period, but for a different start date. For example, to compare performance over two consecutive days, you could run a Trend report for one day starting Dec. 12 at midnight, and then generate the comparison data for one day starting Dec. 11 at midnight. ➤ You can add up to 20 measurements to a Trend report.
Wizard map	The Trend Report Wizard contains: Trend Properties Page > **Select Measurements Page** > Measurement Selection Page > Header/Footer Page > Preview Report Page

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

UI Element (A-Z)	Description
➕	**Add measurements.** Opens the Measurement Selection page where you add measurements to your Trend report. For details, see "Measurement Selection Page" on page 131.
✖	**Delete measurement.** Deletes the selected measurement.
<Color box/color swatch>	Displays the color of the selected measurement in the report. Click the color swatch to customize the color.

UI Element (A-Z)	Description
<Common report elements>	For details, see "Common Report and Page Elements" on page 322.
Aggregation	The data aggregation method for the selected measurement, as configured on the Measurement Selection page.
Application	The Application CI you selected for the report.
Group	The monitor group, as defined in the host properties.
Location	The location of the host machine. **Note:** This field is visible only for Business Process Monitor measurements.
Measurement	The measurement being monitored by the Trend report, as configured on the Measurement Selection page.
Name	The name of the Trend report. **Tooltip:** Displays the full name of the Trend report, as per the counter or measurement and transaction (where applicable) that are configured on the Measurement Selection page.
Scale	The scale setting by which HP Business Service Management divides by the actual measurement value. Thus, a value of 100 with a scale setting of 0.1 is shown as 1000 along the y-axis. A value of 100 with a scale setting of 10 is shown as 10 along the y-axis. For details on adjusting the Trend report scale, see "Understanding the Trend Report Scale" on page 111.
Transaction	The monitor transaction with which the selected measurement is associated.

Measurement Selection Page

This page enables you to select measurements to add to your Trend report, per monitor type.

To access	Click the **Add Measurements** ✚ button on the Select Measurements page of the Trend Report Wizard.
Important information	➤ The filters displayed depend on the Monitor type you select in the **Monitor type** field. ➤ On this page, the measurements are grouped into tables by monitor type. You can optionally adjust the name and color of configured measurements, as well as the scale factor for each measurement in the **Scale** field on the table. For details on the Trend report scale, see "Understanding the Trend Report Scale" on page 111. ➤ Measurement filters differ per monitor category. Depending on the monitor type you choose, the user interface displays various filters by which you determine which measurements are to appear in the Trend report. You must select an entry from each list. ➤ For each monitor category, the user interface displays the counters (measurements) that are relevant to the selected groups or data types. You select the relevant counter (measurement) to add to your Trend report.
Wizard map	The Trend Report Wizard contains: Trend Properties Page > Select Measurements Page > **Measurement Selection Page** > Header/Footer Page > Preview Report Page
See also	"Trend Report Wizard" on page 127

User interface elements are described below:

UI Element (A-Z)	Description
Contains	Enter the measurement for which you want to search in the selected filter.
Data Aggregation Method	Select a data aggregation method. HP Business Service Management calculates the data to display for each time segment based on the data aggregation method you choose: ➤ **Average.** For each time segment, calculates and displays the average of all data collected during that segment. ➤ **Maximum.** For each time segment, displays the single highest data value that occurred during that segment. ➤ **Minimum.** For each time segment, displays the single lowest data value that occurred during that segment. ➤ **Count.** For each time segment, displays the number (count) of data values that occurred during that segment. ➤ **Sum.** For each time segment, displays the sum of data values that occurred during that segment.

UI Element (A-Z)	Description
Group by	Select a format by which to group results. ➤ **Transaction.** Results are shown per transaction. ➤ **Location.** Results are shown per host machine location. **Note:** This field is visible only if you chose the **Business Process Monitor** monitor type.
Monitor Type	Select the type of monitor whose measurements you want to include in the Trend report. The available monitors are: ➤ **Business Process Monitor**. Transaction-related data collected by the Business Process Monitor. For details, see "Business Process Monitor Filters" on page 134. ➤ **WebTrace.** WebTrace or traceroute data collected by the Business Process Monitor. For details, see "WebTrace Filters" on page 135. ➤ **SiteScope.** Infrastructure machine-related data collected by SiteScope. For details, see "SiteScope Filters" on page 136. ➤ **Real User Monitor.** Performance and availability data in real time collected by the Real User Monitor. For details, see "Real User Monitor Filters" on page 136. Real User Monitor Trend reports analyze the trend of performance and availability data for the pages, transactions, and end users that you configure for monitoring. **Note.** The data types listed under Real User Monitor (Actions, Transactions, End User Groups) are the same as the RUM Actions, RUM Transactions, and RUM End User Groups data types listed in the Custom monitor type list. Selecting them from the Real User Monitor monitor type list saves having to define measurement filters for them in the Measurement Filters page. ➤ **Custom.** Custom monitor data for which a filter has been defined in the Measurement Filters page. For details, see "Custom Filters" on page 138.

Business Process Monitor Filters

User interface elements are described below (listed alphabetically):

UI Element (A-Z)	Description
Application	Lists the Application CIs monitored by Business Process Monitors.
Business Transaction	Lists the Business Transaction CIs that are child CIs of the selected Business Transaction Flow CI.
Business Transaction Flow	Lists the Business Transaction Flow CIs that are child CIs of the selected Application CI. You can select: ➤ **<all>** to select all the available Business Transaction Flow CIs that are child CIs of the selected Application CI. ➤ Specific Business Transaction Flow CIs.
Counter	The metrics that represents data collected by the Business Process Monitor that monitors the selected application.
Location	Lists the Location CIs that are child CIs of the selected Business Transactions CI. The CI represents the location of the machines on which HP Business Service Management Business Process Monitor Agent is running. Only the Location CIs corresponding to the locations where the selected application is actually monitored, are listed in the filter.

WebTrace Filters

User interface elements are described below (listed alphabetically):

UI Element (A-Z)	Description
Application	Lists the Application CIs monitored by Business Process Monitors.
Business Transaction Flow	Lists the Business Transaction Flow CIs that are child CIs of the selected Application CI. If you select: ➤ A specific Business Transaction Flow CI, all the webtrace monitors configured for this Business Transaction Flow CI are included in the Trend report. ➤ **Application WebTraces**, to include in the Trend report, only the webtrace monitors configured on the application.
Counter	The metrics that represent data collected by the Business Process Monitor that monitors the selected application.
Location	Lists the Location CIs that are child CIs of the selected Business Transaction Flow CI. The CI represents the location of the machines on which HP Business Service Management Business Process Monitor Agent is running. Only the Location CIs corresponding to the locations where the selected application is actually monitored, are listed in the filter.

SiteScope Filters

User interface elements are described below (listed alphabetically):

UI Element (A-Z)	Description
Group Tree	Lists the defined SiteScope groups and subgroups of the selected Top Groups.
Measurement	Lists the SiteScope monitor and measurement information for the selected Top Groups. The measurement names are displayed using the following syntax: **monitor title | monitored server | counter**
Profile	Lists the SiteScope profiles (one per SiteScope).
Top Groups	Lists the defined top-level SiteScope groups for the selected profiles.

Real User Monitor Filters

User interface elements are described below (listed alphabetically):

UI Element (A-Z)	Description
Data Type	Lists the types of data the report can be generated for. Data types include: ➤ **Actions**. The actions that have been configured for monitoring by Real User Monitor. ➤ **Transactions**. The transactions that have been configured for monitoring by Real User Monitor. ➤ **End User Groups**. The end user groups that have been configured for monitoring by Real User Monitor.

UI Element (A-Z)	Description
Groups	If you selected the following data type: ➤ **Actions.** The Groups column lists all the applications monitored by RUM and their various tiers, as configured in EUM Administration. ➤ **Transactions and End User Groups.** The Groups column lists all the applications monitored by RUM as configured in EUM Administration. For details on configuring groups, see "Real User Monitor Administration" in *Using End User Management*.
Items	Lists the actions/transactions/end user groups available in the selected path; this is the actual filter that is to be used.
Measurements	Lists all the measurements available for the selected data type.
Paths	Lists the paths through the different levels of containers defined for each data type. The options are as follows: ➤ If you have selected the **End User Groups** data type, you can select either a specific path or the **End User Groups which are not defined under another group**. The second option displays all the end user groups that are not subgroups. ➤ If you have selected the **Transactions** data type, you can select either a specific path or the **All transactions defined directly under the application**. The second option lists all the Business Transactions that are defined directly under the selected application. ➤ If you have selected the **Actions** data type, you can select the top container or subcontainer by selecting paths with the following syntax: **<container>\<subcontainer>**. The column contains all the folders hierarchy available in the selected tier page gallery. When you select a path, only the pages configured in the selected container appear in the column.

Custom Filters

User interface elements are described below (listed alphabetically):

UI Element (A-Z)	Description
Data Type	The type of data for which the measurement filter is created.
Dimension	The name of a specific filter field.
Dimension Values	A specific instance of a field in custom data chosen when defining a measurement filter. You use dimension values to group data in a Trend report.
Filter Name	The available filters.
Measurement	The available measurements for the selected data type. Choose the measurement type that corresponds to the data you want to measure.

Header/Footer Page

This page enables you to add a custom header or footer to your Trend report.

To access	Enter parameters on the Trend Properties and Select Measurements pages in the Trend Report Wizard.
Wizard map	The Trend Report Wizard contains: Trend Properties Page > Select Measurements Page > Measurement Selection Page > **Header/Footer Page** > Preview Report Page
See also	"Understanding the Header/Footer Page in the Trend Report Wizard" on page 112

User interface elements are described below:

UI Element (A-Z)	Description
Footer HTML	Enter the text for the Footer.
Header HTML	Enter the text for the Header.

Preview Report Page

This page displays the Trend report according to the properties configured in the Trend Report Wizard.

Wizard map	The Trend Report Wizard contains: Trend Properties Page > Select Measurements Page > Measurement Selection Page > Header/Footer Page > **Preview Report Page**

User interface elements are described below:

UI Element (A-Z)	Description
<Common report elements>	For details, see "Common Report and Page Elements" on page 322.
Raw data	Select to display raw data instead of synthetic data in the report.
Selected Measurements	The tables display details about the measurements you selected in the Select Measurements page.

Troubleshooting and Limitations

This section includes troubleshooting and limitations for Trend reports.

- **Using user or global-level report filters.** After creating Trend reports, if you then configure user or global-level report filters to filter specific transactions, locations, or groups from reports, the filtered values still appear in the reports. To remove any newly filtered values from existing Trend reports, you must remove and re-add the components containing the elements for which filters have been set, and save the report.
- **Number of characters in measurement names larger than URL length.** If the total number of characters of all measurement names in the Trend report is larger than the maximum length of the URL configured in the server, the Trend report may not be run or previewed. If this happens, reduce the number of measurements in the Trend report or shorten the measurement names.

- **Permissions.** Permissions are granted by system administrators through the User Management interface, and can be enabled or revoked at any time. Thus, permissions to modify a Trend report that you create may be removed by the administrator at a later time.
- **Transactions whose response times exceed their outlier value.** Transactions whose response times exceed their outlier value (set in Transaction Threshold Settings in System Availability Management) are always displayed in Trend reports as failed transactions, even if the **Ignore outlier data in reports** setting is selected for the application or for the business transaction flow to which the transactions belong.

7

Access Custom and Trend Reports Using a URL

This chapter includes:

Concepts

- Access Custom and Trend Reports Using a URL Overview on page 142

Tasks

- How to Create a URL to Access Custom and Trend Reports on page 143

Reference

- Time Zones on page 148
- Language Codes on page 153

Concepts

Access Custom and Trend Reports Using a URL Overview

You can configure a URL that opens a report using one of the following options:

- **An automatically-created URL.** You can create a URL that can be used to open any report directly, use the **Generate URL** button in the Publish Report dialog box. For user interface details, see "Publish Report Dialog Box" on page 337. This feature is available in most reports.
- **Using the schedule report feature.** You can schedule any Custom report, Trend report or Favorite filter report using the scheduled report feature. For task details, see "How to Schedule a Report" on page 49.
- **A manually-created URL.** You can create such a URL to open Custom reports or Trend reports. For task details, see "How to Create a URL to Access Custom and Trend Reports" on page 143.

Tasks

How to Create a URL to Access Custom and Trend Reports

This task describes how to build a URL that opens a defined Custom report or Trend report directly in the browser, without being located in the BSM context.

Note: The following method (using **offlineReportServlert**) is valid for custom reports only; for other reports see "How to Create a Custom Query" on page 250 (using **directAccess**).

Build the URL using the following syntax:

```
http://<ServerName>/topaz/OfflineReportsServlet?
createSession=true
&offlineCustomerId=1
&outputFormat=1
&timeZoneId=<timeZone>
&filterProfileId=999
&actionForward=report
&timeFrame=<timeFrame>
&startTime=<startTime>
&endTime=<endTime>
&requestType=offline
&userlogin=<userLoginName>
&userpassword=<userLoginPassword>
&gmtOffset=<gmtOffset>
&useVIP=true
&skipNavBar=true
&offlineLocaleLanguage=<language_code>
&webinfra_doMHTzip=false
&reportName=Report_<reportID>
&stepUnit=<stepUnit>
&stepValue=<stepValue>
```

The order of the parameters is not important.

The parameters are described below:

Parameter	Value and Description
createSession	Mandatory. Use: true.
offlineCustomerId	Default: 1. In a multi-customer environment, like HP Software-as-a-Service, the customer ID may be different. Mandatory.
outputFormat	Mandatory. Use: 1.
timeZoneId	The time zone of the user location. Use the <**country**>/<**town**> format. For a list of the available time zones, see "Time Zones" on page 148. **Note:** If you use **timeZoneId**, do not use the **gmtOffset** parameter.
filterProfileId	This field is needed for historical reasons. You can use any value (for example: 999).
actionForward	Mandatory. Use: report.

Parameter	**Value and Description**
timeFrame	Use this parameter only for Custom Reports with the **Use global settings for all reports** option selected in the first page of the Custom Report wizard. In other reports or in Custom Reports with the **Use global settings for all reports** option cleared, the time range is already configured in the relevant report filter or in the filter of each component of the Custom Report. For user interface details, see "Custom Report Wizard" on page 85. You can use: **Custom** (in that case, specify the time range using **startTime** and **endTime** parameters), or **Day**, **Week**, or **Year** (in that case, specify either the **startTime** or the **endTime**).
startTime	Start time for the report. The date should use the format **YYYYMMDDHHmm**. The month index start from 0, so to view data from 21.06.2010 8:41 the start time should be: 2010**05**210841 **Note:** To understand when to use this parameter, see the description of **timeFrame**.
endTime	End time for the report (same details as startTime). The month index start from 0, so to view data from 21.06.2010 8:41 the start time should be: 2010**05**210841 **Note:** To understand when to use this parameter, see the description of **timeFrame.**
requestType	Mandatory. Use: offline.
userlogin	Valid user login name.
userpassword	Password for specified login name. **Warning:** If you do not use a https protocol, your password might be exposed to network sniffers.

Parameter	Value and Description
gmtOffset	The user location's GMT offset in minutes. **Note:** If you use **gmtOffset**, do not use the **timeZone** parameter.
useVIP	Mandatory. Use: true.
skipNavBar	Mandatory. Use: true.
offlineLocaleLanguage	Optional. Represents the locale language used to display the report. Use the lowercase 2-character ISO-639 language code. For example: en (for English). For a list of the language codes, see "Language Codes" on page 153.
webinfra_doMHTzip	Use: false to zip the attachment (for example to zip the PDF).
reportName	You can use one of the following options: ➤ Enter the actual report name (as seen in the reports repository and in the wizard). ➤ Enter the format: **Report_<reportId>**, using the CR_CUSTOM_REPORT_ID value for the report specified in the CUSTOM_REPORTS table in the management database. Note: Because you can enter **Report_<reportId>**, do not name user reports with the prefix **Report_**, as this may cause the wrong report to be loaded.
ServerName	The name of the HP Business Service Management server (Gateway Server in a distributed architecture). Mandatory.

Parameter	**Value and Description**
stepUnit	Optional. Use this parameter to specify the report time frame granularity, depending on the time range selected for the report. For example: if the report time range is a week, specify stepUnit=day and stepValue=1. It is recommended to use day or hour.
stepValue	Optional. Use this parameter to quantify the number of stepUnits to use for the report time frame granularity. For example: if the report time range is a week, specify stepUnit=day and stepValue=1.

Example:

```
http://<ServerName>/topaz/OfflineReportsServlet?createSession=true
createSession=true&offlineCustomerId=1&outputFormat=1&filterProfileId=999
&timeFrame=Day&requestType=offline&userlogin=admin&userpassword=admin
&gmtOffset=120&useVIP=true&startTime=201005210000&skipNavBar=true
&offlineLocaleLanguage=en&webinfra_doMHTzip=false&actionForward=report
&reportName=Report_1
```

Reference

Time Zones

The following list describes GMT time zones for locations throughout the world.

Note: Use only the Country/Town section of the strings listed below.

(GMT -11) Pacific/Niue
(GMT -11) Pacific/Apia
(GMT -11) MIT
(GMT -11) Pacific/Pago_Pago
(GMT -10) Pacific/Tahiti
(GMT -10) Pacific/Fakaofo
(GMT -10) Pacific/Honolulu
(GMT -10) HST
(GMT -10) America/Adak
(GMT -10) Pacific/Rarotonga
(GMT -9) Pacific/Marquesas
(GMT -9) Pacific/Gambier
(GMT -9) America/Anchorage
(GMT -9) AST
(GMT -8) Pacific/Pitcairn
(GMT -8) America/Vancouver
(GMT -8) America/Tijuana
(GMT -8) America/Los_Angeles
(GMT -8) PST
(GMT -7) America/Dawson_Creek
(GMT -7) America/Phoenix
(GMT -7) PNT
(GMT -7) America/Edmonton
(GMT -7) America/Mazatlan
(GMT -7) America/Denver
(GMT -7) MST
(GMT -6) America/Belize
(GMT -6) America/Regina
(GMT -6) Pacific/Galapagos
(GMT -6) America/Guatemala
(GMT -6) America/Tegucigalpa
(GMT -6) America/El_Salvador
(GMT -6) America/Costa_Rica
(GMT -6) America/Winnipeg
(GMT -6) Pacific/Easter
(GMT -6) America/Mexico_City
(GMT -6) America/Chicago
(GMT -6) CST
(GMT -5) America/Porto_Acre
(GMT -5) America/Bogota
(GMT -5) America/Guayaquil
(GMT -5) America/Jamaica
(GMT -5) America/Cayman
(GMT -5) America/Managua
(GMT -5) America/Panama
(GMT -5) America/Lima

(GMT -5) America/Indianapolis
(GMT -5) IET
(GMT -5) America/Nassau
(GMT -5) America/Montreal
(GMT -5) America/Havana
(GMT -5) America/Port-au-Prince
(GMT -5) America/Grand_Turk
(GMT -5) America/New_York
(GMT -5) EST
(GMT -4) America/Antigua
(GMT -4) America/Anguilla
(GMT -4) America/Curacao
(GMT -4) America/Aruba
(GMT -4) America/Barbados
(GMT -4) America/La_Paz
(GMT -4) America/Manaus
(GMT -4) America/Dominica
(GMT -4) America/Santo_Domingo
(GMT -4) America/Grenada
(GMT -4) America/Guadeloupe
(GMT -4) America/Guyana
(GMT -4) America/St_Kitts
(GMT -4) America/St_Lucia
(GMT -4) America/Martinique
(GMT -4) America/Montserrat
(GMT -4) America/Puerto_Rico
(GMT -4) PRT
(GMT -4) America/Port_of_Spain
(GMT -4) America/St_Vincent
(GMT -4) America/Tortola
(GMT -4) America/St_Thomas
(GMT -4) America/Caracas
(GMT -4) Antarctica/Palmer
(GMT -4) Atlantic/Bermuda
(GMT -4) America/Cuiaba
(GMT -4) America/Halifax
(GMT -4) Atlantic/Stanley
(GMT -4) America/Thule
(GMT -4) America/Asuncion
(GMT -4) America/Santiago
(GMT -3) America/St_Johns
(GMT -3) CNT
(GMT -3) America/Fortaleza
(GMT -3) America/Cayenne
(GMT -3) America/Paramaribo
(GMT -3) America/Montevideo
(GMT -3) America/Buenos_Aires
(GMT -3) AGT
(GMT -3) America/Godthab
(GMT -3) America/Miquelon
(GMT -3) America/Sao_Paulo
(GMT -3) BET
(GMT -2) America/Noronha
(GMT -2) Atlantic/South_Georgia
(GMT -1) Atlantic/Jan_Mayen
(GMT -1) Atlantic/Cape_Verde
(GMT -1) America/Scoresbysund
(GMT -1) Atlantic/Azores
(GMT +0) Africa/Ouagadougou
(GMT +0) Africa/Abidjan
(GMT +0) Africa/Accra
(GMT +0) Africa/Banjul
(GMT +0) Africa/Conakry
(GMT +0) Africa/Bissau
(GMT +0) Atlantic/Reykjavik
(GMT +0) Africa/Monrovia
(GMT +0) Africa/Casablanca
(GMT +0) Africa/Timbuktu
(GMT +0) Africa/Nouakchott
(GMT +0) Atlantic/St_Helena
(GMT +0) Africa/Freetown
(GMT +0) Africa/Dakar

(GMT +0) Africa/Sao_Tome
(GMT +0) GMT
(GMT +0) Atlantic/Faeroe
(GMT +0) Europe/Dublin
(GMT +0) Europe/London
(GMT +1) Africa/Porto-Novo
(GMT +1) Africa/Kinshasa
(GMT +1) Africa/Libreville
(GMT +1) Africa/Niamey
(GMT +1) Africa/Ndjamena
(GMT +1) Africa/Algiers
(GMT +1) Europe/Tirane
(GMT +1) Europe/Brussels
(GMT +1) Europe/Prague
(GMT +1) Europe/Copenhagen
(GMT +1) Europe/Gibraltar
(GMT +1) Europe/Rome
(GMT +1) Europe/Luxembourg
(GMT +1) Europe/Monaco
(GMT +1) Africa/Windhoek
(GMT +1) Europe/Oslo
(GMT +1) Europe/Stockholm
(GMT +1) Europe/Paris
(GMT +2) Africa/Bujumbura
(GMT +2) Africa/Lubumbashi
(GMT +2) Africa/Blantyre
(GMT +2) Africa/Kigali
(GMT +2) Africa/Mbabane
(GMT +2) Africa/Harare
(GMT +2) Africa/Johannesburg
(GMT +2) Europe/Minsk
(GMT +2) Europe/Tallinn
(GMT +2) ART
(GMT +2) Europe/Athens
(GMT +2) Asia/Amman
(GMT +1) Europe/Vilnius
(GMT +0) Africa/Lome
(GMT +0) UTC
(GMT +0) Atlantic/Canary
(GMT +0) Europe/Lisbon
(GMT +1) Africa/Luanda
(GMT +1) Africa/Bangui
(GMT +1) Africa/Douala
(GMT +1) Africa/Malabo
(GMT +1) Africa/Lagos
(GMT +1) Africa/Tunis
(GMT +1) Europe/Andorra
(GMT +1) Europe/Vienna
(GMT +1) Europe/Zurich
(GMT +1) Europe/Berlin
(GMT +1) Europe/Madrid
(GMT +1) Europe/Budapest
(GMT +1) Europe/Vaduz
(GMT +2) Africa/Tripoli
(GMT +1) Europe/Malta
(GMT +1) Europe/Amsterdam
(GMT +1) Europe/Warsaw
(GMT +1) Europe/Belgrade
(GMT +1) ECT
(GMT +2) Africa/Gaborone
(GMT +2) Africa/Maseru
(GMT +2) Africa/Maputo
(GMT +2) Africa/Khartoum
(GMT +2) Africa/Lusaka
(GMT +2) CAT
(GMT +2) Europe/Sofia
(GMT +2) Asia/Nicosia
(GMT +2) Africa/Cairo
(GMT +2) Europe/Helsinki
(GMT +2) Asia/Jerusalem
(GMT +2) Asia/Beirut
(GMT +2) Europe/Riga

(GMT +2) Europe/Chisinau
(GMT +2) Europe/Bucharest
(GMT +2) Europe/Kaliningrad
(GMT +2) Asia/Damascus
(GMT +2) Europe/Kiev
(GMT +2) Europe/Istanbul
(GMT +2) EET
(GMT +3) Asia/Bahrain
(GMT +3) Africa/Djibouti
(GMT +3) Africa/Asmera
(GMT +3) Africa/Addis_Ababa
(GMT +3) EAT
(GMT +3) Africa/Nairobi
(GMT +3) Indian/Comoro
(GMT +3) Asia/Kuwait
(GMT +3) Indian/Antananarivo
(GMT +3) Asia/Qatar
(GMT +3) Africa/Mogadishu
(GMT +3) Africa/Dar_es_Salaam
(GMT +3) Africa/Kampala
(GMT +3) Asia/Aden
(GMT +3) Indian/Mayotte
(GMT +3) Asia/Riyadh
(GMT +3) Asia/Baghdad
(GMT +2) Europe/Simferopol
(GMT +3) Europe/Moscow
(GMT +3) Asia/Tehran
(GMT +3) MET
(GMT +4) Asia/Dubai
(GMT +4) Indian/Mauritius
(GMT +4) Asia/Muscat
(GMT +4) Indian/Reunion
(GMT +4) Indian/Mahe
(GMT +4) Asia/Yerevan
(GMT +4) NET
(GMT +4) Asia/Baku
(GMT +4) Asia/Aqtau
(GMT +4) Europe/Samara
(GMT +4) Asia/Kabul
(GMT +5) Indian/Kerguelen
(GMT +4) Asia/Tbilisi
(GMT +5) Indian/Chagos
(GMT +5) Indian/Maldives
(GMT +5) Asia/Dushanbe
(GMT +5) Asia/Ashkhabad
(GMT +5) Asia/Tashkent
(GMT +5) Asia/Karachi
(GMT +5) PLT
(GMT +5) Asia/Bishkek
(GMT +5) Asia/Aqtobe
(GMT +5) Asia/Yekaterinburg
(GMT +5) Asia/Calcutta
(GMT +5) IST
(GMT +5) Asia/Katmandu
(GMT +6) Antarctica/Mawson
(GMT +6) Asia/Thimbu
(GMT +6) Asia/Colombo
(GMT +6) Asia/Dacca
(GMT +6) BST
(GMT +6) Asia/Almaty
(GMT +6) Asia/Novosibirsk
(GMT +6) Indian/Cocos
(GMT +6) Asia/Rangoon
(GMT +7) Indian/Christmas
(GMT +7) Asia/Jakarta
(GMT +7) Asia/Phnom_Penh
(GMT +7) Asia/Vientiane
(GMT +7) Asia/Saigon
(GMT +7) VST
(GMT +7) Asia/Bangkok
(GMT +7) Asia/Krasnoyarsk
(GMT +8) Antarctica/Casey

(GMT +8) Australia/Perth
(GMT +8) Asia/Hong_Kong
(GMT +8) Asia/Macao
(GMT +8) Asia/Manila
(GMT +8) Asia/Taipei
(GMT +8) CTT
(GMT +8) Asia/Irkutsk
(GMT +9) Asia/Pyongyang
(GMT +9) Pacific/Palau
(GMT +9) JST
(GMT +9) Australia/Darwin
(GMT +9) Australia/Adelaide
(GMT +10) Australia/Hobart
(GMT +10) Pacific/Truk
(GMT +10) Pacific/Saipan
(GMT +10) Australia/Brisbane
(GMT +10) Australia/Sydney
(GMT +10) Australia/Lord_Howe
(GMT +11) Pacific/Efate
(GMT +11) SST
(GMT +11) Asia/Magadan
(GMT +12) Pacific/Kosrae
(GMT +12) Pacific/Majuro
(GMT +12) Pacific/Funafuti
(GMT +12) Pacific/Wallis
(GMT +12) Antarctica/McMurdo
(GMT +12) Pacific/Auckland
(GMT +12) Pacific/Chatham
(GMT +13) Pacific/Tongatapu
(GMT +14) Pacific/Kiritimati
(GMT +8) Asia/Brunei
(GMT +8) Asia/Ujung_Pandang
(GMT +8) Asia/Kuala_Lumpur
(GMT +8) Asia/Singapore
(GMT +8) Asia/Shanghai
(GMT +8) Asia/Ulan_Bator
(GMT +9) Asia/Jayapura
(GMT +9) Asia/Seoul
(GMT +9) Asia/Tokyo
(GMT +9) Asia/Yakutsk
(GMT +9) ACT
(GMT +9) Australia/Broken_Hill
(GMT +10) Antarctica/DumontDUrville
(GMT +10) Pacific/Guam
(GMT +10) Pacific/Port_Moresby
(GMT +10) Asia/Vladivostok
(GMT +10) AET
(GMT +11) Pacific/Ponape
(GMT +11) Pacific/Guadalcanal
(GMT +11) Pacific/Noumea
(GMT +11) Pacific/Norfolk
(GMT +12) Pacific/Tarawa
(GMT +12) Pacific/Nauru
(GMT +12) Pacific/Wake
(GMT +12) Pacific/Fiji
(GMT +12) Asia/Kamchatka
(GMT +12) NST
(GMT +13) Pacific/Enderbury
(GMT +13) Asia/Anadyr

Language Codes

The following list provides the language code and name.

aa	Afar
ab	Abkhazian
af	Afrikaans
am	Amharic
ar	Arabic
as	Assamese
ay	Aymara
az	Azerbaijani
ba	Bashkir
be	Byelorussian
bg	Bulgarian
bh	Bihari
bi	Bislama
bn	Bengali; Bangla
bo	Tibetan
br	Breton
ca	Catalan
co	Corsican
cs	Czech
cy	Welsh
da	Danish
de	German
dz	Bhutani
el	Greek
mi	Maori
mk	Macedonian
ml	Malayalam
mn	Mongolian
mo	Moldavian
mr	Marathi
ms	Malay
mt	Maltese
my	Burmese
na	Nauru
ne	Nepali
nl	Dutch
no	Norwegian
oc	Occitan
om	(Afan) Oromo
or	Oriya
pa	Punjabi
pl	Polish
ps	Pashto, Pushto
pt	Portuguese
qu	Quechua
rm	Rhaeto-Romance
rn	Kirundi
ro	Romanian

en	English	ru	Russian
eo	Esperanto	rw	Kinyarwanda
es	Spanish	sa	Sanskrit
et	Estonian	sd	Sindhi
eu	Basque	sg	Sangho
fa	Persian	sh	Serbo-Croatian
fi	Finnish	si	Sinhalese
fj	Fiji	sk	Slovak
fo	Faroese	sl	Slovenian
fr	French	sm	Samoan
fy	Frisian	sn	Shona
ga	Irish	so	Somali
gd	Scots;Gaelic	sq	Albanian
gl	Galician	sr	Serbian
gn	Guarani	ss	Siswati
gu	Gujarati	st	Sesotho
ha	Hausa	su	Sundanese
he	Hebrew (formerly iw)	sv	Swedish
hi	Hindi	sw	Swahili
hr	Croatian	ta	Tamil
hu	Hungarian	te	Telugu
hy	Armenian	tg	Tajik
ia	Interlingua	th	Thai
id	Indonesian (formerly in)	ti	Tigrinya
ie	Interlingue	tk	Turkmen
ik	Inupiak	tl	Tagalog

is	Icelandic
it	Italian
iu	Inuktitut
ja	Japanese
jw	Javanese
ka	Georgian
kk	Kazakh
kl	Greenlandic
km	Cambodian
kn	Kannada
ko	Korean
ks	Kashmiri
ku	Kurdish
ky	Kirghiz
la	Latin
ln	Lingala
lo	Laothian
lt	Lithuanian
lv	Latvian, Lettish
mg	Malagasy
tn	Setswana
to	Tonga
tr	Turkish
ts	Tsonga
tt	Tatar
tw	Twi
ug	Uighur
uk	Ukrainian
ur	Urdu
uz	Uzbek
vi	Vietnamese
vo	Volapuk
wo	Wolof
xh	Xhosa
yi	Yiddish (formerly ji)
yo	Yoruba
za	Zhuang
zh_cn	Chinese
zu	Zulu

8

Service Report

This chapter includes:

Concepts

- Service Report Overview on page 158
- Dimensions and Measurements on page 159
- Service Report Formats on page 162
- Status Function Automatic Measurements on page 166
- Tips and Tricks on page 167

Tasks

- How to Configure a Service Report in Report Manager on page 171
- How to Create a Customized Measurement on page 173

Reference

- Service Report User Interface on page 178

Troubleshooting and Limitations on page 228

Concepts

Service Report Overview

Service reports are Custom Reports that display selected data from data sources of the Service Level Management, Service Health, or other applications.

You can create a Service report by:

- Adding the Service Report component to a page or a module in MyBSM and then configuring the component. For details, see "How to Create Your MyBSM Workspace" in *Using MyBSM*.
- Creating a Service report in Report Manager. For details on performing this task, see "How to Configure a Service Report in Report Manager" on page 171. The Service report can then be added to a Custom Report in Report Manager. For details about adding components to a Custom Report, see "Report Components Page" on page 86.

Note: Service reports created in MyBSM are independent of Service reports created in Report Manager; when you create a Custom Report, you see only the Service reports created in Report Manager.

Dimensions and Measurements

The Service report uses data from the RTSM and profile databases corresponding to the data source of the different applications. These databases are configured for Online Analytical Processing (OLAP) and employ a multidimensional data model. The multidimensional data model creates a matrix of measurements and dimensions (cube) that maps and links them in a specific way for each application.

This section also includes the following topics:

- "About Dimensions and Measurements" on page 159
- "Impact of the Dimensions/Measurement Selection on the Report Structure" on page 160
- "Impact on the Type of Selection: Single Selection or Multiple Selection" on page 161

About Dimensions and Measurements

When you configure a Service report as a component in MyBSM or as a component in a Custom Report, you specify the source of the data, and you select the data source dimensions and measurements that you want to display in the report.

For example, when you create an SLA in Service Level Management, you specify the properties, such as SLA name, customer, and provider, that you use to get information about the status of the SLA. All the properties can be used as dimensions in Service reports for the Service Level Management application. For details about the SLA properties, see "New SLA/Edit SLA Wizard" in *Using Service Level Management*.

The measurements that are available depend on the data source and on the data source dimensions that you selected. The measurements are the parameters of the dimensions. For example, the measurements of the SLA dimension are the attributes of the SLA: Customer, Provider, Value, Objectives, and so on.

When you select one or more data sources in the Service report wizard, the dimensions and the measurements are linked by a map. Those links have an impact on the elements that you can select when building the report and on the possible location of those elements in the report. For details about the maps, see the "Impact of the Dimensions/Measurement Selection on the Report Structure" on page 160.

Note: When you select more than one data source in the Service Report Builder wizard, the dimensions and measurements maps are combined.

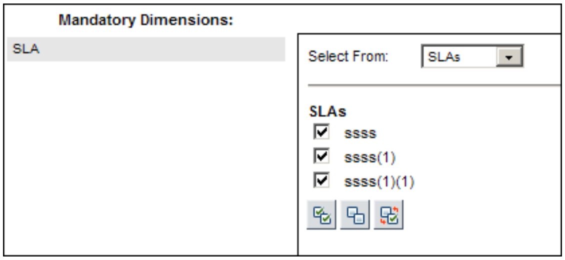
Impact of the Dimensions/Measurement Selection on the Report Structure

Some measurements automatically assume a specified position (row header, column header, orthogonal) in the Service report; for example in the **Service Level Management - SLA Status Data** data source, the SLA Overall Status measurement has a one-to-one link to the SLA dimension and is automatically orthogonal to the SLA dimension in the report. Special maps provide the relationships between dimensions and measurements. For details, see the map sections in "Select a Data Source Page" on page 194.

Other measurements (such as Forecast Status, or SLA Breached Date) have a one-to-many relation with multiple dimensions. In addition, they are linked to the same dimensions (they are in the same box in the map). Therefore, they do not have an automatic position in the report, and you must select where you want them to be displayed by selecting **As column headers** or **As row headers**.

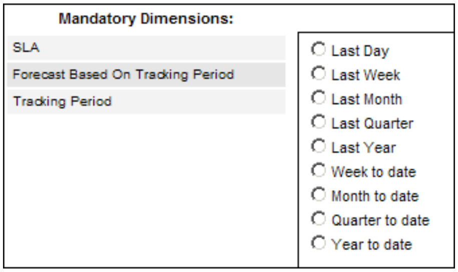
Impact on the Type of Selection: Single Selection or Multiple Selection

If you select a dimension (**SLA**) and a measurement (**SLA Overall Status**) that are simply linked to each other in the dimensions and measurements map, the Dimensions Filter displays a multiple-selection for the **SLA** dimension. This is because there is only one customer for each **SLA**. The values you can select from are the available SLAs.



If you select a measurement (**SLA Forecast Status**) that is linked to several dimensions in the map (**Forecast Based on Tracking Period**, **SLA**, and **Tracking Period**) and you have selected only one dimension (**SLA**) in the Dimensions Selection page, the Dimensions Filter displays all the other dimensions that are mapped to the measurement. This is because of the multidimensional data model of the databases where the data is located. To access the SLA Forecast Status measurement data relevant to the SLA dimension that you selected, you must also provide the values for the other dimensions in the data model. For details about the map, see "Service Level Management - SLA Status Data Dimensions and Measurements Map" on page 200.

The dimension you selected in the Select Dimensions page (**SLA**) is multi-selection and you must make a choice from among the available dimensions. Each of the other dimensions linked to the selected measurement is single-selection (fixed dimension).



Mandatory Dimensions:

- SLA
- Forecast Based On Tracking Period
- Tracking Period

○ Last Day
○ Last Week
○ Last Month
○ Last Quarter
○ Last Year
○ Week to date
○ Month to date
○ Quarter to date
○ Year to date

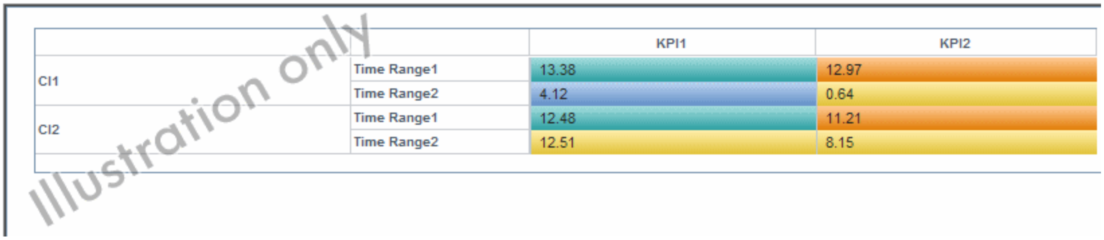
Multi-selection is different for each dimension.

Service Report Formats

You can format the Service report by selecting columns and row headers, by adding different column types in the same table, customizing the report structure, adding calculated columns, and combining data from multiple sources, such as SLM and additional data sources.

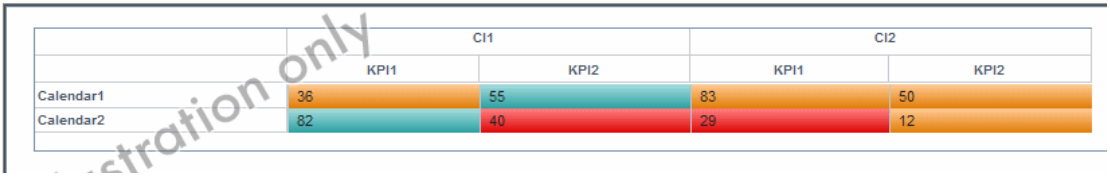
The Service report can have the following formats:

➤ **Pivot table.** You can use dimensions and measurements to create multiple column or row headers and you can choose where to locate them in the table. For example, a pivot table can have the following structure:



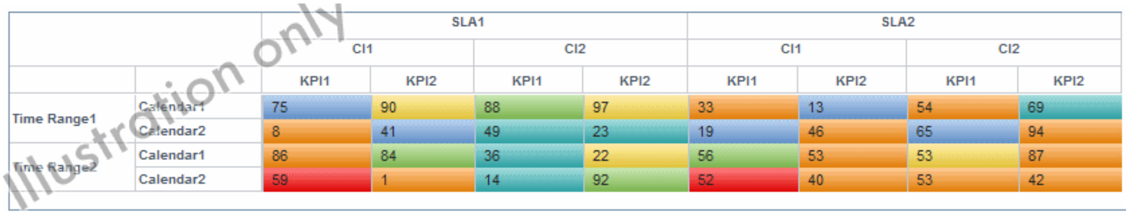
		KPI1	KPI2
CI1	Time Range1	13.38	12.97
	Time Range2	4.12	0.64
CI2	Time Range1	12.48	11.21
	Time Range2	12.51	8.15

- **Deeper hierarchy.** You can select several dimensions to be the column headers and more than one dimension to be the rows header. For example, a deeper hierarchy table with 3 headers is as follows:



	CI1		CI2	
	KPI1	KPI2	KPI1	KPI2
Calendar1	36	55	83	50
Calendar2	82	40	29	12

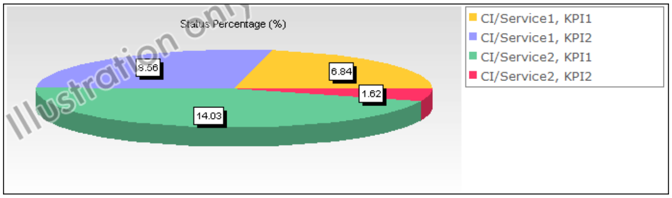
- **Measurements per dimension.** For each dimension, you can select what you want to display: values, status, objectives, background status color, and so on. An example of such a table is as follows:



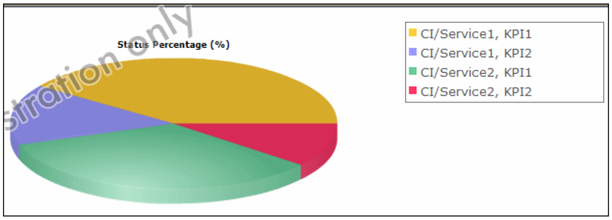
		SLA1				SLA2			
		CI1		CI2		CI1		CI2	
		KPI1	KPI2	KPI1	KPI2	KPI1	KPI2	KPI1	KPI2
Time Range1	Calendar1	75	90	88	97	33	13	54	69
	Calendar2	8	41	49	23	19	46	65	94
Time Range2	Calendar1	86	84	36	22	56	53	53	87
	Calendar2	59	1	14	92	52	40	53	42

Note: In the regular cells of a table, numeric content is right-aligned and text content is left-aligned. In header cells, the cell content is centered.

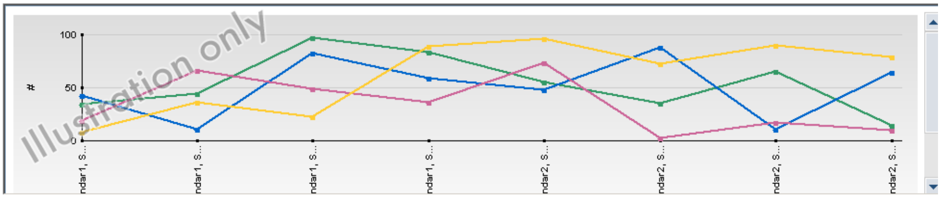
- **Charts.** You can display the report as a **Line**, **Pie**, **Area**, **Bar**, or **Stacked Bar** chart. You can also use the 3D and/or Flash technology to format the chart. For example:
  - 3D:



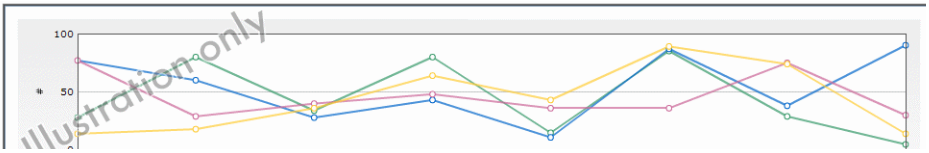
- 3D and Flash:



- Line without Flash:



- Line with Flash:



Other Possible Structures

A Service report can display:

- The value of the measurement:

	Availability		**Performance**	
	24x7	**Business Hours**	**24x7**	**Business Hours**
CI1	90	80	90	70
CI2	10	20	10	30

- The status of the measurement:

	Availability		**Performance**	
	24x7	**Business Hours**	**24x7**	**Business Hours**
CI1	Breached	Minor breached	Met	Met
CI2	Exceeded	Met	Exceeded	Met

- Both the value and status of the measurement. You can choose between the following structures:
  - Vertical merge (select **As column headers**):

	Availability				**Performance**			
	24x7		**Business Hours**		**24x7**		**Business Hours**	
	Value	**Status**	**Value**	**Status**	**Value**	**Status**	**Value**	**Status**
CI1	90	Breached	80	Minor breached	90	Met	70	Met
CI2	10	Exceeded	20	Met	10	Exceeded	30	Met

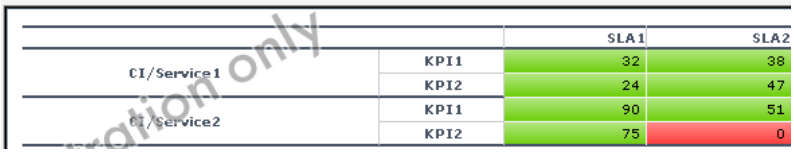
  - Horizontal merge (select **As Row headers**):

		Availability		**Performance**	
		24x7	**Business Hours**	**24x7**	**Business Hours**
CI1	Value	90	80	90	70
	Status	Breached	Minor breached	Met	Met
CI2	Value	10	20	10	30
	Status	Exceeded	Met	Exceeded	Met

Status Function Automatic Measurements

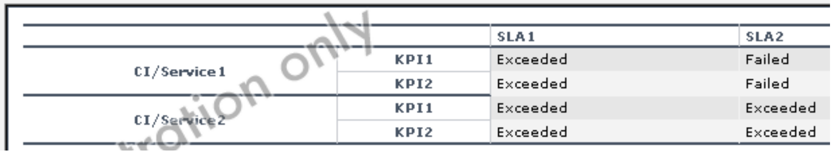
When you use the **Status** function to create a calculated measurement, the following additional measurements are automatically created:

- **<Compare_measurement_selection> (<new_measurement_name> as background)**. This measurement displays the value of the measurement you selected in the **Compare measurement** list and the status of the measurement when compared to the thresholds you selected in **To threshold** as the background color for the cell in the table.



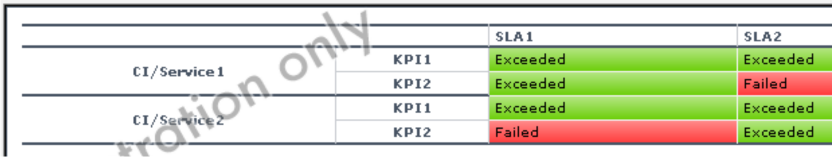
		SLA1	SLA2
CI/Service1	KPI1	32	38
	KPI2	24	47
CI/Service2	KPI1	90	51
	KPI2	75	0

- **<new_measurement_name>**. This measurement displays the status of the measurement you selected in the **Compare measurement** list when compared to the thresholds you selected in **To threshold** as the name of the threshold.



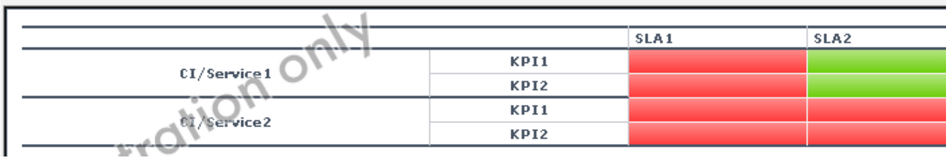
		SLA1	SLA2
CI/Service1	KPI1	Exceeded	Failed
	KPI2	Exceeded	Failed
CI/Service2	KPI1	Exceeded	Exceeded
	KPI2	Exceeded	Exceeded

- **<new_measurement_name> (<new_measurement_name> as background**). This measurement displays the status of the measurement you selected in the **Compare measurement** list when compared to the thresholds you selected in **To threshold** as the name of the threshold and as the background color for the cell in the table.



		SLA1	SLA2
CI/Service1	KPI1	Exceeded	Exceeded
	KPI2	Exceeded	Failed
CI/Service2	KPI1	Exceeded	Exceeded
	KPI2	Failed	Exceeded

- **<new_measurement_name> as background**. This measurement displays the status of the measurement you selected in the **Compare measurement** list when compared to the thresholds you selected in **To threshold** as the background color for the cell in the table.



		SLA1	SLA2
CI/Service1	KPI1	🟥	🟩
	KPI2	🟥	🟩
CI/Service2	KPI1	🟥	🟥
	KPI2	🟥	🟥

Tips and Tricks

This section includes tips and tricks that you can use when creating a Service report.

This section includes the following topics:

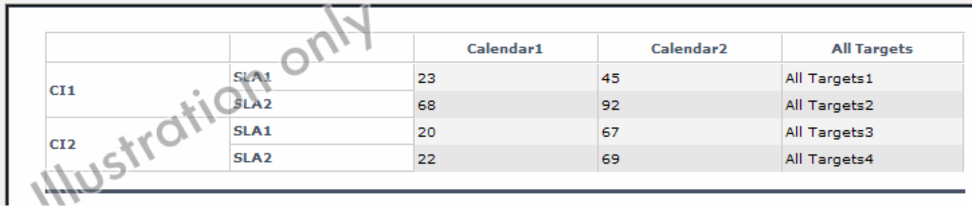
- "General Tips and Tricks" on page 167
- "Select Dimensions Page" on page 168
- "Select Measurements Page" on page 169
- "Calculated Measurement" on page 169
- "Select Dimensions Filter Page" on page 170

General Tips and Tricks

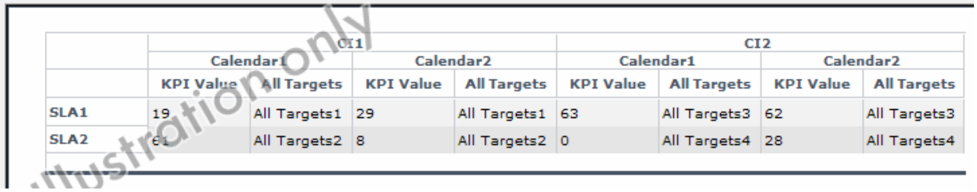
- Selecting the **Enable automatic preview** option enables you to see the changes you make to the report before you run the report.
- Click CTRL and use the mouse to perform a multi-selection of dimensions or measurements.
- When you create a Service report based on the Service Level Management data sources, you can display data for the **Targets** measurements, only if all the CIs included in the same SLA have the same threshold. Data is displayed if all the thresholds are linked to the **SLAs**, **CIs/Services**, and **KPIs** dimensions, and if all the Calendar and Target measurements are the same.

Select Dimensions Page

- It is recommended, when creating a Service report, to distribute the dimensions between the Rows and the Columns. In the measurement maps, check the dimensions that are linked to the measurements you are selecting. Then, try to distribute those dimensions between the rows and columns. For example, if you want to display the **KPI Value** and **All Targets** measurements and you have selected the **Calendar**, **CI**, and **SLA** dimensions, it is recommended not to have **CI** and **SLA** both in rows or columns but rather, to have one of them in rows and one of them in columns.



		Calendar1	Calendar2	All Targets
CI1	SLA1	23	45	All Targets1
	SLA2	68	92	All Targets2
CI2	SLA1	20	67	All Targets3
	SLA2	22	69	All Targets4



	CI1				CI2			
	Calendar1		Calendar2		Calendar1		Calendar2	
	KPI Value	All Targets	KPI Value	All Targets	KPI Value	All Targets	KPI Value	All Targets
SLA1	19	All Targets1	29	All Targets1	63	All Targets3	62	All Targets3
SLA2	61	All Targets2	8	All Targets2	0	All Targets4	28	All Targets4

- Reports in which you have moved the majority of the dimensions to the **Columns** box are wide, which might cause printing problems. Reports in which you have moved the majority of the dimensions to the **Rows** box are long.
- If you have selected the **SLAs** and **Calendar** dimensions, and you want to display data for lots of SLAs, it is recommended to set **SLAs** in Rows and **Calendar** in Columns. If you want to display data for many time intervals but for a limited number of SLAs, it is recommended to set **SLAs** in Columns and **Calendar** in Rows.

Select Measurements Page

- To create a narrower report, move the measurements to the **Rows** box if you have moved the majority of the dimensions to the **Columns** box (or vice versa). A new measurement then adds one more row to the report.
- The order of the measurements in the **Available Measurements** box in the Select Measurements page is by order of importance and not by alphabetical order.
- If you see the error message: **Some of the selections are incompatible and cause problems in the report structure (or Errors were encountered while trying to build the report)**, change the order of the selected dimensions in the Select Dimensions page or the order of the measurements in the Select Measurements page. If that does not work, change the order of the selections in the **Rows** and **Columns** boxes in the Select Dimensions page.
- If you add a calculated measurement and regular measurements to a report, the regular measurements always appear before the calculated, independently of the order you selected in the selection lists.

Calculated Measurement

- It is important to add a meaningful description when you create a new measurement, because the description appears as a tooltip in the report and describes what the measurement represents: the measurements that are used, the type of calculation, the dimension on which the calculation is based, and so on. For example, the difference between the SLA KPI value and the target Exceeded, compared by Time interval.
- To ensure that you are using the **Difference** calculated measurement in the correct way, it is recommended to add the measurements you selected in the **First measurement** and in the **Second measurement** boxes to the report and to verify that the **Difference** calculation is done in the correct order. If it is not, switch the measurements you selected from the **First measurement** to the **Second measurement** boxes and vice versa.

- All dimensions that you did not select in the Select Dimensions page can be used as the base for an aggregation measurement, but you do not have to necessarily select multiple values in the Select Dimensions Filter page. For example, if you have selected the **SLA** and **CI** dimensions in rows and the **KPIs** in columns, you can perform an aggregation over the **Time Interval** or the **Calendar** dimensions, which were not selected. In the Select Dimensions Filter page, both dimensions are multi-selection, but you can select multiple values for one dimension and one value for the other dimension; for example, **Last week** and **every one week**.

Select Dimensions Filter Page

To immediately see the impact of adding other dimensions to a report, click **Preview** or select the **Enable automatic preview** option. A mock-up of the report is displayed in the page lower box.

Tasks

How to Configure a Service Report in Report Manager

You can add a Service report to Report Manager. You configure the Service report using a wizard.

This task includes the following steps:

- "Install Flash to format the report using Flash Technology – optional" on page 171
- "Configure a Service Report in Report Manager" on page 171
- "Add a Service Report to a Custom Report" on page 172
- "Change the first day of month setting – optional" on page 172
- "Result" on page 172

1 Install Flash to format the report using Flash Technology – optional

To render the Service report charts using Flash, you must have the Macromedia Flash Player installed on your local machine. If you do not, the browser displays a message containing instructions on how to download Flash Player.

2 Configure a Service Report in Report Manager

To configure a Service report in Report Manager, select **Applications** > **User Reports** > **Report Manager**, click the **New** ✱ ▾ button and select **New Service Report** in the dropdown menu to open the Service Report Builder wizard.

Use the Service Report Builder wizard to configure the following information:

- Report properties
- Report format

- Data sources for the report
- Report dimensions
- Report measurements

While creating the Service report, you can also create new measurements that you can use immediately in the report.

For user interface details, see "Service Report Builder Wizard" on page 190.

3 Add a Service Report to a Custom Report

Once a Service report is available in Report Manager, you can add it to a Custom Report. For user interface details, see "Custom Report Wizard" on page 85.

Example - Create a Service Report for Online and for Print

If the Service Report component displays correctly online, but is too wide to be printed, you can clone it. In the cloned report, you can change the location of the dimensions or their order to create a printable report that includes the same data as the online report.

4 Change the first day of month setting – optional

To change the first day of the month setting (default is 1), select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**

- Select **Foundations**.
- Select **Calendar**.
- In the Calendar - Calendar Options table, locate the **First day of month**. Change the value to any value between 1 and 31.

Changing the **First day of month** setting affects Service reports and all other Service Health components.

5 Result

To display the Service report, select **Applications** > **User Reports**, select the relevant Service report and click the **View Report** 📊 button.

How to Create a Customized Measurement

You can create a customized measurement that performs an aggregation (Average, Max, Min, Sum, Best, Worst, Count Status, or Status Percentage) or performs a calculation (Difference, Difference by percentage, Status, or Trend) based on selected measurement values. After you create the new measurement, you can use it in the Service Report Builder like a regular measurement. For user interface details, see "Create Measurement Dialog Box" on page 179.

This task includes:

- "Example - Display the Trend Between Values" on page 173
- "Example - Display How Far an SLA is From Exceeding Its Target" on page 174
- "Example - Fine-Tune SLAs" on page 175
- "Example - Drill down from SLA's Data" on page 175
- "Example - Simulate a Tracking Period That Starts and Ends on Mondays" on page 176

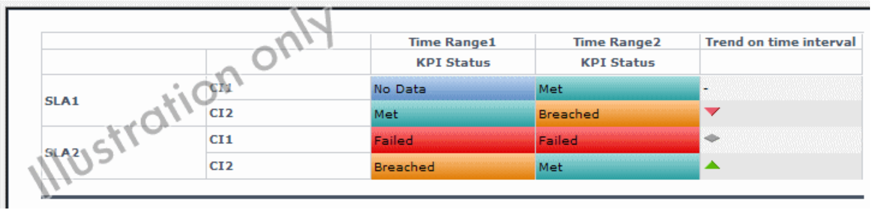
Example - Display the Trend Between Values

To display the trend of each instance of the time interval:

1. Access the Service report wizard.
2. In the Select a Data Source page, select **SLM - SLA KPI Data** and click **Next**.
3. In the Select Dimensions page, move SLA and CI to the **Rows** box, Time Range to the **Columns** box, and click **Next**.
4. In the Select Measurement page, click the **Create Measurement** button.
5. In the Create Measurement dialog box, enter Trend on time interval in the **Measurement name** box, select the **Calculated Measurement** type, select **Trend** in the Select function list, select Time Range (column's header) in the **Select Dimension** list, KPI Status (Time Range 1) in the **First Measurement** list, and KPI Status (Time Range 2) in the **Second Measurement** list in the Function Parameters area, and click **OK**.

6 Add the **KPI Status (as text and background)** measurement and move it before the Trend on time interval measurement.

7 In the Select Measurement page, click **Preview**. The preview displays the trend of the SLAs between two time intervals.



		Time Range1	Time Range2	Trend on time interval
		KPI Status	KPI Status	
SLA1	CI1	No Data	Met	-
	CI2	Met	Breached	▼
SLA2	CI1	Failed	Failed	◆
	CI2	Breached	Met	▲

8 Adjust the appropriate dimension filters and save the report.

Example - Display How Far an SLA is From Exceeding Its Target

To display how far the SLA is from exceeding its target:

1 Access the Service report wizard.

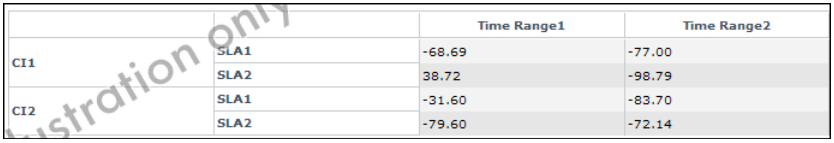
2 In the Select Data source page, select **Service Level Management - SLA KPI Data** and click **Next**.

3 In the Select Dimensions page, move CI and SLA to the **Rows** box, Time Range to the **Columns** box, and click **Next**.

4 In the Select Measurement page, click the **Create Measurement** button.

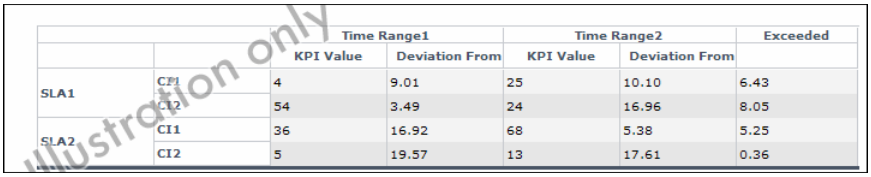
5 In the Create Measurement dialog box, enter Diff value from target in the **Measurement name** box, select the **Calculated** Measurement type, select **Difference by percentage** in the Select function list, select SLA (row headers) in the **Select Dimension** list, KPI Value (SLA 1) in the **First Measurement** list, and Deviation From Target (SLA 1) in the **Second Measurement** list in the Function Parameters area, and click **OK**.

6 In the Select Measurement page, click **Preview**. The preview displays how far the SLA is from the exceeded value in percentages.



		Time Range1	Time Range2
CI1	SLA1	-68.69	-77.00
	SLA2	38.72	-98.79
CI2	SLA1	-31.60	-83.70
	SLA2	-79.60	-72.14

7 You can also display the measurements (KPI Value, or Deviation From Target, and Exceeded) on which you base the calculation.



		Time Range1		Time Range2		Exceeded
		KPI Value	Deviation From	KPI Value	Deviation From	
SLA1	CI1	4	9.01	25	10.10	6.43
	CI2	54	3.49	24	16.96	8.05
SLA2	CI1	36	16.92	68	5.38	5.25
	CI2	5	19.57	13	17.61	0.36

8 Select the appropriate dimension filters and save the report.

Example - Fine-Tune SLAs

Instead of adjusting the SLA thresholds in the Service Level Management application directly, create a Service report based on the appropriate Service Level Management data sources, and create a new measurement based on the **Status** function. Fine-tune the function thresholds to check the SLA over a specific time period until you get the required results. You can then use those thresholds in the Service Level Management application.

Example - Drill down from SLA's Data

The smallest status duration for an SLA is five minutes. If a customer has multiple SLAs and you want to see when the objective exceeds 98 you can create a Service report with the **Status** function, and set the threshold to 98. The report displays the status information and not the real SLA measurement. The tooltip displays the real name of the calculated measurement.

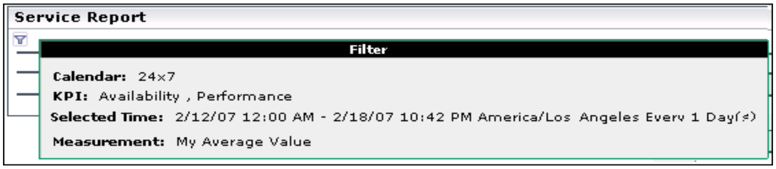
Example - Simulate a Tracking Period That Starts and Ends on Mondays

A tracking period usually lasts from the first day of the previous month/week to the first day of the current month/week. You can create a report that provides information from the third day (Monday) of the previous month/week to the third day of the current month/week.

To simulate a tracking period that starts and ends on Mondays:

1. Access the Service report wizard, and in the Select Datasource page, select **SLM - SLA KPI Data** and click **Next**.
2. In the Select Dimensions page, move CI to the **Rows** box, SLA to the **Columns** box, and click **Next**.
3. In the Select Measurement page, click **Create Measurement**.
4. In the Create Measurement dialog box, enter My Average Value in the **Measurement name** box, select the **Aggregated Measurement** type, select **Average** in the Select function list, select KPI Value in the **Select measurement** list, and click **OK**.
5. In the Select Measurement page, the My Average Value measurement is automatically moved to the **Selected Measurements** box. Click **Next**.
6. In the Select Dimension Filters page:
   - For the CI Mandatory Dimension, select a view, and the appropriate CIs.
   - For the SLA Mandatory Dimension, select SLA1 IRD and SLA2 IRD.
   - For the Time Ranges Mandatory Dimension, select Over Time, Week where you select the date to be from the 3rd day to the 3rd day and Every day. The hour is automatically changed to midnight.
   - For the KPIs Mandatory Dimension, select Availability and Performance.
   - For the Calendar Mandatory Dimension, select 24x7.
7. Click **Finish**, **OK**, and **Save**.
8. Open **MyBSM** and display the report.

9 Click the **Funnel** button to display the report filter. It indicates that the report starts and ends on Mondays.



Calendar: 24x7
KPI: Availability , Performance
Selected Time: 2/12/07 12:00 AM - 2/18/07 10:42 PM America/Los Angeles Every 1 Day(s)
Measurement: My Average Value

Reference

Service Report User Interface

This section describes:

- Create Measurement Dialog Box on page 179
- Edit Chart Properties Dialog Box on page 185
- Service Report on page 189
- Service Report Builder Wizard on page 190

Create Measurement Dialog Box

This dialog box enables you to add a calculated or aggregated measurement based on the measurements you selected in the Select Measurements page.

To access	Click the **Create Measurement** button on the Select Measurements page in the Service Report Builder wizard.
Important information	➤ After you create a new measurement, you are returned to the **Select Measurements** page where the new measurement is automatically moved to the **Select Measurements** box. Any measurements you selected before you created the new measurement are discarded, unless you validated the selection (by clicking the **Next** or **Back** button). ➤ To delete a measurement you created, move it back to the **Available Measurements** box. When you click **Finish**, new measurements located in the **Available Measurements** box are automatically deleted, as they are not in use. **Note:** When you select to display a Service report in the Chart format, you can create only Aggregated measurements; you cannot create Calculated measurements. **Limitations:** See "Troubleshooting and Limitations" on page 228.
Relevant tasks	➤ "How to Create Your MyBSM Workspace" in *Using MyBSM* ➤ "How to Create a Customized Measurement" on page 173

User interface elements are described below:

UI Element (A-Z)	Description
Measurement description	The description of the measurement you are creating. **Note:** The description of the measurement appears as a tooltip when you move the pointer over the measurement on the Select Measurements page.
Measurement name	The name of the measurement you are creating. **Note:** * indicates that the field is mandatory.
Measurement type	Select one of the following: ➤ **Calculated** to use a calculated function. ➤ **Aggregated** to use an aggregated function.
Select function	Select the appropriate function. For details, see "Calculated Functions" on page 180 or "Aggregated Functions" on page 181.

Calculated Functions

Important information	The **Calculated Functions** option is disabled when you select to display the Service report as a Chart. For information on the function parameters relating to the selected calculated function, see "Function Parameters" on page 183.

The following calculated functions are available:

Function (A-Z)	Description
Difference	Returns the difference between the measurements selected in the **First measurement** list and the **Second measurement** list.

Function (A-Z)	Description
Difference by percentage	Returns the difference between the measurements selected in the **First measurement** list and the **Second measurement** list, divided by the measurement selected in the **Second measurement** list, and multiplied by 100 (the result is in percentages). **Note:** If the source measurement value is 0, and the target value is not 0, the function cannot calculate the difference, and the calculation result is "-". For example: the difference by percentage of 97 from 0 is "-".
Percentage	Returns the percentage of the selected **First measurement** value relative to the selected **Second measurement** value.
Status	Compares the value of the measurement selected in **Compare measurement** box with the specified thresholds and returns a color. For more details, see "Status Function Automatic Measurements" on page 166.
Trend	Returns the trend between the measurements selected in the **First measurement** list and the **Second measurement** list. The trend is indicated in the final report, using up ▲ , down ▼ , or no change arrow ◆ .

Aggregated Functions

Important information	For information on the function parameters relating to the selected aggregated function, see "Function Parameters" on page 183.

The following aggregated functions are available:

Function (A-Z)	Description
Average	Returns the average of the values of the measurement you select in the **Select measurement** list.

Function (A-Z)	Description
Best	Available only for status measurement types. Returns the best status of all the selected measurement statuses. **Note:** This function is irrelevant when you select to display the Service report as a Chart.
Count Status	Available only for status measurement types. Returns the number of times the status has the value selected in the **Select measurement instance** during the selected period of time. **Note:** This function is irrelevant when you select to display the Service report as a Chart.
Max	Returns the highest value of the measurement you select in the **Select measurement** list.
Min	Returns the lowest value of the measurement you select in the **Select measurement** list.
Status Percentage	Available only for status measurement types. Returns the percentage of the status for the value selected in the **Select measurement instance**. **Note:** This function is irrelevant when you select to display the Service report as a Chart.
Sum	Returns the sum of the values of the measurement you select in the **Select measurement** list.
Worst	Available only for status measurement types. Returns the worst status of all the selected measurement statuses. **Note:** This function is irrelevant when you select to display the Service report as a Chart.

Function Parameters

Important information	**Function Parameters** are disabled when you select to display the Service report as a Chart.

The following function parameters are available:

UI Element (A-Z)	Description
Compare measurement	Displayed when you create a **Status** calculated function. Select the measurement you want to compare with the thresholds you specify in **To Threshold**.
Create measurement	Displayed when you create a **Status** calculated function. Select one of the measurements that is automatically created when you create a **Status** calculated function. For details about those measurements, see "Status Function Automatic Measurements" on page 166.

UI Element (A-Z)	Description
First measurement	Displayed when you create a calculated function. Select the first measurement to be used in the calculation. **Note:** ➤ When you create a calculated measurement, the names of the measurement in the **First measurement** and **Second measurement** lists are followed by an expression between parenthesis. For example, Event Count (Status 1) represents the instance of the measurement in the report. When the report including real data is displayed, the calculation occurs between the first instance of the measurement and the second instance of the measurement (or vice versa) according to your selection. You can perform calculations between: **1. Two different instances of the same measurement.** You can select only two instances (values) of the dimension on which you base the calculation in the Select Dimensions Filter page. **2. Different measurements.** There is no limitation on the number of instances. ➤ When you select to display a dimension in a specific location (rows or columns), any calculated measurement based on that dimension and other selected measurements must also be displayed in the same location.
Second measurement	Displayed when you create a calculated function. Select the second measurement to be used in the calculation. For more information, see "First measurement" on page 184.
Select dimension	Displayed when you create a calculated function. Select the dimension on which you want to perform the selected function.

UI Element (A-Z)	Description
Select measurement	Displayed when you create an aggregated function. Select the measurement on which you want to perform the selected function.
Selected measurement instance	Displayed when you create a **Count Status** or a **Status Percentage** aggregated function. Select **Failed**, **Breached**, **Minor Breached**, **Met**, **Exceeded**, **No Data**, or **Downtime**.
To thresholds	Displayed when you create a **Status** calculated function. Enter the threshold values and select the operator to specify the status displayed when the comparison between the value of the measurement you selected in the **Compare measurement** list complies with the thresholds. **Note:** The threshold definitions depend on the data source you selected in the **Select a Data Source** page.

Edit Chart Properties Dialog Box

This dialog box enables you to specify the target lines you want to display in the Service report and the scale of the Y-axis.

Note: The capabilities offered in this dialog box are not available for Pie charts.

To access	Click **Edit Chart Properties** in the Select Measurements page in the Service Report Builder wizard.

Target Lines Area

User interface elements are described below:

UI Element (A-Z)	Description
Add	Adds a label to the list of labels in the table.
Target Line Type Manual	Enter the following information: ➤ **Label.** The name of the target line. The name of the target line appears in the chart legend. ➤ **Value.** The value of the target line. It indicates the position of the target line on the Y-axis. The value appears in a tooltip when you move the pointer over the target line. ➤ **Color.** Select one of the colors (**Red**, **Orange**, **Yellow**, **Khaki**, **Green**, or **Black**). A line with the selected color appears next to the target line label in the chart legend. **Note:** ➤ When two or more labels have the same value but different colors, the corresponding target lines are displayed one over the other and the legend displays each colored line and its label. ➤ When two or more labels have the same value and the same color, the legend displays the colored line followed by the label names separated by slashes (/).

UI Element (A-Z)	Description
Target Line Type Measurement based	Select one of the measurements in the list. The measurements listed in the box are the measurements that are **not** dependant on the dimensions you moved to the X-Axis box in the Select dimensions page (if **all** the measurements available depend on the dimension you moved to the X-Axis, this option is disabled). The color of the labels corresponding to regular measurements (without background) is black. The color of the labels corresponding to measurements with background is the color of the background. **Note:** ➤ When two and more labels have the same value but different colors, the corresponding target lines are displayed one over the other and the legend displays each colored line and its label. ➤ When two or more labels have the same value and the same color, the legend displays the colored line followed by the label names separated by slashes (/).
Update	Select a label in the table, make the appropriate changes, and click **Update** to update the changes. **Note**: You can select more than one label in the table, but you cannot edit more than one label at a time.

Table Area

User interface elements are described below:

UI Element (A-Z)	Description
Color	The color of the target line. A colored line appears next to the target line label in the chart legend.
Label	The name of the target line as it appears in the chart legend. The labels are listed in chronological order.
Value	The value of the target line. It indicates the position of the target line on the Y-axis. The value appears in a tooltip when you move the pointer over the target line.

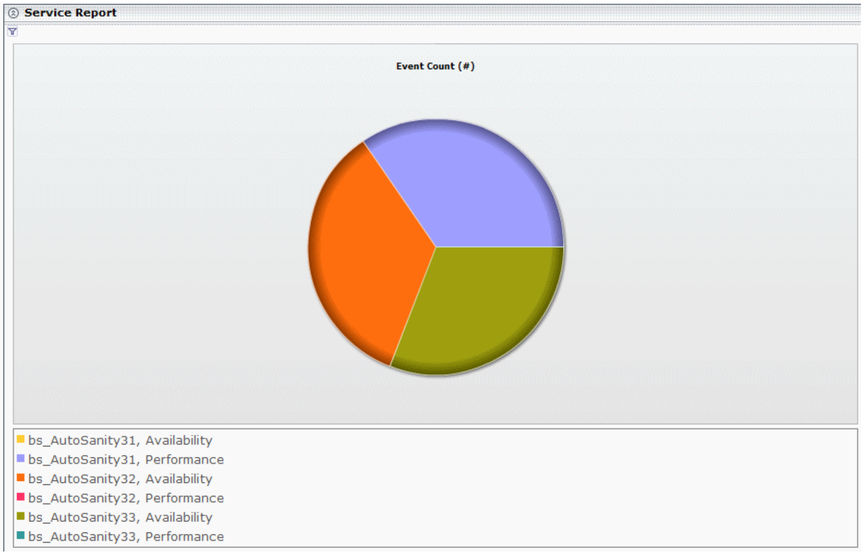
Scaling Area

User interface elements are described below:

UI Element (A-Z)	Description
Auto Scale	The scale of the Y-axis is evenly distributed between the minimum and maximum values of the measurements selected in the Select Measurement page.
Start Chart at 0	The minimum value on the Y-axis is 0 and the maximum value is the maximum value of the measurements selected in the Select Measurement page.

Service Report

This report displays the Service report you configured in a Service Report component in MyBSM or as a report in Report Manager.


Service Report
Event Count (#)
bs_AutoSanity31, Availability
bs_AutoSanity31, Performance
bs_AutoSanity32, Availability
bs_AutoSanity32, Performance
bs_AutoSanity33, Availability
bs_AutoSanity33, Performance

To access	Use one of the following: ➤ In MyBSM, select the page where the Service Report component is located. The component contains the configured Service report. ➤ Select **Applications** > **User Reports**, select the relevant Service report, and click the **View** button.
Important information	The report displays the data and the format selected when creating the report using the Service Report Builder wizard.
Relevant tasks	➤ "How to Create Your MyBSM Workspace" in *Using MyBSM* ➤ "How to Configure a Service Report in Report Manager" on page 171

Report Settings

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

UI Element (A-Z)	Description
▼	In MyBSM, displays the values of the dimensions selected in the Dimension Filters page that are not directly displayed in the report.
<Common report settings>	For details, see "Common Report and Page Elements" on page 322.
<Dimension filter elements area>	In Report Manager, displays the values of the dimensions selected in the Dimension Filters page that are not directly displayed in the report.

Service Report Builder Wizard

This wizard enables you to configure a Service report. You select the data source on which you want to base the Service report data, the dimensions and measurements that are to appear in the report, and the structure of the report.

To access	Use one of the following: ➤ In MyBSM, click **Launch Service Report Builder** in the **Filter** area of the Edit Preferences page of a Service Report component. ➤ In Report Manager, click **New** ✳ ▾ and select **New Service Report**.
Relevant tasks	➤ "How to Create Your MyBSM Workspace" in *Using MyBSM* ➤ "How to Configure a Service Report in Report Manager" on page 171

Wizard map	The Service Report Builder Wizard contains: Welcome > Service Report Properties Page > Select a Display Type Page > Select a Data Source Page > Select Dimensions Page > Select Measurements Page > Select the Dimension Filters Page > Summary Page

Service Report Properties Page

This page enables you to enter the name and description of the Service report.

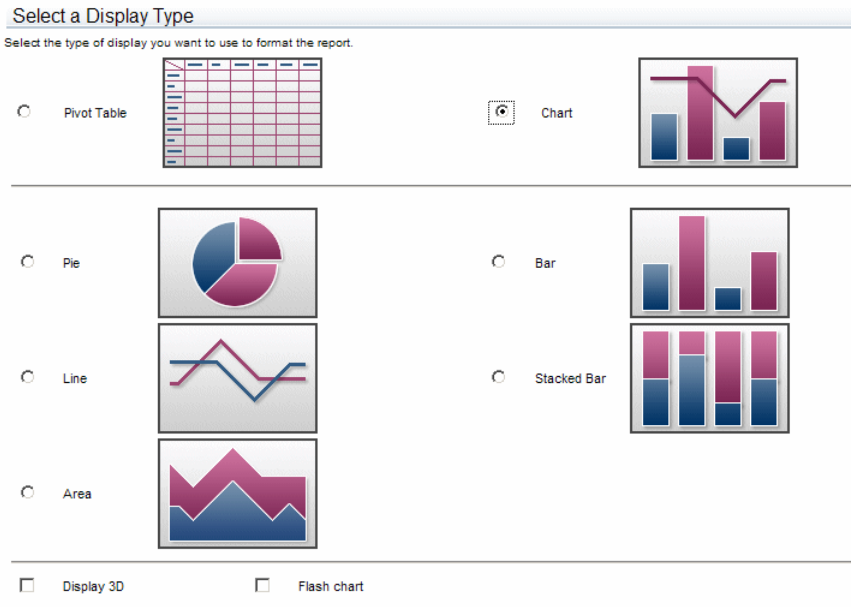
Important information	➤ This page is displayed only when you access the Service report from Report Manager. ➤ General information about the wizard is available in "Service Report Builder Wizard" on page 190.
Wizard map	The Service Report Builder Wizard contains: Welcome > **Service Report Properties Page** > Select a Display Type Page > Select a Data Source Page > Select Dimensions Page > Select Measurements Page > Select the Dimension Filters Page > Summary Page

User interface elements are described below:

UI Element (A–Z)	Description
Report description	Enter a description of the report. The description appears in the list of available reports in Report Manager.
Report name	Enter the name of the report. The name appears in the list of available reports in Report Manager. This field is mandatory. When you clone a report in Report Manager, the name of the cloned report is automatically changed to **Copy of <cloned_report_name>**.
Save report as	Select one of the following options: ➤ **Private.** Only the report organizer can view the report. ➤ **Public.** All users with appropriate permission levels can view the report. This is the default.

Select a Display Type Page

This page enables you to select the type of format you want to use to display the report. The report can be displayed as a table or as a chart.



Select a Display Type

Select the type of display you want to use to format the report.

○ Pivot Table

● Chart

○ Pie

○ Bar

○ Line

○ Stacked Bar

○ Area

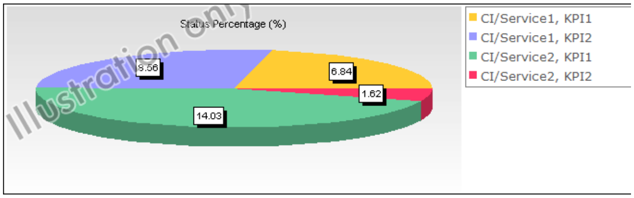
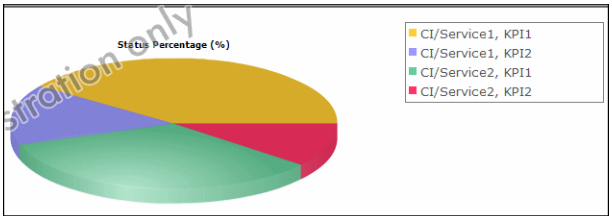
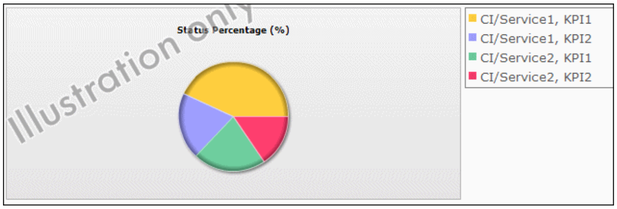
☐ Display 3D

☐ Flash chart

Important information	General information about the wizard is available in "Service Report Builder Wizard" on page 190.
Wizard map	The Service Report Builder Wizard contains: Welcome > Service Report Properties Page > **Select a Display Type Page** > Select a Data Source Page > Select Dimensions Page > Select Measurements Page > Select the Dimension Filters Page > Summary Page

User interface elements are described below:

UI Element (A–Z)	Description
Chart	Select this option to display the list of the different charts available to render the report.

UI Element (A–Z)	Description
Display 3D	Select this option to display the selected chart format with a 3-dimensional look. **Example:** ➤ When you select **Pie** and **Display 3D**:  ➤ When you select **Pie**, **Display 3D**, and **Flash**: 
Flash	Select this option to display the selected chart format using Flash technology. **Note:** To display the report using Flash technology, you must have Flash installed. **Example:**  **Note:** You can select both **Display 3D** and **Flash**. See the description of the **Display 3D** option for an example.
Pie, Bar, Line, Stacked Bar, Area	Select the type of chart you want to use to display the report. **Note:** You can select **Area** only if you also select **Flash**.

UI Element (A–Z)	Description
Pivot table	Select this option to display the report as a pivot table. This option is selected by default.

Select a Data Source Page

This page enables you to select one or more data sources on which you want to base the Service report data.

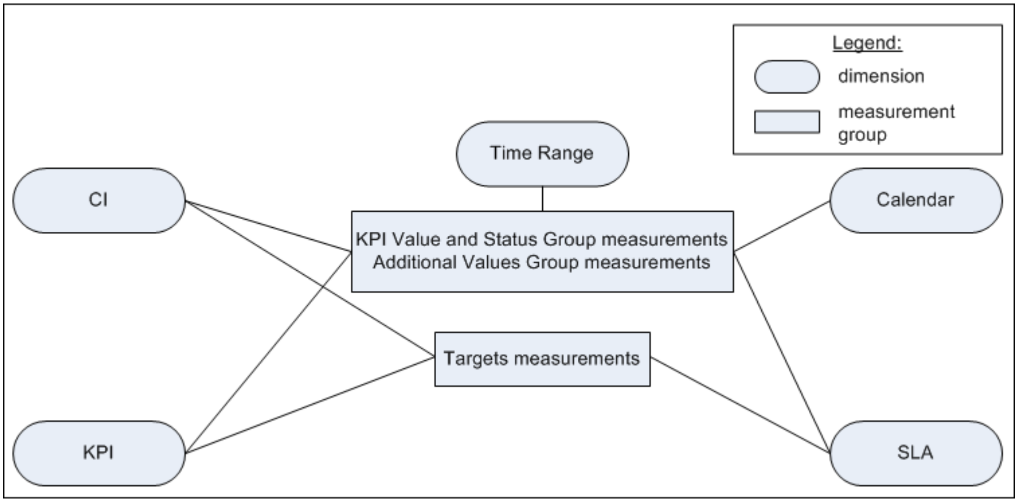
Important information	➤ You can select more than one data source. ➤ For details on the impact of the data source selection, see "Dimensions and Measurements" on page 159. ➤ General information about the wizard is available in "Service Report Builder Wizard" on page 190. **Limitations:** See the details in "Troubleshooting and Limitations" on page 228.
Wizard map	The Service Report Builder Wizard contains: Welcome > Service Report Properties Page > Select a Display Type Page > **Select a Data Source Page** > Select Dimensions Page > Select Measurements Page > Select the Dimension Filters Page > Summary Page

User interface elements are described below:

UI Element (A-Z)	Description
Business Process Insight Data	Select to build the report using data from Business Process Insight. For details about the data source dimensions, measurements, and the relations between time, see "Business Process Insight Data Dimensions and Measurements Map" on page 204.
Over Time Additional data	Select to build the report using dimensions and measurements, such as Number of tickets and Number of measurements, from multiple data sources. For details about the data source dimensions, measurements, and the relations between time, see "Over Time Additional Data Dimensions and Measurements Map" on page 209.
Service Health KPIs data	Select to build the report using business-related CIs, based on historical data from the associated Service Health KPIs. For details about the data source dimensions, measurements, and the relations between time, see "Service Health KPIs Data Source Dimensions and Measurements Map" on page 202.
Service Level Management - SLA KPI data	Select to build the report using CIs, KPIs, SLA dimensions, and the Time and Calendar measurements, from Service Level Management. For details about the data source dimensions, measurements, and the relations between time, see "Service Level Management - SLA Status Data Dimensions and Measurements Map" on page 200.
Service Level Management - SLA Status data	Select to build the report using SLAs, Tracking Period, and Time dimensions, and SLA Status for Previous Periods, SLA Current Status, and SLA Current Status By Time Periods, and SLA Forecast measurements. For details about the data source dimensions, measurements, and the relations between time, see "Service Level Management - SLA Status Data Dimensions and Measurements Map" on page 200.

Service Level Management - SLA KPI Data Dimensions and Measurements Map

The dimensions and measurements map for the SLA KPI data source includes the following elements:



Depending on the dimensions and measurements you select, make either a single selection or multiple selection for each dimension’s values. For details, see "Impact on the Type of Selection: Single Selection or Multiple Selection" on page 161.

Dimensions

The dimensions are:

UI Element (A-Z)	Description
Calendar	The business-day structure. It can be: ➤ **24hx7d** ➤ **Business Hours**
CI	The CI you want to display in the report.
KPI	The KPI you want to display in the report.

UI Element (A-Z)	Description
SLA	The Service Level Agreement you want to display in the report.
Time Range	The time range for which you want to see information.

Measurements

The measurements are:

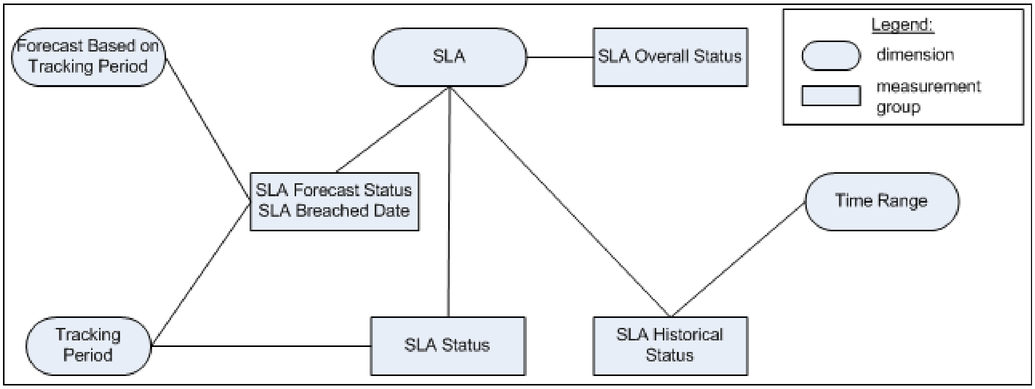
Measurement Group	UI Element (A-Z)	Description
Additional Values Group	**All Additional Values**	Select to display all the enabled additional measurements in the report. For details about additional values, see "Additional Values in Reports" in *Using Service Level Management*. **Note:** ➤ To modify the default list of enabled additional values displayed per KPI, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**. ➤ Select **Applications**. ➤ Select **Service Level Management**. ➤ In the Service Level Management - SLM Admin table, locate **Additional Values**. Set the value to **true** for a KPI and an additional value when you want to display that additional value parameter for the KPI. If an additional value is not included for a specific KPI, it is not available for that KPI. ➤ The PNR KPI appears in the Additional Values settings for internal purposes. Do not modify it.

Measurement Group	UI Element (A-Z)	Description
KPI Value and Status Group	**KPI Value**	The KPI value.
	KPI Value (KPI Status as background)	The KPI value and the KPI status displayed as the colored background of the report cell. The KPI status is calculated according to the objectives.
	KPI Status (as text and background)	The KPI status and the KPI status compared to the objective displayed as the colored background of the report cell.
	KPI Status	The KPI status.
	KPI Status as background	The KPI status compared to the objectives displayed as the colored background of the report cell.

Measurement Group	UI Element (A-Z)	Description
Targets	**All Targets**	The percentage of time the value of the selected KPI was in the range defined for all targets.
	Exceeded (Status as background)	The percentage of time the value of the selected KPI was in the range defined for the **Exceeded** target, and the KPI status as the colored background of the report cell.
	Exceeded	The percentage of time the value of the selected KPI was in the range defined for the **Exceeded** target.
	Met	The percentage of time the value of the selected KPI was in the range defined for the **Met** target.
	Met (Status as background)	The percentage of time the value of the selected KPI was in the range defined for the **Met** target, and the KPI status as the colored background of the report cell.
	Minor Breached	The percentage of time the value of the selected KPI was in the range defined for the **Minor Breached** target.
	Minor Breached (Status as background)	The percentage of time the value of the selected KPI was in the range defined for the **Minor Breached** target, and the KPI status as the colored background of the report cell.
	Breached	The percentage of time the value of the selected KPI was in the range defined for the **Breached** target.
	Breached (Status as background)	The percentage of time the value of the selected KPI was in the range defined for the **Breached** target, and the KPI status as the colored background of the report cell.

Service Level Management - SLA Status Data Dimensions and Measurements Map

The dimensions and measurements map for the SLA Status data source includes the following elements:



Dimensions

The dimensions are:

UI Element (A-Z)	Description
Forecast Based On Tracking Period	The forecast calculated for the analysis period based on the assumption that the SLA performs in the future as it did during this analysis period.
SLA	The available SLAs that are defined for your site. For details on single or multiple selection, see "Impact on the Type of Selection: Single Selection or Multiple Selection" on page 161.
Time Range	The time range for which you want to see information.
Tracking Period	The tracking periods that are used to track agreement status and compile data. The tracking periods define the granularity available in Service Level Management reports.

Measurements

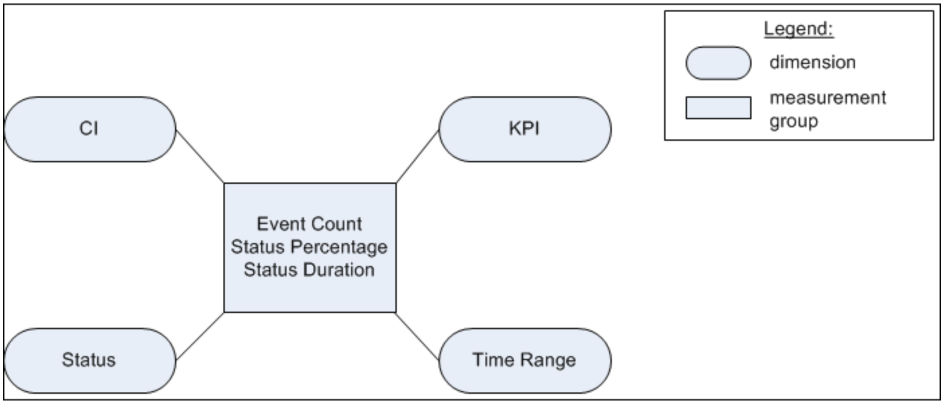
The measurements are:

UI Element (A-Z)	Description
SLA Breached Date	The SLA breached date from the forecast report.
SLA Forecast Status	The status of the forecast.
SLA Forecast Status (as text and background)	The status of the forecast, and the Forecast status compared to the objective as the colored background of the report cell.
SLA Forecast Status as background	The status of the forecast compared to the objective as the colored background of the report cell.
SLA Historical Status	The historical status for the selected time range.
SLA Historical Status (as text and background)	The value of the Historical Status, and the status compared to the objective as the colored background of the report cell.
SLA Historical Status as background	The Historical Status compared to the objective as the colored background of the report cell.
SLA Overall Status	The status used to compare to the forecast for a selected SLA and selected time range.
SLA Overall Status (as text and background)	The value of the Overall Status, and the status compared to the objective as the colored background of the report cell.
SLA Overall Status as background	The status of the Overall Status compared to the objective as the colored background of the report cell.
SLA Status	The current status of the SLA for the selected time range.
SLA Status (as text and background)	The value of the Status, and the status compared to the objective as the colored background of the report cell.

UI Element (A-Z)	Description
SLA Status as background	The status compared to the objective as the colored background of the report cell.
Time Comparison	Enter a label for the dimension in the **Label** box. Select the tracking range and granularity for the report. For details, see "Running Reports" on page 306.

Service Health KPIs Data Source Dimensions and Measurements Map

The dimensions and measurements map for the Service Health KPIs data source includes the following elements:



Dimensions

The dimensions are:

UI Element (A-Z)	Description
CI	The configuration item you want to display in the report.
KPI	The KPIs you want to display in the report.
Status	The status of the KPI.
Time Range	The time range for which you want to see information.

Measurements

The measurements are:

UI Element (A-Z)	Description
Event Count (#)	The number of events with the selected status that occurred in the selected time range.
Event Count (#) (Status as background)	The number of events with the selected status that occurred in the selected time range, and the Status as the colored background of the report cell. The status represents the status dimension instance (OK, FAILED, and so on).
Status Duration (hh:mm:ss)	The length of time in hours, minutes, and seconds, during which the KPI had the selected status.
Status Duration (hh:mm:ss) (Status as background)	The length of time in hours, minutes, and seconds, during which the KPI had the selected status, and the status compared to the objective as the colored background of the report cell.
Status Percentage (%)	The length of time during which the KPI had the selected status divided by the selected time range in percentage.
Status Percentage (%) (Status as background)	The length of time during which the KPI had the selected status divided by the selected time range in percentage, and the status compared to the objective as the colored background of the report cell.

Business Process Insight Data Dimensions and Measurements Map

The dimensions and measurements map for the Business Process Insight Data data source are listed in the tables below.

Dimensions

The dimensions are:

UI Element (A-Z)	Description
CI	The configuration item you want to display in the report.
Time Range	The time range for which you want to see information.

Measurements

Some measurements are relevant for different types of CIs. Others are relevant for all types of CIs. The measurements that are relevant for the type of CI you select in the Select Dimension Filters page are as follows:

Selected Node CIT / Measurement Group		Measurement Group	Sample Type
Business Process		Health Measurements Group	bpi_process_t
		Common Measurements Group	
BPI Monitor	Duration	Duration Measurements Group	bpi_duration_t
		Common Measurements Group	
	Value / Custom	Value Measurements Group	bpi_value_t
		Common Measurements Group	
BPI Business Process Step		Common Measurements Group	bpi_step_t

The measurements are described in the following sections.

Common Measurements Group

Measurement	Description
Avg. Backlog Value	The total value of all currently open instances, divided by the total number of instances.
Avg. Backlog Count (#)	The number of currently open instances divided by the total number of instances.
Completed Instances (#)	The sum of all completed instances.
Completed Instances Total Value	The total value of all completed instances.
Completed Instances Avg. Value	The total value of all completed instances divided by the total number of completed instances.
Total Value Warning Violated Instances (#, Status as background)	The total value of all violated samples that currently have the **Warning** status , and the status compared to the objective as the colored background of the report cell.

Duration Measurements Group

Measurement	Description
Avg. Duration (sec)	The sum of the duration of all completed instances divided by the number of completed instances.
Weighted Avg. Duration (sec)	The sum of the duration of all completed instances, each multiplied by its weight, and divided by the number of completed instances.
Min. Duration (sec)	The minimum duration of all completed instances.
Max. Duration (sec)	The maximum duration of all completed instances.
Total Duration Critical Violated Instances (#)	The total duration of all violated samples with **Critical** status.
Total Duration Critical Violated Instances (#, Status as background)	The total duration of all samples with **Critical** status, and the status compared to the objective as the colored background of the report cell.
Total Duration Major Violated Instances (#)	The total duration of all samples with **Major** status.

Measurement	Description
Total Duration Major Violated Instances (#, Status as background)	The total duration of all samples with **Major** status, and the status compared to the objective as the colored background of the report cell.
Total Duration Minor Violated Instances (#)	The total duration of all violated samples with **Minor** status.
Total Duration Minor Violated Instances (#, Status as background)	The total duration of all violated samples with **Minor** status, and the status compared to the objective as the colored background of the report cell.
Total Duration Non-Violated Instances (#)	The total duration of all non-violated samples.
Total Duration Non-Violated Instances (#, Status as background)	The total duration of all non-violated samples with **Minor** status, and the status compared to the objective as the colored background of the report cell.
Total Duration Warning Violated Instances (#)	The total duration of all violated samples with **Warning** status.
Total Duration Warning Violated Instances (#, Status as background)	The total duration of all violated samples with **Warning** status, and the status compared to the objective as the colored background of the report cell.
Total Value Warning Violated Instances (#)	The total value of all violated samples that currently have the **Warning** status.
Total Value Warning Violated Instances (#, Status as background)	The total value of all violated samples that currently have the **Warning** status , and the status compared to the objective as the colored background of the report cell.

Value Measurements Group

Measurement	Description
Total Monitor Value	The total value of all samples that were sent during the specified time period.
Avg. Monitor Value	The total value of all samples that were sent during the specified time period divided by the number of currently completed samples.

Measurement	Description
Weighted Avg. Monitor Value	The total value of all samples that were sent during the specified time period, each multiplied by its weight, divided by the number of currently completed samples.
Min. Value	The minimum value of all samples that were sent during the specified time period.
Max. Value	The maximum value of all samples that were sent during the specified time period.
Total Value Critical Violated Instances (#)	The total value of all violated samples with **Critical** status.
Total Value Critical Violated Instances (#, Status as background)	The total value of all samples with **Critical** status, and the status compared to the objective as the colored background of the report cell.
Total Value Major Violated Instances (#)	The total value of all samples with **Major** status.
Total Value Major Violated Instances (#, Status as background)	The total value of all samples with **Major** status, and the status compared to the objective as the colored background of the report cell.
Total Value Minor Violated Instances (#)	The total value of all violated samples with **Minor** status.
Total Value Minor Violated Instances (#, Status as background)	The total value of all violated samples with **Minor** status, and the status compared to the objective as the colored background of the report cell.
Total Value Non-Violated Instances (#)	The total value of all non-violated samples.
Total Value Non-Violated Instances (#, Status as background)	The total value of all non-violated samples with **Minor** status, and the status compared to the objective as the colored background of the report cell.
Total Value Warning Violated Instances (#)	The total value of all violated samples that currently have the **Warning** status.
Total Value Warning Violated Instances (#, Status as background)	The total value of all violated samples that currently have the **Warning** status , and the status compared to the objective as the colored background of the report cell.

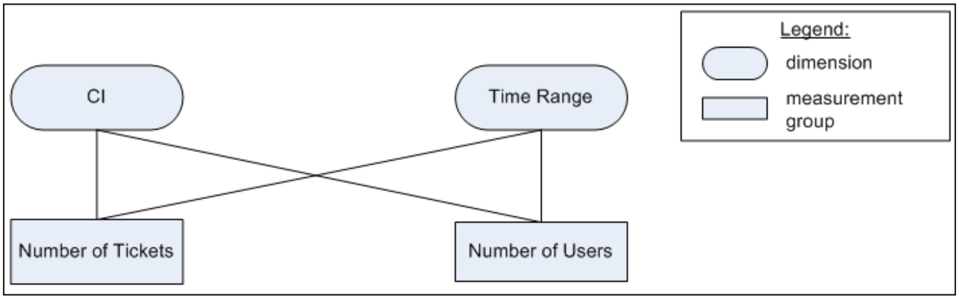
Health Measurements Group

Measurement	Description
Total Value Warning Violated Instances (#)	The total value of all violated samples that currently have the **Warning** status.
Total Value Warning Violated Instances (#, Status as background)	The total value of all violated samples that currently have the **Warning** status , and the status compared to the objective as the colored background of the report cell.
Avg. of Blocked Instances (#)	The sum of the number of all instances with **Blocked** status, divided by the total number of instances.
Avg. of Blocked Instances (#, Status as background)	The sum of the number of all instances with **Blocked** status, divided by the total number of instances, and the status compared to the objective as the colored background of the report cell.
Avg. of Healthy Instances (#)	The sum of the number of all instances with **Healthy** status, divided by the total number of instances.
Avg. of Healthy Instances (#, Status as background)	The sum of the number of all instances with **Healthy** status, divided by the total number of instances, and the status compared to the objective as the colored background of the report cell.
Avg. of At Risk Instances (#)	The sum of the number of all instances with **AtRisk** status, divided by the total number of instances.
Avg. of At Risk Instances (#, Status as background)	The sum of the number of all instances with **AtRisk** status, divided by the total number of instances, and the status compared to the objective as the colored background of the report cell.
Avg. Value of Blocked Instances	The total cost of all instances with **Blocked** status, divided by the total number of instances.
Avg. Value of Blocked Instances (Status as background)	The total cost of all instances with **Blocked** status, divided by the total number of instances, and the status compared to the objective as the colored background of the report cell.
Avg. Value of Healthy Instances	The total cost of all instances with **Healthy** status, divided by the total number of instances.

Measurement	Description
Avg. Value of Healthy Instances (Status as background)	The total cost of all instances with **Healthy** status, divided by the total number of instances, and the status compared to the objective as the colored background of the report cell.
Avg. Value of At Risk Instances	The total cost of all instances with **AtRisk** status, divided by the total number of instances.
Avg. Value of At Risk Instances (Status as background)	The total cost of all instances with **AtRisk** status, divided by the total number of instances, and the status compared to the objective as the colored background of the report cell.

Over Time Additional Data Dimensions and Measurements Map

The dimensions and measurements map for the Over Time Additional Data data source includes the following elements:



Dimensions

The dimensions are:

UI Element (A-Z)	Description
CI	The configuration item or service.
Time Range	The time range for which you want to see information.

Measurements

The measurements are:

UI Element (A-Z)	Description
# of tickets	The number of tickets (open incidents) that were opened with the selected severity during the selected time period. To specify the severity, you must first specify the rule that is used to calculate the number of tickets. To specify the rule, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**: ➤ Select **Applications**. ➤ Select **Service Health Application**. ➤ In the Service Health Application - Business Impact table, locate **Number of open Incidents rule**. Enter the value of the rule you want to use. A list of rules and rule numbers are available in the Repositories (to access the Repositories, select **Admin** > **Service Health** > **Repositories** > **Business Rules**). To specify the severity you want to use, edit the rule's properties in the Repositories.
# of users	The number of users, calculated by Real User Monitor, using the specified CI during the selected time period.

Select Dimensions Page

This page enables you to select the dimensions you want to display in the report, and whether they are to appear in a column or a row.

Important information	➤ The information displayed on this page depends on the type of display you selected in the **Select a Display Type** page. ➤ General information about the wizard is available in "Service Report Builder Wizard" on page 190. **Tips and Tricks:** Before using this page, see "Tips and Tricks" on page 167. **Limitations:** See "Troubleshooting and Limitations" on page 228.
Wizard map	The Service Report Builder Wizard contains: Welcome > Service Report Properties Page > Select a Display Type Page **>** Select a Data Source Page > **Select Dimensions Page** > Select Measurements Page > Select the Dimension Filters Page > Summary Page

When You Use the Pivot Table Format

The elements listed in the table below are displayed when you select **Pivot table** in the Select a Display Type page.

User interface elements are described below:

UI Element (A-Z)	Description
⇨	**Right.** Moves the selected dimension from the **Available dimensions** area to the **Columns** or **Rows** area.
⇦	**Left.** Moves the selected dimension from the **Rows** or **Columns** area back to the **Available dimensions** area.
△ ▽	Change the order of the dimensions in the **Columns** or **Rows** area by clicking the up and down arrows. By default, the dimensions are listed in alphabetical order.

UI Element (A-Z)	Description
Available Dimensions	Select the appropriate dimension and select where you want to put it in the report by clicking the forward arrow to the **Columns** or **Rows** area. Use the following guidelines to select the dimensions: ➤ If you select only one dimension and move it to the **Rows** (**Columns**) area, the dimension's measurements appear as columns (rows) in the Service report. ➤ If you select two dimensions, it is recommended to move one dimension to the **Rows** area and the other dimension to the **Columns** area. ➤ If you select more than two dimensions, there is no restriction to the location of the dimensions. The available dimensions depend on the data source you selected. For a description of the dimensions, see "Select a Data Source Page" on page 194.
Clear	Returns the dimensions in the **Columns** or **Rows** area back to the **Available Dimensions** area.
Columns	Displays the dimensions that are to appear as column headers in the report.
Enable automatic preview	You can display a preview of the report by selecting **Enable automatic preview**. When you edit an existing Service report, **Enable automatic preview** is automatically selected and the **Preview** button is disabled. Any change made to the top part of the page automatically runs the preview report. **Note:** If, after previewing the page, you clear **Enable automatic preview**, the automatic preview feature is disabled on the next wizard page.

UI Element (A-Z)	Description
Preview	Displays a preview of the page. The preview shows the report structure with randomly generated data. When you edit an existing Service report, **Enable automatic preview** is automatically selected and the **Preview** button is disabled. Any change made to the top part of the page automatically runs the preview report. **Note:** The preview report displays randomly generated data and background color for illustration purposes only, and, when applicable, two placeholder values for each selected dimension.
Rows	Displays the dimensions that are to appear as row headers in the report.

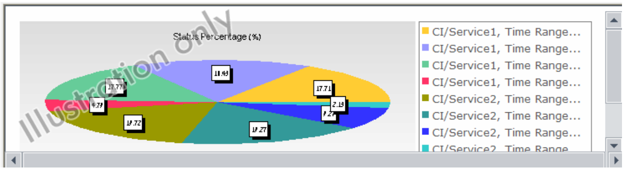
When You Use the Pie Chart Format

The elements listed in the table below are displayed when you select **Pie** in the Select a Display Type page.

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

UI Element (A-Z)	Description
⇨	**Right.** Moves the selected dimension from the **Available dimensions** area to the **Slices** area.
⇦	**Left.** Moves the selected dimension from the **Slices** area back to the **Available dimensions** area.
△ ▽	Change the order of the dimensions in the **Slices** area by clicking the buttons. By default, the dimensions are listed in alphabetical order.
<legend>	Displays the automatically selected colors that represent each dimension or combination of dimensions.

UI Element (A-Z)	Description
Available Dimensions	Lists the dimensions you selected in the Select Dimensions page. The available dimensions depend on the data source you selected. For a description of the dimensions, see "Select a Data Source Page" on page 194.
Clear	Clears all the selections on the page.
Enable automatic preview	You can display a preview of the report by selecting **Enable automatic preview**. When you edit an existing Service report, **Enable automatic preview** is automatically selected and the **Preview** button is disabled. Any change made to the top part of the page automatically runs the report preview. **Note:** If, after previewing the page, you clear **Enable automatic preview**, the automatic preview feature is disabled on the next wizard page.

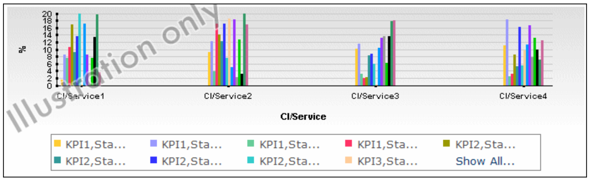
UI Element (A-Z)	Description
Preview	Displays a preview of the page. The preview shows the report structure with randomly generated data. When you edit an existing Service report, **Enable automatic preview** is automatically selected and the **Preview** button is disabled. Any change made to the top part of the page automatically runs the preview report. **Note:** The preview report displays randomly generated data and background color for illustration purposes only, and, when applicable, two placeholder values for each selected dimension.
Slices	**Mandatory:** Move at least one dimension to the **Slices** area. For example, if you move: ➤ One dimension to the **Slices** box, each sector of the pie chart represents a different value of the dimension. ➤ More than one dimension to the **Slices** box, each sector of the pie chart represents a combination of the values of each selected dimensions. For example, if you select dimensions CI and KPI, the pie chart includes sectors for each group of dimensions as follows: ci1, kpi1; ci1, kpi2; ci2, kpi1; ci2; kpi2.  Illustration only Status Percentage (%) 17.77 17.71 2.13 CI/Service1, Time Range... CI/Service1, Time Range... CI/Service1, Time Range... CI/Service1, Time Range... CI/Service2, Time Range... CI/Service2, Time Range... CI/Service2, Time Range... CI/Service2, Time Range

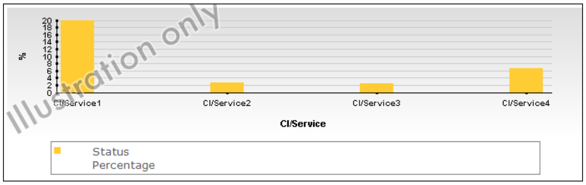
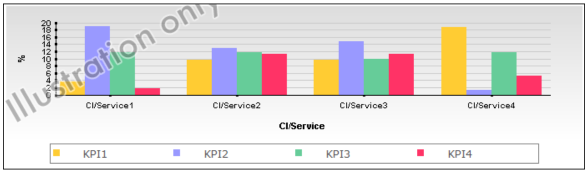
When You Use the Bar Chart Format

The elements listed in the table below are displayed when you select **Bar** in the Select a Display Type page.

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

UI Element (A-Z)	Description
⇨	**Right.** Moves the selected dimension from the **Available dimensions** area to the **X-Axis** or **Series** area.
⇦	**Left.** Moves the selected dimension from the **X-Axis** or **Series** area back to the **Available dimensions** area.
△ ▽	Change the order of the dimensions in the **X-Axis** or **Series** area by clicking the up and down arrows. By default, the dimensions are listed in alphabetical order.
<Legend>	Displays the automatically selected colors that represent each dimension or combination of dimensions.
Available Dimensions	Lists the dimensions you selected in the Select Dimensions page. The available dimensions depend on the data source you selected. For a description of the dimensions, see "Select a Data Source Page" on page 194.
Clear	Clears all the selections on the page.
Enable automatic preview	You can display a preview of the report by selecting **Enable automatic preview**. When you edit an existing Service report, **Enable automatic preview** is automatically selected and the **Preview** button is disabled. Any change made to the top part of the page automatically runs the preview report. **Note:** If, after previewing the page, you clear **Enable automatic preview**, the automatic preview feature is disabled on the next wizard page.

UI Element (A-Z)	Description
Preview	Displays a preview of the page. The preview shows the report structure with randomly generated data. When you edit an existing Service report, **Enable automatic preview** is automatically selected and the **Preview** button is disabled. Any change made to the top part of the page automatically runs the report preview. **Note:** The preview report displays randomly generated data and background color for illustration purposes only, and, when applicable, two placeholder values for each selected dimension.
Series	The X-axis tick marks represent the combinations of all the values of the dimensions you moved to the **X-Axis** box. For each tick mark, the group of bars represent the combinations of all the values of the dimensions you moved to the **Series** box. **Example:** You moved **CI** in the **X-Axis** box, and **KPI** and **Status** to the **Series** box. The result is as follows:  **Note:** If you move dimensions to the **Series** box, you can select only one measurement in the Select Measurements page.

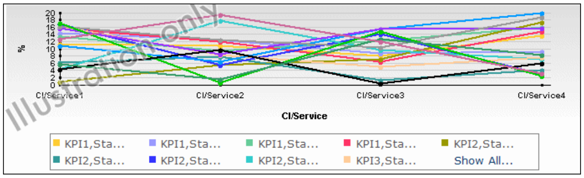
UI Element (A-Z)	Description
X-Axis	**Mandatory:** Move at least one dimension to the X-Axis box. The X-axis tick mark represents the combinations of all the values of the dimensions you moved to the X-Axis box. **Example:** If you move: ➤ One dimension to the **X-Axis** box, the values of the dimension are displayed on the X-axis.  ➤ More than one dimension to the **X-Axis** box, each combination of the dimensions is represented by one tick mark in the X-axis. 

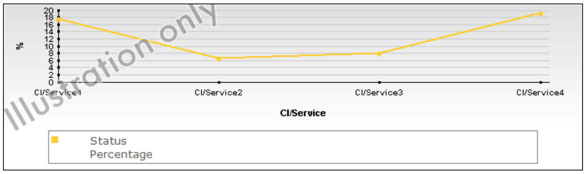
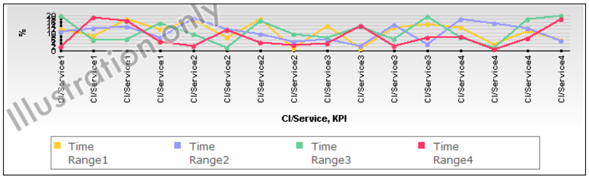
When You Use the Line/Stacked Bar/Area Chart Formats

The elements listed in the table below are displayed when you select **Line/Stacked Bar/Area** in the Select a Display Type page.

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

UI Element (A-Z)	Description
⇨	**Right.** Moves the selected dimension from the **Available dimensions** area to the **X-Axis** or **Series** area.
⇦	**Left.** Moves the selected dimension from the **X-Axis** or **Series** area back to the **Available dimensions** area.
△ ▽	Change the order of the dimensions in the **X-Axis** or **Series** area by clicking the buttons. By default, the dimensions are listed in alphabetical order.
<Legend>	Displays the automatically selected colors that represent each dimension or combination of dimensions.
Available Dimensions	Lists the dimensions you selected in the Select Dimensions page. The available dimensions depend on the data source you selected. For a description of the dimensions, see "Select a Data Source Page" on page 194.
Clear	Clears all the selections on the page.
Enable automatic preview	You can display a preview of the report by selecting **Enable automatic preview**. When you edit an existing Service report, **Enable automatic preview** is automatically selected and the **Preview** button is disabled. Any change made to the top part of the page automatically runs the preview report. **Note:** If, after previewing the page, you clear **Enable automatic preview**, the automatic preview feature is disabled on the next wizard page.

UI Element (A-Z)	Description
Preview	Displays a preview of the page. The preview shows the report structure with randomly generated data. When you edit an existing Service report, **Enable automatic preview** is automatically selected and the **Preview** button is disabled. Any change made to the top part of the page automatically runs the preview report. **Note:** The preview report displays randomly generated data and background color for illustration purposes only, and, when applicable, two placeholder values for each selected dimension.
Series	The X-axis tick marks represent the combinations of all the values of the dimensions you moved to the **X-Axis** box. For each tick mark, the group of bars represent the combinations of all the values of the dimensions you moved to the **Series** box. **Example:** You moved **CI** in the **X-Axis** box and **KPI** and **Status** to the **Series** box.  **Note:** If you move dimensions to the **Series** box, you can select only one measurement in the Select Measurements page.

UI Element (A-Z)	Description
X-Axis	**Mandatory:** Move at least one dimension to the X-Axis box. The X-axis tick marks represent the combinations of all the values of the dimensions you moved to the X-Axis box. **Example:** If you move: ➤ One dimension to the **X-Axis** box, the values of the dimension are displayed on the X-axis.  ➤ More than one dimension to the **X-Axis** box, each combination of the dimensions is represented by one tick mark in the X-axis. 

Select Measurements Page

This page enables you to select the measurements you want to display in the report and whether they should appear in rows or columns.

The measurements that are listed in the **Available Measurements** area depend on the dimensions you selected in the Dimensions Selection page. For details, see "Dimensions and Measurements" on page 159.

Important information	➤ You must select at least one measurement. ➤ The dimensions and measurements of each application are mapped differently. For details, see "Dimensions and Measurements" on page 159 or "Select the Dimension Filters Page" on page 225. ➤ General information about the wizard is available in "Service Report Builder Wizard" on page 190. **Tips and Tricks:** Before using this page, see "Tips and Tricks" on page 167. **Limitations:** See "Troubleshooting and Limitations" on page 228.
Wizard map	The Service Report Builder Wizard contains: Welcome > Service Report Properties Page > Select a Display Type Page > Select a Data Source Page > Select Dimensions Page > **Select Measurements Page** > Select the Dimension Filters Page > Summary Page

User interface elements are described below:

UI Element (A-Z)	Description
⇨	**Right.** Moves the selected measurement from the **Available Measurements** area to the **Selected Measurements** area.
⇦	**Left.** Moves the selected measurement from the **Selected Measurements** area back to the **Available Measurements** area.

UI Element (A-Z)	Description
	Create Measurement. Opens the Create Measurement dialog box where you create a customized measurement. For details, see "Create Measurement Dialog Box" on page 179. See limitations in "Troubleshooting and Limitations" on page 228.
	Edit Measurement. Select a customized measurement and click to edit the measurement in the Create Measurement dialog box. For details, see "Create Measurement Dialog Box" on page 179.
	Edit Chart Properties. Click to open the Edit Chart Properties dialog box. For details, see "Edit Chart Properties Dialog Box" on page 185. **Note:** This button is not available for Pie charts.
△ ▽	Change the order of the measurements in the **Selected Measurements** area by clicking the up and down arrows. By default, the measurements are listed in alphabetical order.
Available Measurements	Select the appropriate measurement and click the right arrow to move the measurement to the **Selected Measurements** area. The available measurements depend on the data source you selected. For a description of the measurements, see "Select a Data Source Page" on page 194.
Clear	Clears all the selections on the page.
Enable automatic preview	You can display a preview of the report by selecting **Enable automatic preview**. When you edit an existing Service report, **Enable automatic preview** is automatically selected and the **Preview** button is disabled. Any change made to the top part of the page automatically runs the preview report. **Note:** If, after previewing the page, you clear **Enable automatic preview**, the automatic preview is disabled on the next wizard page.

UI Element (A-Z)	Description
Preview	Displays a preview of the page. The preview shows the report structure with the column and row headers; it does not display data. When you edit an existing Service report, **Enable automatic preview** is automatically selected and the **Preview** button is disabled. Any change made to the top part of the page automatically runs the preview report. **Note:** ➤ The preview report displays randomly generated data and background color for illustration purposes only, and two placeholder values for each selected dimension and measurement. ➤ The preview box displays a chart that represents all the possible combinations of the selected dimensions displayed for each measurement that you select.
Selected Measurements	The list of measurements you have selected. **Note:** For some measurements (such as **Value**, or **Status**), select where you want the measurements to be displayed in the report by selecting **As column headers** or **As row headers**. For details, see "Dimensions and Measurements" on page 159. **Limitation:** You cannot select both a regular measurement and a measurement with a background at the same time when selecting to display a Service report as a Chart.

Select the Dimension Filters Page

This page enables you to filter the dimensions you want to display in the report.

Important information	➤ The **Available Dimensions** area lists both: ➤ The dimensions you selected in the Dimensions Selection page. ➤ The dimensions related to the measurements you selected in the Measurement Selection page according to the application's dimensions and measurements map. For details, see "Dimensions and Measurements" on page 159. ➤ You must select at least one dimension filter for each dimension listed in the **Available Dimension Filters** area. Depending on the links between the dimensions and measurements you selected in the previous pages of the wizard, you can select a single value or multiple values for the dimension. For details, see "Impact on the Type of Selection: Single Selection or Multiple Selection" on page 161. ➤ The dimensions and measurements of each data source are mapped differently. For details, see the dimensions and measurement maps for each data source in "Impact of the Dimensions/Measurement Selection on the Report Structure" on page 160. ➤ General information about the wizard is available in "Service Report Builder Wizard" on page 190. **Tips and Tricks:** Before using this page, see "Tips and Tricks" on page 167. **Limitations:** See "Troubleshooting and Limitations" on page 228.
Wizard map	The Service Report Builder Wizard contains: Welcome > Service Report Properties Page > Select a Display Type Page > Select a Data Source Page > Select Dimensions Page > Select Measurements Page > **Select the Dimension Filters Page** > Summary Page

User interface elements are described below:

UI Element (A-Z)	**Description**
Available Dimensions Filters	Select a dimension in the list.
Clear	Click to clear all selections.
Dimensions Filter	Select the required dimension filter. Select only two values for dimensions that are used as a base for calculated functions. If you select one value, or more than two values, an error message is displayed. For additional information, see "Impact on the Type of Selection: Single Selection or Multiple Selection" on page 161.
Enable automatic preview	Select to display a preview of the report. When you edit an existing Service report, **Enable automatic preview** is automatically selected and the **Preview** button is disabled. Any change made to the top part of the page automatically runs the report preview. **Note:** If, after previewing the page, you clear **Enable automatic preview**, the automatic preview is disabled on the next wizard page.
Preview	Click to preview the page. The preview shows the report structure with the column and row headers; it does not display data. When you edit an existing Service report, **Enable automatic preview** is automatically selected and the **Preview** button is disabled. Any change made to the top part of the page automatically run the preview report. **Note:** The report preview displays randomly generated data and background color for illustration purposes only, and two placeholder values for each selected dimension.

Summary Page

This page displays the report you have created with real data and real background color.

Important information	General information about the wizard is available in "Service Report Builder Wizard" on page 190.
Wizard map	The Service Report Builder Wizard contains: Welcome > Service Report Properties Page > Select a Display Type Page > Select a Data Source Page > Select Dimensions Page > Select Measurements Page > Select the Dimension Filters Page > **Summary Page**

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

UI Element (A-Z)	Description
▽	In MyBSM, displays the values of the dimensions selected in the Dimension Filters page that are not directly displayed in the report.
<Common report settings>	For details, see "Common Report and Page Elements" on page 322.
<Dimension filter elements>	In Report Manager, displays the values of the dimensions selected in the Dimension Filters page that are not directly displayed in the report.
Remove empty columns and rows from report	In MyBSM, select to remove the columns and rows that do not have data from the report. **Note:** ➤ When you create a Service report, you can choose components that are not necessarily related to other components in the report. Therefore, some results of the Service report may be blank when the report is generated. ➤ This option is disabled when you select the **Chart** display type for the report.

Troubleshooting and Limitations

This section includes troubleshooting suggestions and limitations for the Service report.

This section also includes the following topics:

- "General" on page 228
- "Select a Data Source Page:" on page 228
- "Select Dimensions Page" on page 228
- "Select Measurements Page" on page 228
- "Create Measurement Dialog Box" on page 229
- "Select Dimension Filters Page" on page 230

General

If you are editing a Service report and you change the data source of the report, you cannot perform the **Clear** operation in the Select Dimensions or the Select Measurement page. Clicking **Clear** issues an error message.

Select a Data Source Page:

You can use only the **Service Level Management - SLA Status data** data source with the **Service Level Management - SLA KPI data** data source.

Select Dimensions Page

It is not recommended to move two or more elements in the **Rows** box and none to the **Columns** box in the Select Dimensions page, or vice-versa. It is recommended to move at least one element in the **Columns** box and one in the **Rows** box.

Select Measurements Page

- When you select measurements from different measurement groups, the order of the measurements in the report and in the preview is different from the selected order. For example: if you select: **Value**, **Targets - All**, and **Status**, the order of the measurements in the report is: **Value**, **Status**,

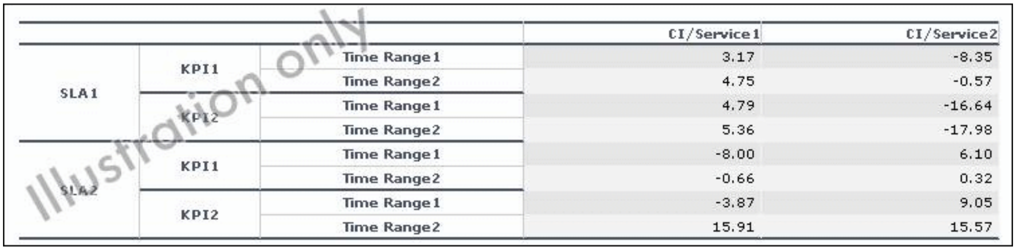
Targets - All. For details about the measurement groups, see the maps described in "Impact of the Dimensions/Measurement Selection on the Report Structure" on page 160.

- You cannot combine, in a report, an aggregated measurement with calculated measurements or with regular measurements.
- When you select the **Line/Bar/Stacked Bar/Area** chart type, and you do not move a dimension to the **Series** box in the Select Dimensions page, you can select more than one measurement in the Select Measurements page.
- When you select the **Line/Bar/Stacked Bar/Area** chart type and two measurements, the left Y-axis displays the first selected measurement scale and the right Y-axis displays the second selected measurement scale if the measurement units are different.
- When you select the **Line/Bar/Stacked Bar/Area** chart type and more than two measurements, a **Line/Bar/Stacked Bar/Area** chart is displayed for each measurement separately.
- When you use a **Pie** chart and you select several measurements, the report displays a separate pie chart corresponding to each selected measurement.

Create Measurement Dialog Box

- If you select all the available dimensions in the Select Dimensions page, you cannot create a new aggregated measurement. For details about creating aggregated measurements, see "Create Measurement Dialog Box" on page 179.
- You cannot create a measurement that already exists and give it a different name.
- You cannot create different measurements with the same name.

- It is not recommended to create a calculated measurement whose dimensions appear in both the **Rows** and **Columns** boxes in the Select Dimensions page. For example, if you create a **Diff** calculated measurement based on the **KPI Value** and the **Targets - Met** measurements, the **CI**, **SLA**, and **KPI** dimensions participate in the calculation. It is recommended to move at least one of those dimensions in the **Rows** box if the other dimensions are in the **Column** box or vice-versa, so the report has the following structure:



			CI/Service1	CI/Service2
SLA1	KPI1	Time Range1	3.17	-8.35
		Time Range2	4.75	-0.57
	KPI2	Time Range1	4.79	-16.64
		Time Range2	5.36	-17.98
SLA2	KPI1	Time Range1	-8.00	6.10
		Time Range2	-0.66	0.32
	KPI2	Time Range1	-3.87	9.05
		Time Range2	15.91	15.57

Select Dimension Filters Page

In the Select Dimension Filters page, the automatic preview displays an error message even when you have selected CIs. Click the **Preview** button or move to another dimension in the Mandatory Dimensions list to activate the preview feature.

9

Custom Link Report

This chapter includes:

Concepts

➤ Custom Link Report Overview on page 232

Tasks

➤ How to Configure a Custom Link Report on page 233

Reference

➤ New Custom Link Page on page 234

Troubleshooting and Limitations on page 235

Concepts

Custom Link Report Overview

Custom Links reports include a link to open a Web page in a browser window. For user interface details, see "New Custom Link Page" on page 234.

You can also add Custom Links reports to Custom Reports. For details, see "Custom Report Wizard" on page 85.

Tasks

How to Configure a Custom Link Report

This task describes how to configure a Custom Link Report.

This task includes the following steps:

- "Configure a Custom Link Report" on page 233
- "Specify a Header/Footer for the Custom Link Report – optional" on page 233
- "Results" on page 233

1 Configure a Custom Link Report

You configure Custom Link Reports using the Custom Link dialog box, accessed from Report Manager. For user interface details, see "New Custom Link Page" on page 234.

2 Specify a Header/Footer for the Custom Link Report – optional

You can add a custom header and footer to your Custom Link report. For concept details, see "Understanding the Header/Footer Page in the Custom Report Wizard" on page 73. For user interface details, see "Default Header/Footer Dialog Box" on page 40.

3 Results

The Custom Link Report you created includes a link to open a Web page in a browser window.

Reference

New Custom Link Page

This page enables you to create a custom link to open a web page in a browser window.

To access	Click the **New** button in Report Manager and select **New Custom Link**. To view the linked site, select the Custom Link in Report Manager table, and click the **View Report** button.
Important information	If the specified Web page includes JavaScript code that attempts to access the top frame, the browser displays an **access denied** error. To prevent this, set the browser to ignore JavaScript errors.
Relevant tasks	"How to Configure a Custom Link Report" on page 233

User interface elements are described below:

UI Element (A-Z)	Description
Name	Enter a descriptive name for the custom link.
URL	Enter the full URL of the web page you to which you want to create a link. Note: The URL must contain the protocol string (for example **http://** or **https://**).

Troubleshooting and Limitations

This section describes troubleshooting and limitations for the Custom Link reports.

- When entering the URL, do not enter a URL that is redirected, as a redirected link may cause a runtime error or the application to log out. Enter only URLs that are accessed directly upon linking.
- If the specified Web page includes JavaScript code that attempts to access the top frame, the browser displays an “access denied” error. To avoid this issue, set your browser to ignore JavaScript errors.

10

Excel Reports

This chapter includes:

Concepts

- Excel Reports – Overview on page 238

Tasks

- How to Create an Excel Report from an Excel File on page 239
- How to Create a Microsoft Excel Report That Includes Business Service Management Data on page 239

Reference

- Example of a Web Query on page 243
- New Excel Report Page on page 244

Troubleshooting and Limitations on page 245

Concepts

Excel Reports – Overview

You can build and view customized reports in HP Business Service Management that take advantage of the charting abilities of Microsoft Excel, to display various types of data collected by HP Business Service Management data collectors. The reports can be viewed with Microsoft Excel or any spreadsheet program capable of reading files with the XLS format. You cannot export information from charts into Microsoft Excel. For details on creating a Microsoft Excel Report, see "How to Create a Microsoft Excel Report That Includes Business Service Management Data" on page 239.

Note: Contact HP Software-as-a-Service Support for details on implementing Microsoft Excel reports in HP Software-as-a-Service.

Tasks

How to Create an Excel Report from an Excel File

This task describes how to create, in Reports Manager, an Excel report that includes the contents of an Excel file.

To create an Excel report that includes an Excel file data:

1 Select **Applications** > **User Reports** > **Report Manager.**

2 Click the **New** button and select **New Excel Report**.

3 In the Excel Report dialog box, enter the name of the report, its description, and browse to the Excel file you want to insert in the report.

4 Click **OK**.

The Excel report is added to the list of reports in Report Manager. When you display the report contents using the **View Report** button, the contents of the original Excel file are displayed. You can now add the Excel Report to a Custom Report.

How to Create a Microsoft Excel Report That Includes Business Service Management Data

This task describes how to create Microsoft Excel reports that include HP Business Service Management data:

This task includes the following steps:

- "Write a query" on page 240
- "Save the query" on page 240
- "Run a report with Microsoft Excel" on page 240
- "Upload the Microsoft Excel Report to Report Manager" on page 240
- "View the Microsoft Excel Report" on page 240

1 Write a query

Write a query that retrieves data from the HP Business Service Management profile database. For details on writing queries, see "Working with the Generic Reporting Engine API" on page 289.

2 Save the query

Save the query in a Web Query file. For task details, see "Create a Microsoft Excel Web Query File" on page 241.

3 Run a report with Microsoft Excel

Create a Microsoft Excel report. For task details, see "Run a Report with Microsoft Excel" on page 241.

4 Upload the Microsoft Excel Report to Report Manager

Click the **New** button in Report Manager and select **New Excel Report** to open the Excel Report dialog box and upload the Microsoft Excel report to Report Manager. For user interface details, see "New Excel Report Page" on page 244.

5 View the Microsoft Excel Report

Select the Microsoft Excel report in the table on the Report Manager main page and click the **View** button to view the report.

Create a Microsoft Excel Web Query File

This task describes how to create a text file with an **.iqy** (IQY) extension. You can then import that file, into Excel.

To create an .iqy file:

1 Open an empty file in a text editor and copy the following content into the file:

```
WEB
1
<query_url_goes_here>

Selection=EntirePage
Formatting=None
PreFormattedTextToColumns=True
ConsecutiveDelimitersAsOne=False
SingleBlockTextImport=False
DisableDateRecognition=False
DisableRedirections=False
```

2 Locate the query you created and place it in the file instead of the line `<query_url_goes_here>`.

3 Save the text file with an **.iqy** (IQY) extension.

For an example of a query that extracts data from the profile database, see "Example of a Web Query" on page 243.

Run a Report with Microsoft Excel

This task describes how to run a report with Microsoft Excel.

To run a report with Microsoft Excel:

1 Open a new Microsoft Excel file.

2 Select cell **A1**.

3. In Microsoft Excel 2002, 2003, or 2007, select **Data** > **Import External Data** > **Import Data**. Microsoft Excel opens the Select Data Source dialog box. Select the **.iqy** file you created (as explained in "Create a Microsoft Excel Web Query File" on page 241) and click **Open**. Excel opens the Import Data dialog box.

   In Microsoft Excel 2000, select **Data** > **Get External Data** > **Run Saved Query**. Microsoft Excel opens the Run Query dialog box. Select the **.iqy** file and click **Get Data**. Excel opens the Returning External Data to Microsoft Excel dialog box.

4. Select **Existing worksheet**, and check that the value **=A1** is selected.

5. Click **Properties**. Microsoft Excel opens the External Data Range Properties dialog box.

6. Make sure the following settings are configured:

   - Refresh data on file open.
   - Remove external data from worksheet before saving.
   - Overwrite existing cells with new data, clear unused cells.

7. Click **OK**. Microsoft Excel closes the External Data Range Properties dialog box and displays the Import Data dialog box (Returning External Data to Microsoft Excel dialog box in Excel 2000).

8. Click **OK** to retrieve the data.

9. Use Microsoft Excel’s charting features to format the report, as required.

10. Name the file and save the Microsoft Excel workbook to a temporary location.

Reference

Example of a Web Query

The following is an example of a typical Web query file. This example illustrates the retrieval of a list of **rum_server_t** samples that failed in any given day:

```
WEB
1
http://myServer.mydomain/topaz/gdeopenapi/GdeOpenApi?method=getData&user=ad
min&password=admin&query=select time_stamp, engine_name, server_name from
rum_server_t where availability=0 and total_hits > 0 and time_stamp>1041379200 and
time_stamp<1136197020

Selection=EntirePage
Formatting=None
PreFormattedTextToColumns=True
ConsecutiveDelimitersAsOne=False
SingleBlockTextImport=False
DisableDateRecognition=False
DisableRedirections=False
```

To use this example:

1. Type or copy the text from the above example into a text editor.
2. Edit the URL beginning on the third line of the file as required. Leave all other values as shown.
3. Save the file with an **.iqy** extension.

New Excel Report Page

This page enables you to upload a Microsoft Excel report that includes HP Business Service Management data to Report Manager.

To access	Click the **New** ✱ ▾ button in Report Manager and select **New Excel Report**.
Important information	Before you can upload an Excel report, you must: ➤ Create a Web query file that you then import into Excel. ➤ Create the report itself in Excel. For details, see "How to Create a Microsoft Excel Report That Includes Business Service Management Data" on page 239.
Relevant tasks	➤ "How to Create a Microsoft Excel Report That Includes Business Service Management Data" on page 239 ➤ "Create a Microsoft Excel Web Query File" on page 241 ➤ "Run a Report with Microsoft Excel" on page 241
See also	"Excel Reports – Overview" on page 238

User interface elements are described below:

UI Element (A-Z)	Description
Description	Type a description of the report as you want it to appear in the Report Manager table.
Excel File	Type the path to the saved Excel file you want to add, or use the Browse function to browse to the file. You can add XLS or XLSX files.
Report Name	Type a name for the report as you want it to appear in the Report Manager table.

Troubleshooting and Limitations

This section describes troubleshooting and limitations for Excel reports.

- Users who have permissions to view Microsoft Excel reports but who do not have permissions on specific profiles are able to view data from those profiles only if they are included in an Excel report.
- Microsoft Excel reports cannot return more than 10,000 records due to a Microsoft Excel limitation when using Web queries. Possible workarounds include:
    - Split the request to several consecutive queries.
    - Group data using larger time range chunks.
    - Use filter parameters to retrieve specific data.

11

Build a Custom Query Using Custom Query Builder

This chapter includes:

Concepts

➤ Build a Custom Query Using Custom Query Builder - Overview on page 248

Tasks

➤ How to Create a Custom Query on page 250

Reference

➤ Custom Query Builder User Interface on page 254

Troubleshooting and Limitations on page 275

Concepts

Build a Custom Query Using Custom Query Builder - Overview

The Custom Query Builder is a Web interface that assists in creating queries to the profile database. The queries are used to run reports.

The Custom Query Builder can also generate an HTML query string that can be used together with third-party tools or proprietary tools to extract data from the profile database.

This section also includes the following topics:

- "Getting Metadata on the Samples" on page 248
- "Configuration" on page 248
- "Applying Filters to the Query Data" on page 249
- "Supported Syntax and Limitations" on page 249

Getting Metadata on the Samples

When building queries, you must know the data representation of the sample. For information on commonly queried samples and descriptions of their fields, see "Data Samples" on page 421.

Configuration

You can modify the maximum number of data rows returned. For details, see "Set the maximum number of data rows listed in the report – optional" on page 251.

Applying Filters to the Query Data

You can apply filters to the data being extracted by the query, using the Filter dialog box. For details on the Filter dialog box, see "Filter Dialog Box" on page 266.

When a filter consists of strings containing white spaces or special characters (for example, `where bb_guid IN (a b, c)`), the white space or special character string must be enclosed with quotes (for example, `where bb_guid IN (’a b’, c)`). When you create filters on the Filter Builder page, quotes are added automatically. Special characters are defined as any characters other than digits, letters, and the following characters: `"_", "$", "#"`.

When defining a filter that consists of strings containing one or more single quote characters, you must add a second single quote character beside each instance. For example, change `szTransactionName = ('Login_to_O'brien')` to `szTransactionName = ('Login_to_O''brien')`.

Supported Syntax and Limitations

For a list of supported SQL syntax and query limitations, see "Supported SQL Syntax" on page 294 and "Query Limitations" on page 295.

Tasks

How to Create a Custom Query

This task describes the working order for building a permanent Custom Query.

This task includes the following steps:

- "Create a Custom Query" on page 250
- "Select the refresh rate of the report (MyBSM component only) – optional" on page 250
- "Set the maximum number of data rows listed in the report – optional" on page 251
- "Run or save the query" on page 251
- "Create a URL to directly access the Custom Query" on page 252

1 Create a Custom Query

You can create a Custom Query using one of the following capabilities:

- Select **Application** > **User Reports** > **Query Builder**. The Custom Query Builder dialog box opens where you can create a Custom Query. For user interface details, see "Custom Query Builder Page" on page 254.
- You can configure a Custom Query while you are configuring the Custom Report. The Custom Query is then part of the Custom Report. For details, see "How to Configure a Custom Report" on page 74.

2 Select the refresh rate of the report (MyBSM component only) – optional

When you add a Custom Query component to a MyBSM page, you can select, in the Advanced Settings table, a refresh rate for the report (either every 1 hour or every 2 hours), or specify no refresh.

3 Set the maximum number of data rows listed in the report – optional

To set the maximum number of data rows returned, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings:**

- Select **Foundations.**
- Select **Generic Data Engine Open API**.
- In the Generic Data Engine Open API - Generic Data Engine Open API Settings, locate **Maximum Rows**. Change the setting as required.

Note: The **Enable Open API** setting does not affect the Custom Query Builder.

---

4 Run or save the query

You view the data extracted by the query in the Preview page of the Custom Report wizard.

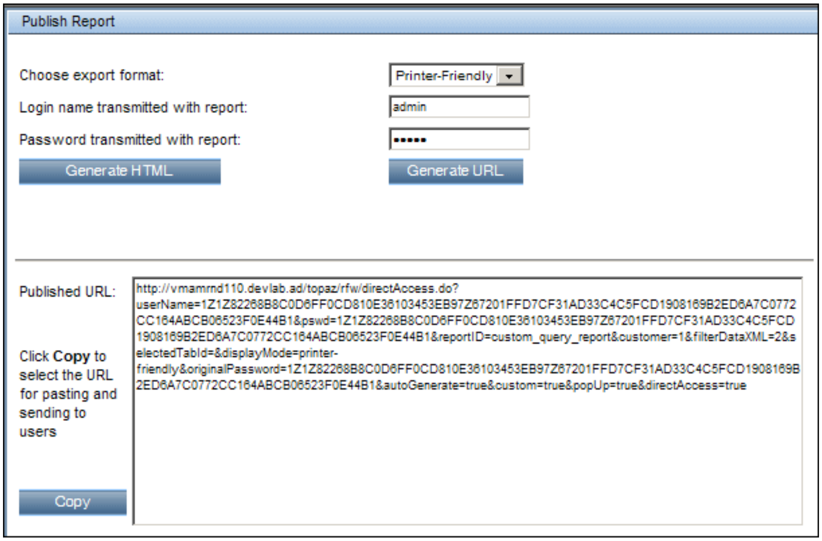
You can then annotate the report, publish it, or format it using the relevant toolbar buttons.

5 Create a URL to directly access the Custom Query

You can also create a URL that corresponds to the actual Custom Query. To create the URL, in the generated Custom Report:

a Click the **Export report to...** button on the right side of the report page, and select **Publish Report**.

b In the Publish Report dialog box, select **Generate URL**. The URL of the report is displayed in the **Published URL** field.



Choose export format: Printer-Friendly

Login name transmitted with report: admin

Password transmitted with report: •••••

Published URL:

```
http://vmamrnd110.devlab.ad/topaz/rfw/directAccess.do?
userName=1Z1Z82268B8C0D6FF0CD810E36103453EB97Z67201FFD7CF31AD33C4C5FCD1908169B2ED6A7C0772
CC164ABCB06523F0E44B1&pswd=1Z1Z82268B8C0D6FF0CD810E36103453EB97Z67201FFD7CF31AD33C4C5FCD
1908169B2ED6A7C0772CC164ABCB06523F0E44B1&reportID=custom_query_report&customer=1&filterDataXML=2&s
electedTabId=&displayMode=printer-
friendly&originalPassword=1Z1Z82268B8C0D6FF0CD810E36103453EB97Z67201FFD7CF31AD33C4C5FCD1908169B
2ED6A7C0772CC164ABCB06523F0E44B1&autoGenerate=true&custom=true&popUp=true&directAccess=true
```

Click **Copy** to select the URL for pasting and sending to users

c You can copy the URL and use the URL, in an email for example, to open the Custom Query that you have created.

d You can manipulate the time range within the URL without having to regenerate the query and the URL by adding the following parameters to the end of the generated URL. These fields automatically adjust the time range of the report:

- **from_time_stamp**=<time value in seconds UTC>
- **to_time_stamp**=<time value in seconds UTC>

These parameters should be separated using the '**&**' separator for each parameter.

```
&from_time_stamp=1259080209
&to_time_stamp=1259080809
```

The URL would be:

```
http://vmamrnd110.devlab.ad/topaz/rfw/directAccess.do?
userName=1Z1Z82268B8C0D6FF0CD810E36103453EB97Z67201FFD7
CF31AD33C4C5FCD1908169B2ED6A7C0772CC164ABCB06523F0E4
4B1&pswd=1Z1Z82268B8C0D6FF0CD810E36103453EB97Z67201FFD
7CF31AD33C4C5FCD1908169B2ED6A7C0772CC164ABCB06523F0E
44B1&reportID=custom_query_report&customer=1&filterDataXML=2
&selectedTabId=&displayMode=printer-friendly
&originalPassword=1Z1Z82268B8C0D6FF0CD810E36103453EB97Z67
201FFD7CF31AD33C4C5FCD1908169B2ED6A7C0772CC164ABCB06
523F0E44B1&autoGenerate=true&custom=true&popUp=true
&directAccess=true&from_time_stamp=1259080209
&to_time_stamp=1259080809
```

Note: If you plan to use the Custom Query URL with the date feature, it is recommended to use the value Custom in the View field in the Custom Query dialog box, to prevent problems with the dates.

Reference

Custom Query Builder User Interface

This section describes:

- Custom Query Builder Page on page 254
- <Field alias> Field Properties Dialog Box on page 258
- Filter Dialog Box on page 266
- Presentation Settings Wizard on page 267

Custom Query Builder Page

This page enables you to create queries to the profile database to run reports and to generate an HTML query string that can be used together with third-party tools or proprietary tools to extract data from the profile database.

To access	Use one of the following: ➤ **Applications** > **User Reports** > **Custom Query Builder.** ➤ In the Custom Report wizard, select the Custom Query component category to add a Custom Query Builder report to a Custom Report. For details on Custom Reports, see "Configure Custom Reports Using Report Manager" on page 67. ➤ Select the Custom Query component in MyBSM. For details on configuring a component in MyBSM, see "How to Create Your MyBSM Workspace" in *Using MyBSM*.
Important information	To create a URL query string, click the **Export** button, select **Publish Report**, specify the requested settings, and click the **Generate URL** button.

Relevant tasks	"How to Create a Custom Query" on page 250
See also	"Build a Custom Query Using Custom Query Builder - Overview" on page 248 "Common Report and Page Elements" on page 322

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

UI Element (A-Z)	Description
<Common report elements>	For details, see "Common Report and Page Elements" on page 322.
Add	Click to add the current Field Name definition to the Fields to Return area.
Alias Name	Modify the alias name for the selected field, if required. For example, if you chose **AVG** from the **Function** list, modify the alias name to say Avg Response Time.
Clear Filter	Click to clear the filter string, if required.
Edit Presentation	Click to open the Presentation Settings dialog box and configure presentation settings. For details, see "Presentation Settings Wizard" on page 267.
Field Name	Select a data field that you want to extract from the database. For a description of the available field types, see see "Data Samples" on page 421. **Tip:** When adding fields to the query, select them in the order in which you want the data columns to appear, from left to right, in the returned output.
Fields to Return	Lists the Field Aliases and Field Formulas for the fields you have added to the report's filter.

UI Element (A-Z)	Description
Filter	Displays the configured filter string. **Note:** ➤ When a filter consists of strings containing white space or special characters (for example, where bb_guid IN (a b, c)), the white space or special character string must be enclosed with quotes (for example, where bb_guid IN (‘a b’, c)). When you create filters on the Filter Builder page, quotes are added automatically. Special characters are defined as any characters other than digits, letters, and the following characters: "_", "$", "#". ➤ When defining a filter that consists of strings containing one or more single quote characters, you must add a second single quote character beside each instance. For example, change szTransactionName = ('Login_to_O'brien') to szTransactionName = ('Login_to_O''brien')
Filter Builder	Click to open the Filter dialog box and apply filters to the data being extracted by the query. For details, see "Filter Dialog Box" on page 266.
Function	Select a function to perform on the data represented in the specified data field. For example, to return average response time, select **Response Time** from the **Field name** list and **AVG** from the **Function** list. For a list of the supported functions, see "Supported Functions" on page 294.

UI Element (A-Z)	Description
Return data per specified granularity	Select if you want returned data grouped according to a specific granularity setting (for example, if you want data for the past day grouped per hour), and specify a granularity setting. **Note:** ➤ If you modify this setting after configuring presentation settings, the presentation settings are then lost. For details on presentation settings, see "Presentation Settings Wizard" on page 267. ➤ When selecting this field, it is recommended not to select the time_stamp field in the query. This is because, if **Return data per specified granularity** is selected, HP Business Service Management automatically adds a time dimension to the report.
Run	Click to run the report based on the selected data. The report appears beneath the Query Filter pane, and the Query Filter pane collapses. To edit the query or create a new query, expand the Query Filter pane. When the Query Filter pane is expanded, the existing report remains beneath it. **Note:** This element is available only when accessing the Custom Query Builder from the User Reports menu.
Sample type	Select a data sample type. For a description of the available sample types, see "Data Samples" on page 421 .

Fields to Return Area

Lists the fields you have added to the Custom Report filter.

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

UI Element (A-Z)	Description
📋	**Field Properties.** Opens the <Field Alias> Field Properties page where you can modify the default field properties and define custom properties for the field. For user interface details, see "<Field alias> Field Properties Dialog Box" on page 258.
❌	**Delete Field.** Delete the corresponding field.
Field Alias	The value of the **Alias name** cell for the added field. **Note:** You can edit the value of this field directly in the **Field Alias** cell.
Field Formula	The value of the **Function** and **Field name** cells for the added field. **Note:** You can edit the value of this field directly in the **Field Formula** cell. For example, to display returned response time in seconds rather than milliseconds, edit the field formula for Response Time, **dResponseTime**, as follows: dResponseTime / 1000.

<Field alias> Field Properties Dialog Box

This dialog box enables you to modify the default field properties and define custom properties for the field.

To access	Click the **Field Properties** 📋 button on the Custom Query Builder page.
Important information	Depending on the field you have selected in the Custom Query Builder page, this dialog box can display a subset of the UI elements described in the table below.

User interface elements are described below:

UI Element (A-Z)	Description
Critical Threshold	Displayed for **Double** and **Integer** field types. Used to add color coding in tables and graphs to data for which thresholds in the system have been defined—for example, to display transaction response time data with color coding corresponding to the **Critical** threshold defined in System Availability Management. In tables, the color coding is in the form of colored cells. In graphs, the color coding is in the form of a colored line. For details on working with Critical Threshold settings, see "OK/Critical Thresholds" on page 263.
Format	Displayed for **Date**, **Double**, and **Integer** field types. Used to customize the format of the displayed date or numerical data in data tables, as well as in graphs (x-axis, tooltips, legend). For a list of possible formats and syntax examples, see "Field Formats" on page 260.
Max length	Displayed only for **String** field type. Used to set a maximum length, in characters, for the displayed string. In cases where the string exceeds the defined length, a tooltip is shown with the complete string.

UI Element (A-Z)	Description
OK Threshold	Displayed for **Double** and **Integer** field types. Used to add color coding in tables and graphs to data for which thresholds in the system have been defined—for example, to display transaction response time data with color coding corresponding to the **OK** threshold defined in System Availability Management. In tables, the color coding is in the form of colored cells. In graphs, the color coding is in the form of a colored line. For details on working with OK Threshold settings, see "OK/Critical Thresholds" on page 263.
Type	The field type. The default type for the field is initially displayed. **Example:** By changing a field type from **Double** to **Integer**, you can display the returned data without the decimal point, if you use a function to modify a field formula in a way that results in a numerical value becoming a string. For example, if you change (**dResponseTime**) to IF(**dResponseTime,>,5000,pass,fail**), you must change the type to **String** to enable the returned result to display correctly in a table. The following field types exist: ➤ **String.** Used for textual expressions. ➤ **Date.** Used for date fields. ➤ **Double.** Used for numerical fields. ➤ **Integer.** Used for numerical fields.

Field Formats

You enter values in the **Formats** box to modify the default format for a field, as defined in the field's metadata. For example, the default date format is **M/dd/yy hh:mm:a**, which displays the date_stamp data as **5/22/06 11:25 AM**. By changing the date format, you can modify the way the date_stamp data is displayed.

You can also add a string beside the returned data, for example, the literal string ms after returned response time data. The allowed formats are based on Java formatting classes.

Some typical date/time formats include:

Symbol	**Meaning**	**Type**	**Examples**
y	Year	Number	yy > 06 yyyy > 2006
M	Month	Text or Number	M > 7 M > 12 MM > 07 MMM > Jul MMMM > December
d	Day in month	Number	d > 3 d > 14 dd > 03
h	Hour (1-12, AM/PM)	Number	h > 3 h > 11 hh > 03
H	Hour (0-23)	Number	H > 15 HH > 15
m	Minute	Number	m > 7 m > 15 mm > 15
s	Second	Number	s > 15 ss > 15
S	Millisecond (0-999)	Number	SSS > 007
E	Day in week	Text	EEE > Tue EEEE" > Tuesday
a	AM/PM	Text	a > AM aa > AM

Symbol	Meaning	Type	Examples
z	Time zone	Text	z > EST zzz > EST zzzz > Eastern Standard Time
'	Escape for text	Delimiter	'hour' h > hour 9

Some typical decimal formats include:

Symbol	Meaning	Examples
0	Shows a digit, or 0 if no digit present	Value: 123.78 Pattern: 000000.000 Output: 000123.780
#	Shows a digit, or nothing if no digit present	Value: 123.78 Pattern: #.### Output: 123.78
.	Indicates the decimal point	Value: 123.78 Pattern: #.## Output: 123.78
,	Used to group numbers	Value: 4123.78 Pattern: ,###.## Output: 4,123.78
'	Used to quote a literal symbol	Value: 123.78 Pattern: '#'###.## Output: #123.78
%	Multiplies by 100 and shows as percentage	Value: 123.78 Pattern: #% Output: 12378%

A complete reference to these classes is located on the Sun Web site, at the following URLs:

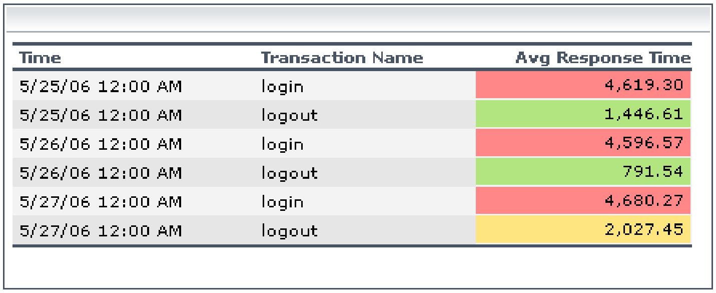
- **Date and Time Patterns.** http://java.sun.com/j2se/1.4.2/docs/api/java/text/SimpleDateFormat.html
- **Decimal Format Patterns.** http://java.sun.com/j2se/1.4.2/docs/api/java/text/DecimalFormat.html

OK/Critical Thresholds

You enter values in the **OK Threshold** and **Critical Threshold** boxes to add color coding to your reports. Colors are added to the reports as follows:

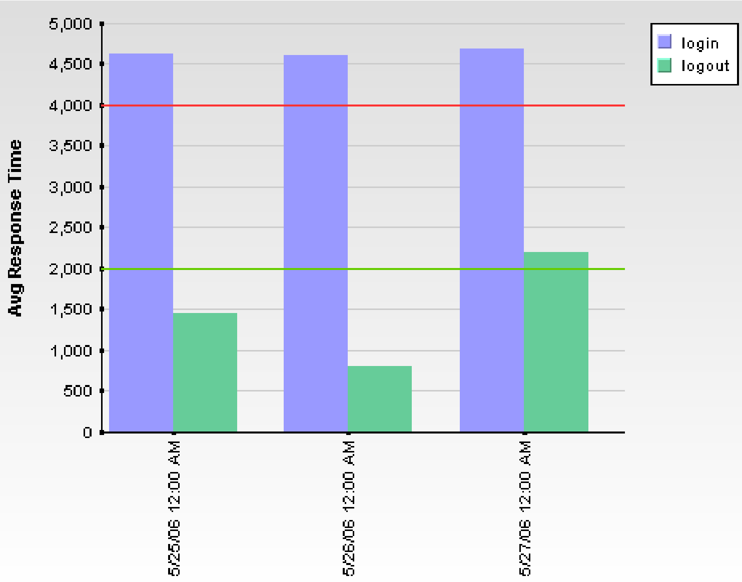
- **Green.** For values corresponding to the specified OK Threshold value.
- **Red.** For values corresponding to the specified Critical Threshold value.
- **Yellow.** For values in between the specified OK Threshold and Critical Threshold values.

  Example 1: Assuming your report is in table format, if you edit the field properties for transaction response time and specify 2000 ms for the OK Threshold and 4000 ms for the Critical threshold, all returned transaction response time values that are less than or equal to 2000 ms are colored green, all returned transaction response time values that are greater than or equal to 4000 ms are colored red, and all in-between values are colored yellow. This is the case even if, in System Availability Management, thresholds are defined differently.



Time	Transaction Name	Avg Response Time
5/25/06 12:00 AM	login	4,619.30
5/25/06 12:00 AM	logout	1,446.61
5/26/06 12:00 AM	login	4,596.57
5/26/06 12:00 AM	logout	791.54
5/27/06 12:00 AM	login	4,680.27
5/27/06 12:00 AM	logout	2,027.45

Example 2: Assuming your report is in graph format and average response time is selected for the y-axis, if you edit the field properties for transaction response time and specify 2000 ms for the OK Threshold and 4000 ms for the Critical threshold, a green line is drawn on the graph at the 2000 point and a red line is drawn on the graph at the 4000 point.



The following types of values can be entered in the **OK Threshold** and **Critical Threshold** boxes:

- **Numerical values.** You enter the actual values according to which you want data colored. Numerical values entered in the **OK/Critical Threshold** boxes color code both data tables (cells whose values are within a specific threshold range are colored accordingly) and graphs (a colored line representing the specified value is added to the graph). The values that you enter override any actual set threshold values.

Note: When editing the query presentation format to return a graph, if you configure multiple y-axes on the same graph, no colored line is displayed. For details on editing presentation see "Presentation Settings Wizard" on page 267.

- **Referenced fields.** You enter the exact field alias of two other fields that have been added to the query. The values of the referenced fields must be numerical. Typically, you add threshold fields such as **Green Threshold** and **Red Threshold**. Referenced fields entered in the **OK/Critical Threshold** boxes color code only data tables (cells whose values are within a specific threshold range are colored accordingly). Graphs are not color coded.

The following logic is used when determining how to interpret the values placed in the **OK Threshold** and **Critical Threshold** boxes to correctly apply color to the reports:

- If the numerical value or value of the referenced field entered in the **OK Threshold** box is lower than the numerical value or value of the referenced field entered in the **Critical Threshold** box, HP Business Service Management assumes that lower values are OK and higher values are Critical (for example, response time). Data is colored accordingly.

  For example, under this assumption, values returned for the field whose properties you are editing that were less than or equal to the numerical value or value of the referenced field specified in the **Green Threshold** box would be colored green.

- If the numerical value or value of the referenced field entered in the **OK Threshold** box is higher than the numerical value or value of the referenced field entered in the **Critical Threshold** box, HP Business Service Management assumes that higher values are OK and lower values are Critical (for example, measurement of disk space). Data is colored accordingly.

  For example, under this assumption, values returned for the field whose properties you are editing that were less than or equal to the numerical value or value of the referenced field specified in the **Red Threshold** box would be colored red.

Filter Dialog Box

This dialog box enables you to apply filters to the data being extracted by the query.

To access	Click the **Filter Builder** button on the Query Filter pane.

User interface elements are described below:

UI Element (A-Z)	Description
Add 'OR' Expression	Click to add **Or** filters.
Add Values	Click when available to select from a predefined list of values. The **Add Values** button is enabled for fields whose lookup value is defined as **true** in the sample metadata in the database (generally for final, discreet values).
And	Click to add an additional **And** filter.
Field	Select a field to which you want to apply a filter. For example, select **Profile Name** to filter the query to return data only for specific profiles (rather than all profiles in the database), or select **Response Time** to filter the query to return only response time data above or below a specific value (rather than all response times).

UI Element (A-Z)	Description
Operator	Select the required operator. For a description of the supported operators, see "Supported SQL Syntax" on page 294. **Note:** The LIKE operator does not work for the **Profile Name** field.
Value	Specify the required value. For example, if you are filtering the query by transaction name, specify a specific transaction. If you use the LIKE operator, you can use the * wildcard character to return like results (for example, a value of *westcoast* would return all transactions whose name included the string **westcoast**).

Presentation Settings Wizard

This wizard enables you to configure the presentation display of your Custom Query.

To access	Click the **Edit Presentation** button on the Query Filter pane.
Important information	The pages that appear on the Presentation Settings wizard depend on the option you select in the previous page of the wizard.
Relevant tasks	"How to Create a Custom Query" on page 250

Wizard map	The Presentation Settings Wizard contains the following pages, depending on your choice in the **Choose Presentation View** page of the wizard: ➤ **Table View:** Depending on your choice in the Choose Table Type Page: ➤ **Regular:** Choose Presentation View Page > Choose Table Type Page > Select Field Order Page > Sort Field Order Page ➤ **Pivot:** Choose Presentation View Page > Choose Table Type Page > Table Definition Page ➤ **Graph View:** Choose Presentation View Page > Choose Graph Type Page > Define Graph Page
See also	"Build a Custom Query Using Custom Query Builder - Overview" on page 248 "Custom Query Builder Page" on page 254

Choose Presentation View Page

This page enables you to choose the layout you want to use for displaying the Custom Query you are creating: **Table** or **Graph**.

Choose Table Type Page

This page enables you to choose the type of table you want to use for displaying the Custom Query you are creating: **Regular** or **Pivot**. This page is available only if you selected **Table** in the **Choose Presentation View** page.

Select Field Order Page

This page enables you to select the order of the fields that appear in the table in the Custom Query report. This page is available only if you selected **Regular** in the **Choose Table Type** page.

Sort Field Order Page

This page enables you to select the Custom Query report fields that are available for sorting and to select how you want to sort these fields. Fields are first sorted by the topmost field, then by the next, and so on. This page is available only if you selected **Regular** in the **Choose Table Type** page.

Table Definition Page

This page enables you to select the fields you want to use to sort the table. This page is available only if you selected **Pivot** on the **Choose Table Type** page.

Note: If **Return data per specified granularity** is selected for the query, the Custom Query Builder feature adds **Time** to the list of available fields in the **Table Definition** page.

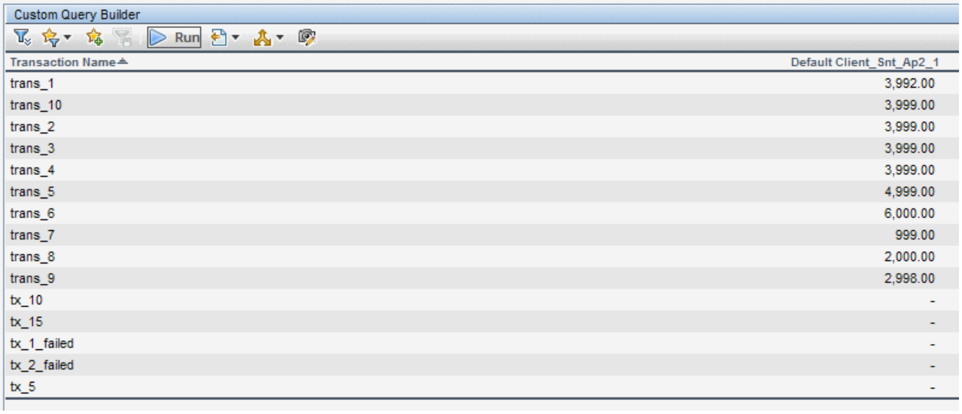
The main user interface elements are described below (unlabeled elements are shown in angle brackets):

UI Element (A-Z)	Description
<Arrow buttons>	Use the buttons to select the key columns you want to display, and to select the order in which the key columns appear in the table.
Across Column	Select a field for the **Across Column**. Each unique value returned for that field is displayed in a separate column in the table. Examples of useful fields to select for the across column include: **time**, **location**, or any other type of field that returns a relatively small number of data points that are useful to compare one to another.

UI Element (A-Z)	Description
Available Key Columns	Select one or more fields, and move them to the Selected Key Columns list by clicking the relevant right arrow key. Consider selecting fields that contain data that you want to compare against the field selected in the **Across Column**. For example, in a query filtered to one specific transaction, if you selected **time** for the Across Column and **average response time** for the Value Field, you could select **location** and **host** fields as key columns; this would enable you to directly compare average response time of a transaction for various hosts at different locations at specific points in time. **Note:** The fields that remain in the **Available Key Columns** box still exist in the query, but are hidden in the report table returned by the query.
Selected Key Columns	Displays the fields selected from the **Available Key Column** list. Each selected field displays in the table, to the left of the field selected for the Across Column. You can remove individual or all selections by clicking the left arrow keys.
Value Field	Select a field for the value field. It is recommended that you select a field that returns a meaningful numerical value, for example, **response time**. Do not select date-related fields such as **Time** or **time_stamp**.

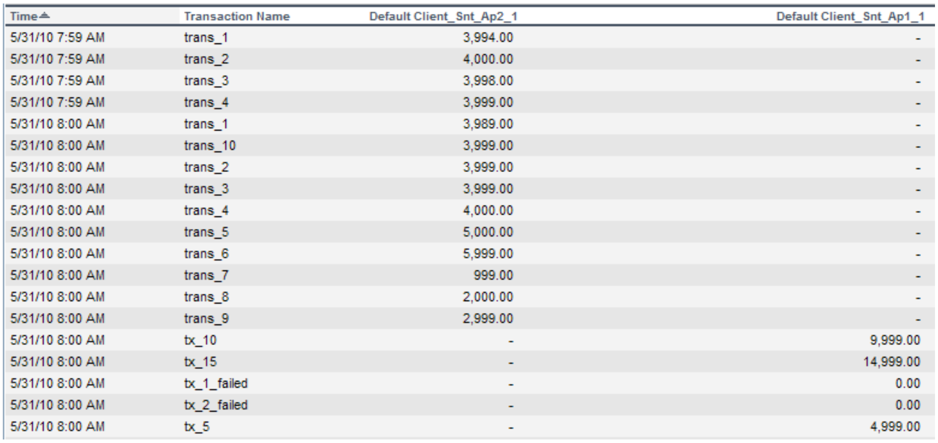
Example of a Table Representation of the Custom Query Report:

Select, in the Custom Query Builder page, for the Transactions_trans_t sample, the Application Name, Transaction Name, and Response Time fields. In the Edit Presentation wizard, select the Pivot Table structure. In the Table Definition page in the wizard, select Application Name in the **Across Column** list, Response Time in the **Value Field** list, and move Transaction Name to the **Selected Key Columns** list. As a result, for each application represented by each column, and for each transaction represented by each row, the table displays the response time.



Transaction Name	Default Client_Snt_Ap2_1
trans_1	3,992.00
trans_10	3,999.00
trans_2	3,999.00
trans_3	3,999.00
trans_4	3,999.00
trans_5	4,999.00
trans_6	6,000.00
trans_7	999.00
trans_8	2,000.00
trans_9	2,998.00
tx_10	-
tx_15	-
tx_1_failed	-
tx_2_failed	-
tx_5	-

Select, in addition, in the Custom Query Builder page, the **Return data per specified granularity** option, to automatically add the **Time** field to the list of available sample fields. In the Edit Presentation wizard, select the Pivot Table structure. In the Table Definition page in the wizard, select Application Name in the **Across Column** list, Transaction Name in the **Value Field** list, and move Response Time and Time to the **Selected Key Columns** list. As a result, for each application represented by each column, and for each time period represented by each row and for each transaction represented by repeated rows in each time period, the table displays the response time.



Time▲	Transaction Name	Default Client_Snt_Ap2_1	Default Client_Snt_Ap1_1
5/31/10 7:59 AM	trans_1	3,994.00	-
5/31/10 7:59 AM	trans_2	4,000.00	-
5/31/10 7:59 AM	trans_3	3,998.00	-
5/31/10 7:59 AM	trans_4	3,999.00	-
5/31/10 8:00 AM	trans_1	3,989.00	-
5/31/10 8:00 AM	trans_10	3,999.00	-
5/31/10 8:00 AM	trans_2	3,999.00	-
5/31/10 8:00 AM	trans_3	3,999.00	-
5/31/10 8:00 AM	trans_4	4,000.00	-
5/31/10 8:00 AM	trans_5	5,000.00	-
5/31/10 8:00 AM	trans_6	5,999.00	-
5/31/10 8:00 AM	trans_7	999.00	-
5/31/10 8:00 AM	trans_8	2,000.00	-
5/31/10 8:00 AM	trans_9	2,999.00	-
5/31/10 8:00 AM	tx_10	-	9,999.00
5/31/10 8:00 AM	tx_15	-	14,999.00
5/31/10 8:00 AM	tx_1_failed	-	0.00
5/31/10 8:00 AM	tx_2_failed	-	0.00
5/31/10 8:00 AM	tx_5	-	4,999.00

Choose Graph Type Page

This page enables you to choose the type of graph: **Bar** or **Line** you want to use to display the Custom Query you are creating. This page is available only if you selected **Graph** in the **Choose Presentation View** page.

Define Graph Page

This page enables you to specify the layout of the graph in which the Custom Query is displayed. This page is available only if you selected **Graph** in the **Choose Presentation View** page.

User interface elements are described below:

UI Element (A-Z)	Description
<Arrow buttons>	Use the arrows to select the dimensions and the order in which the dimensions appear in the graph. If no dimensions are selected, the y-axis value is used as a single dimension. The data for a field selected as a dimension is displayed on the graph separately, differentiated using a color coding.
Available Dimensions	Optionally, select one or more dimensions for the graph. If no dimensions are selected, the y-axis value is used as the single dimension. **Note:** The fields that remain in the **Available Dimensions** box are not sent as part of the query and do not appear in the report.
Max. Scale	Optionally, specify a maximum value for the y-axis scale.
Min. Scale	Optionally, specify a minimum value for the y-axis scale.
Selected Dimensions	The dimensions that have been selected to appear in the graph. The data for a field selected as a dimension is displayed on the graph separately, differentiated using a color coding.

UI Element (A-Z)	Description
X-axis	Select a field to display on the x-axis. Both numerical fields and strings are supported. **Note:** If Return data per specified granularity is selected for the query, the Custom Query Builder feature defines the x-axis as **Time**. This cannot be modified.
Y-axis	Select one or more numerical fields to display on the y-axis (only numerical fields are supported). Fields selected for the y-axis are removed from the Dimensions list. ➤ If multiple y-axis fields are selected but no dimensions are selected, one single graph is displayed with all the fields on the same y-axis. For the graph with multiple y-axis fields to be meaningful, consider selecting fields whose values are comparable. ➤ If multiple y-axis fields are selected and one or more dimensions are selected, a separate graph is displayed for each separate y-axis.

Example of a Graphic Representation of the Custom Query Report:

Select, in the Custom Query Builder page, for the Transactions_trans_t sample, the Application Name, Transaction Name, and Response Time fields and the **Return data per specified granularity** option. Select, in the Edit Presentation wizard, the Bar Graph structure. In the Define Graph page in the wizard, select Response Time in the **Y-axis,** Time is automatically selected in the **X-axis** list, and move Application Name and Transaction Name to the **Selected Dimensions** list. As a result, for each time period in the X-axis, and each response time in the Y-axis, each transaction (and application) is represented by a bar with the legend providing the color of the bar and the name as <transaction_name_application_name>.

Troubleshooting and Limitations

This section describes troubleshooting and limitations for the Custom Query Builder.

- **Leaving the Custom Query Builder page while building the query.** If you leave the Custom Query Builder page while building a query, the query is lost. To avoid losing the query, click the **Run** button to run a report based on the query. After running a report, if you move to a different page and then return to the Custom Query Builder page, the last query built prior to report generation is available.
- **Logging out of the Web session.** Once you log out of your current Web session, the query is lost.
- **Closing the Custom Query Builder window.** When accessing the Custom Query Builder window from the Custom Report wizard, the query is lost as soon as you close the window, unless you click **OK** to save it.

12

CI Change Report

This chapter includes:

Concepts

➤ CI Change Report Overview on page 278

Tasks

➤ How to Configure and Schedule the CI Change Report on page 279

Reference

➤ Change Report User Interface on page 281

Concepts

CI Change Report Overview

CI Change reports enable you to view and analyze the actual changes made to a specific CI and its children, or to a specific view. This can help with possible troubleshooting issues related to this CI. For example, seeing the changes that occurred to a CI might enable you to conclude that these changes are the cause of the problem. By the same token, the source of the troubleshooting issue could be related to expected changes which failed to occur.

Tasks

How to Configure and Schedule the CI Change Report

This task describes how to set up the Change report.

This task includes the following steps:

- "Configure how the Change Report retrieves the CIs" on page 279
- "Configure the properties to monitor for change" on page 280
- "Schedule the Change Report" on page 280
- "Result" on page 280

1 Configure how the Change Report retrieves the CIs

The report displays changes that occurred in a selected CI and all its children, which are linked, by default, by an **impact_link**. The CIs in the generated report are retrieved according to the Infrastructure Settings Manager settings.

To set up the Change Report:

a To specify how to retrieve the CIs, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**.

b Select **Foundations**.

c Select **RTSM**.

d In the **RTSM - General Settings** table, locate and modify the following entries:

- **Change Report link name,** if you want to retrieve CIs that are linked by the selected calculated link. In the **Value** box, enter the name of the link as it appears in the **Name** box (not the **Display Name** box) in the Details page of the selected relationship in the CI Type Manager. For details, see "Details Page" in *Modeling Guide*.
- **Change Report link qualifier,** if you want to retrieve CIs that are defined with a qualifier. In the **Value** box, enter the name of the required qualifier. For information about qualifiers, see "Qualifiers Page" in *Modeling Guide*.

2 Configure the properties to monitor for change

The Change report displays information about the changes made to the CIs whose properties are marked as either **Change Monitored** or **Comparable**. For details, see "Add/Edit Attribute Dialog Box" in *Modeling Guide*.

3 Schedule the Change Report

Scheduling Change reports to run periodically also enables you to monitor the changes that are made to the system and verify that all the changes are in line with your organization's planning. For details, see "How to Schedule a Report" on page 49.

4 Result

You can access the Change report using the following:

- In a view, right-click the relevant CI and select **Reports** > **Change Report** in Service Health and other applications.
- You can also access Change report using the Change Rule right-click option for any CI with changed properties in relevant views in Service Health. For details, see the "Change Rule" option in *Using Service Health*.

Reference

Change Report User Interface

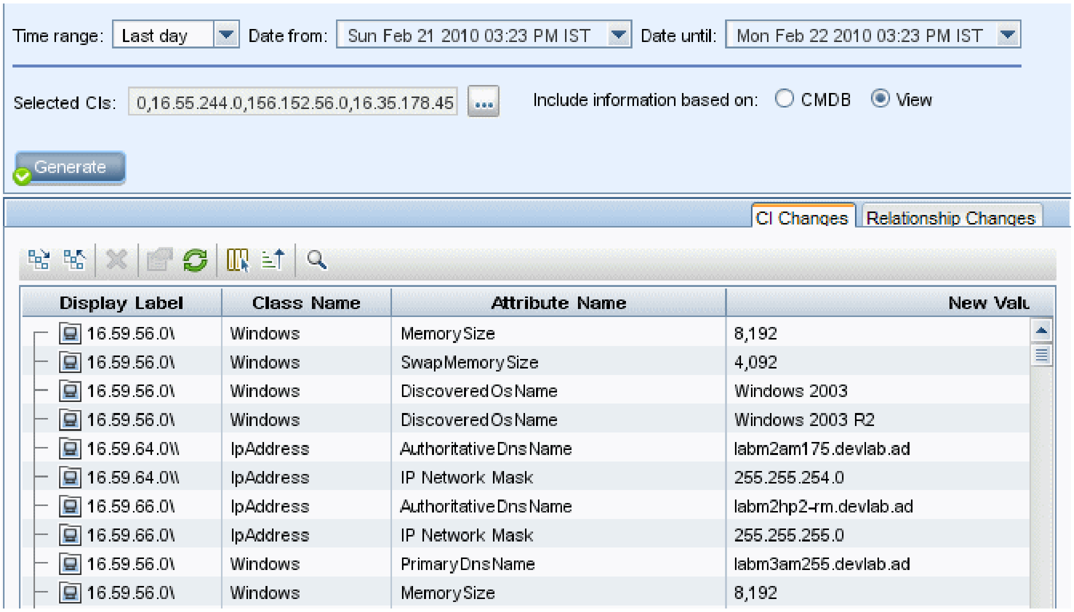
This section describes:

- CI Change Report Page on page 282
- CI History Report Page on page 286
- Select CI/View Dialog Box on page 287

CI Change Report Page

This report displays information about the changes made to the CIs whose properties are marked as either **Change Monitored** or **Comparable** and enable you to view and analyze the actual changes made to a specific CI and its children. This can help with possible troubleshooting issues related to this CI. For example, the changes in a CI may enable you to conclude that these changes are the cause of the problem. By the same token, the source of the troubleshooting issue could be related to expected changes which failed to occur. This report enables you to view CI attribute changes, as well as CIs that were added to or removed from a CI and its children.

This is an example of a Change report:



Time range: Last day

Date from: Sun Feb 21 2010 03:23 PM IST

Date until: Mon Feb 22 2010 03:23 PM IST

Selected CIs: 0,16.55.244.0,156.152.56.0,16.35.178.45

Include information based on: ○ CMDB ● View

Display Label	Class Name	Attribute Name	New Valu
16.59.56.0\	Windows	MemorySize	8,192
16.59.56.0\	Windows	SwapMemorySize	4,092
16.59.56.0\	Windows	DiscoveredOsName	Windows 2003
16.59.56.0\	Windows	DiscoveredOsName	Windows 2003 R2
16.59.64.0\\	IpAddress	AuthoritativeDnsName	labm2am175.devlab.ad
16.59.64.0\\	IpAddress	IP Network Mask	255.255.254.0
16.59.66.0\	IpAddress	AuthoritativeDnsName	labm2hp2-rm.devlab.ad
16.59.66.0\	IpAddress	IP Network Mask	255.255.255.0
16.59.56.0\	Windows	PrimaryDnsName	labm3am255.devlab.ad
16.59.56.0\	Windows	MemorySize	8,192

To access	➤ In a view, right-click the relevant CI and select **Reports** > **Change Report** in Service Health and other applications. ➤ You can also access Change report using the Change Rule right-click option for any CI with changed properties in relevant views in Service Health. For details, see the "Change Rule" option in *Using Service Health*.

Important Information	Only those CIs whose CIs whose properties are marked as either **Change Monitored** or **Comparable** appear in the report. For details, see "Add/Edit Attribute Dialog Box" in *Modeling Guide*. CI Change reports display: ➤ Changes that occurred in a selected CI and all its children, which are linked, by default, by an impact_link. The CIs in the generated report are retrieved according to the Infrastructure Settings Manager settings. Go to **Managers** > **Administration** > **Infrastructure Settings** > **Applications** > **MamWeb**. ➤ Select **Change Report relationship name** to retrieve CIs that are linked by the selected calculated relationship. In the **Value** box, enter the name of the relationship as it appears in the **Name** box (not the **Display Name** box) in the Details page of the selected relationship in the CI Type Manager. For details, see "Details Page" in *Modeling Guide*. ➤ Select **Change Report relationship qualifier** to retrieve CIs that are defined with a qualifier. In the **Value** box, enter the name of the required qualifer. For information about qualifiers, see "Qualifiers Page" in *Modeling Guide*. ➤ CIs with a **Container link** relationship that were added to, or removed from, a CI. ➤ CIs whose relationship is defined with a **TRACK_LINK_CHANGES** qualifier, that are added to, or removed from, a CI. For information about qualifiers, see "Qualifiers Page" in *Modeling Guide*.
Relevant tasks	"How to Configure and Schedule the CI Change Report" on page 279
See also	"Working in Reports" on page 39

User interface elements are described below:

UI Element (A-Z)	Description
Date from	Configure a start date and time for the report.
Date until	Configure an end date and time for the report.
Include information based on	Select one of the following: ➤ **CMDB.** Display the changes that occurred to the CI and its children in the entire CMDB. ➤ **View.** Display the changes that occurred to the CI and its children in the selected view.
Selected CI	Select the required CIs. Opens the Select CI/View dialog box. For details, see "Select CI/View Dialog Box" on page 287.
Time range	Select a time frame over which to display the changes. The system automatically provides the starting and ending dates in the **Date from** and **Date until** boxes. **Note:** If you select **Custom**, you can manually configure a starting and ending date in the **Date from** and **Date until** boxes.

CI Changes Tab

Important Information	To view the change history of a CI, right-click anywhere in the row of the required CI and select **CI History**.

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

UI Element (A-Z)	Description
<View other pages>	To view other pages, use the left and right arrows. The number between the left and right arrows indicate which pages are currently being displayed. For example, 1 - 2 of 3 means that the 1st and 2nd pages out of 3 are being displayed.
Change Date	The date at which the change occurred.

UI Element (A-Z)	Description
Changer	The name of the user that manually modified the CI's property, or the name of the Data Flow Probe that automatically discovered a change made to the CI's property.
Attribute Name	The name of the CI attribute that was changed.
Class Name	The CI type of the changed CI.
Display Label	The label of the path from the root to the CI. **Note:** A backslash (\) in a CI name indicates a parent-child relationship with the format: <**parent_CI**>\<**child_CI**>. For example, the entry 16.59.63.0\Windows provides change information for the Windows CI which is the child of the 16.59.63.0 CI. **Note**: Click to view the change history of a specific CI. For details, see "CI History Report Page" on page 286.
New Value	The new value of the CI attribute.
Old Value	The previous value of the CI attribute (before the change).

Relationship Changes Area

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

UI Element (A-Z)	Description
<**Shortcut menu**>	For details, see "Service Health Menu Options" in *Using Service Health*.
<**Toolbar**>	For details, see "Common Report and Page Elements" on page 322.
Change Date	The date and time at which the update was performed.
Changer	The name of the user that manually modified the CI's property, or the name of the Data Flow probe that automatically discovered a change made to the CI's property.

UI Element (A-Z)	Description
Container Label	The label of the path from the root to the container CI. A backslash (\) in a CI name indicates a parent-child relationship with the format: <parent_CI>\<child_CI>. For example, the entry 16.59.63.0\Windows provides change information for the Windows CI which is the child of the dancer.hp.com CI. **Note**: Double-click an item to view the change history of the container CI. For details, see "CI History Report Page" on page 286.
Event type	You can have one of the following values: ➤ **Add related CI.** A contained CI was added to the container CI using a **Container link** relationship. ➤ **Remove related CI**. A contained CI that was linked to a container CI using a **Container link** was removed.
Related label	The label of the path from the root to the contained CI. **Note**: Double-click an item to view the change history of the related CI. For details, see "CI History Report Page" on page 286.

CI History Report Page

This page enables you to view all the changes in the properties of a specific CI or for CIs linked by a **Container link** link, from the time they were created.

To access	➤ In the CI Changes area, click one of the links in the **CI label** column for the required CI. or ➤ In the Relationship Changes area, click one of the links in the **Container label** or **Related label** columns for the required CI.
Important Information	Make sure that popups are not blocked in your browser.

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

UI Element (A-Z)	Description
Change Date	The date and time when the update was performed.
Changer	The name of the user that manually modified the CI's property, or the name of the Data Flow probe that automatically discovered a change made to the CI's attribute.
CI Attribute	The name of the CI attribute that was updated.
New Value	The new value of the CI attribute.

Select CI/View Dialog Box

This dialog box enables you to select a CI or view using View Explorer functionalities.

To access	**Selected CIs** or **Select CI/View** in the CI Change report.
Important Information	The Select CI/View dialog box consists of two functional formats: Browse mode and Search mode. ➤ In Browse mode you can search for and display a view, and browse through the view to locate a particular CI. You can also perform operations for the CI from a context menu. ➤ In Search mode you can search for one or more CIs in the views or the RTSM, search for all occurrences of a CI, or filter the list of CIs that is displayed.

A View's Context Menu Options in Browse Mode

GUI Element (A-Z)	Description
Properties	Opens the Properties page for the selected CI. For details, see "Configuration Items Dialog Box" in *Using Service Health*.
Save Snapshot	Enables you to take a snapshot of a view and save it. For details, see "Save Snapshot Dialog Box" in *Modeling Guide*.
Set View Parameters	Enables you to edit the predefined parameters of conditions of nodes in a view.

A CI's Context Menu Options in Browse Mode

GUI Element (A-Z)	Description
CI History	Enables you to view all the changes in the properties of a specific CI or for CIs linked by a **Container link** relationship, from the time they were created. For details, see "CI History Report Page" on page 286.
Properties	Opens the Properties page for the selected CI. For details, see "Configuration Items Dialog Box" in *Using Service Health*.
Run Correlation	Enables you to run the Correlation rule you defined in Correlation Manager for that view. For details, see "Run Impact Analysis Dialog Box" in *Modeling Guide*.

13

Working with the Generic Reporting Engine API

Note to HP Software-as-a-Service customers: For details on how to use the Generic Reporting Engine API in an HP Software-as-a-Service environment, contact HP Software-as-a-Service Support.

This chapter includes:

Concepts

- Generic Reporting Engine API – Overview on page 290
- Data Returned on page 292
- Querying with a Browser on page 293
- Using the Web Service on page 293
- Supported SQL Syntax on page 294
- Supported Functions on page 294
- Query Limitations on page 295
- Date-Time Values on page 296
- byTime Function on page 297
- Query Examples on page 298

Concepts

Generic Reporting Engine API – Overview

The recommended method for creating API-level queries to the profile database is building queries using the Custom Query Builder. The Custom Query Builder enables the building of queries using a graphical user interface, and facilitates the generation of reports, extraction of data in different formats, and generation of query URLs that can be used with third-party or custom tools. For details, see "Build a Custom Query Using Custom Query Builder" on page 247.

The Generic Reporting Engine API also enables manual creation of queries using the following methods:

- **Web browser.** The request is sent as an HTML query and the data is returned as HTML or as a CSV (Comma Separated Values) file that can be opened with Microsoft Excel or processed with a custom tool.
- **Web Service.** The return object contains the data in CSV format.

The remainder of this chapter describes how to create queries manually.

Prerequisite Knowledge

Users of the API should be familiar with SQL syntax and HP Business Service Management administration and applications. Users of the API through the Web Service should also be familiar with the SOAP specification and an object-oriented programming language such as C++ or Java.

Permissions

For a query to access the data using the API query syntax described below, the user and password parameters passed in the query must be those of a user with either System Viewer or Superuser permissions. (For details on setting permissions in the Permissions Manager, see "Permissions Overview" in *Platform Administration*.)

Configuration

To configure the API options, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**:

- Select **Foundations.**
- Select **Generic Data Engine Open API**.
- In the Generic Data Engine Open API - Generic Data Engine Open API Settings table, locate:
  - **Maximum Rows.** Change the maximum number of data rows returned.
  - **Enable Open API.** Enable or disable the use of the Generic Reporting Engine API, as required.

Getting Metadata on the Samples

When building queries, you must know the data representation of the sample. For information on commonly queried samples and descriptions of their fields, see "Data Samples" on page 421.

Advanced Sample Retrieval

Users with special reporting needs can retrieve a list of all samples and their fields using the MBean Inspector. Access the MBean Inspector page by entering the following URL in your browser:

```
http://<server>[:port]/jmx-console/
HtmlAdaptor?action=inspectMBean&name=Topaz%3Aservice%3DMeta-Data+
Manager
```

The default port number is 8080. If this port is incorrect, consult your system administrator for the correct port number.

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

On the MBean Inspector page, click the **Invoke** button next to the operation **showMetaDataDBMapping**. The bean returns the list of the fields in each sample.

Data Returned

The same data is returned whether the request is made from a browser or with the Web Service. With a browser, the data resides in the response body, and for the Web Service, the data resides in the return object.

Web Browser Response Body

When the query is submitted from a browser, the response CSV or HTML contains either the data, or an error code and message. If the number of rows to be returned exceeds the maximum, the last row of the data is Returned *X* of *Y* rows, where *X* is the number of rows returned and *Y* is the actual number of rows that fulfil the conditions of the query. If there is an error at the engine level, the HTTP success code is returned, but the body of the response is <error code>, <error message>.

Web Service Return Object

The Web Service return object contains the following:

- **retval.** The data or an error message.
- **errorCode.** The error code (type int). Possible error codes are:
  - 0 - Success
  - 100 - Authorization error
  - 101 - Processing error
  - 102 - Open API has been disabled
- **origRowCount.** The actual number of rows the query should have returned (type int). If the number of rows to be returned exceeds the maximum, the **origRowCount** field is set to the actual number of rows that the query would have returned had the maximum not been exceeded.

Querying with a Browser

When querying with a browser, the getData service is called with the URL:
`http://<server>[:port]/topaz/gdeopenapi/GdeOpenApi?method=getData&user=<username>&password=<password>&query=<query>`

The URL can include an optional resultType parameter:
`http://<server>[:port]/topaz/gdeopenapi/GdeOpenApi?method=getData&user=<username>&password=<password>&query=<query>&resultType=csv`

The port specification is only necessary for non-standard installations. Consult your system administrator for the correct port number.

The default return type is HTML. If `resultType=csv` is specified, a comma separated values file is returned.

Using the Web Service

The API Web Service enables submitting a query consisting of a username, password, and an SQL-like select statement. The engine returns an error description if it cannot parse the statement or if there is a problem running the query. If there is no error, the results of the query are returned.

The SOAP WSDL is at:

`http://<server>[:port]/topaz/gdeopenapi/services/GdeWsOpenAPI?wsdl`

The port specification is only necessary for non-standard installations. Consult your system administrator for the correct port number.

Supported SQL Syntax

The language supported is a subset of SQL and supports these keywords, modifiers, and operators:

- SELECT
- WHERE
- FROM
- TOP
- HAVING
- Aliasing with the AS keyword
- Logical operators OR , AND , NOT
- DISTINCT modifier (only supported for select list items)
- IN operator. Inner selects can be used to return the values for the IN operator.
- BETWEEN operator
- IS NULL (IS NOT NULL is not supported)
- LIKE. The wildcard character is the asterisk (*). Do not use the percent sign (%). The asterisk can not be used by itself (LIKE *). It must be used with other characters.
- Mathematical operators: +, -, *, /, (,)
- Comparators: =, IS, !=, <>, >, >=, <, <=
- ORDER BY and the ASC and DESC modifiers

Supported Functions

The supported functions are as follows:

- MAX
- MIN
- SUM

- COUNT
- AVG
- STDDEV
- SUMOFSQR
- LOG
- CEIL
- FLOOR
- MOD
- SQRT
- REPLACENULL (equivalent to Oracle's NVL and Microsoft SQL Server's ISNULL)
- IF
- "byTime Function" described on page 297

Query Limitations

The following limitations apply to queries submitted to the service:

- Only one monitor type can be selected in a single query.
- The asterisk (*) is not supported as a wildcard character except in combination with the LIKE operator. It is supported as the multiplication operator.
- Inner selects and joins are not supported, with one exception: an inner select can be used to return the values for an IN clause.
- The ORDER BY clause requires a column number, for example ORDER BY 1. ORDER BY column name is not supported.
- The engine requires that queries contain a time limitation (that is, a condition for the time_stamp field) in the WHERE clause.
- The GROUP BY clause is not supported. It is unnecessary because the engine treats all fields that do not have an aggregate function as GROUP BY fields.

- When manually defining a filter that consists of strings containing white space or special characters (for example, where bb_guid IN (a b, c)), you must enclose the white space or special character string with quotes (for example, where bb_guid IN (‘a b’, c)). When you create filters on the Filter Builder page, HP Business Service Management automatically adds the quotes. Special characters are defined as any characters other than digits, letters, and the following characters: "_", "$", "#".
- When defining a filter that consists of strings containing one or more single quote characters, you must add a second single quote character beside each instance. For example, change szTransactionName = ('Login_to_O'Brien') to szTransactionName = ('Login_to_O''Brien').
- The columns in the returned data are labeled Column 0, Column 1, and so on. To return meaningful column labels, use the SQL AS operator. For example, Select time_stamp as TimeStamp. With this use of the AS operator, the column label is TimeStamp.
- The "COUNT (DISTINCT <field>)" syntax is not supported. Instead use the "COUNT DISTINCT (<field>)" syntax.

Date-Time Values

Time in queries and return data is specified in seconds since January 1, 1970. You can use Microsoft Excel to convert between time values in seconds and date- time.

Time is most commonly used for time stamp fields.

To get a GMT time for use in a query:

Enter the date and time in a Date-formatted cell and in another cell, formatted as General, enter the formula:
=(<date cell> - 25569) * 86400

To correct for a local time zone:

Add the time zone offset times 3600 seconds to the result. For example, for Central Europe (GMT + 2):
=(<date cell> - 25569) * 86400 + (2 * 3600)

To view a time value from a query as a GMT date in Excel:

Use a Date format for the cell and enter the formula:
=<time stamp> / 86400 + 25569

To correct for a local time zone:

Subtract the time zone offset times 3600 seconds from the time stamp. For example, for the Eastern United States, standard time (GMT - 3):
=(<time stamp> - (-3 * 3600))/ 86400 + 25569

byTime Function

The Generic Reporting Engine SQL supports the function **byTime**, which returns data grouped by time periods. For example, querying the average response time of a transaction for the past day without the byTime function returns one value. You can use the byTime function to view the average response time of the transaction for each hour of the past day. It this case, a value is returned for each hour of the past 24 hours.

The function syntax is:
byTime(<*timefield* >, <*step value*>, <*number of step*>, <*offset*>)

Argument	Description
timefield	Usually a timestamp field
step value	One of: 10 - Second 20 - Minute 30 - Hour 40 - Day 50 - Week 60 - Month 70 - Quarter 80 - Year

Argument	Description
number of step	The number of the units specified in *step value* to group.
offset	Time zone offset from GMT in hours. Positive numbers indicate time zones East of GMT. Negative numbers indicate time zones West of GMT.

For example, to return one value for each 3 days, corrected to two hours East of GMT:

byTime(time_stamp, 40, 3, 2)

Query Examples

Below are several examples of query URLs that retrieve different types of data from the database.

Example of ss_t Sample

This example illustrates retrieving the average value for SiteScope samples on a given measurement and monitor:

```
http://myServer/topaz/gdeopenapi/
GdeOpenApi?method=getData&user=admin&password=admin&query=select
szMeasurementName, szMonitorName, avg(dValue) from ss_t where
u_iStatus=1 and time_stamp > 123456 and szMeasurementName =
‘myMeasurmentName’ and szMonitorName = ‘myMonitorName’
```

Example of trans_t Sample

This example illustrates retrieving the average response time, grouped by minutes and offset to GMT + 3 for Springfield_infra_ems_login transactions in the Springfield_Location application for a given period from BPM data:

```
http://myServer/topaz/gdeopenapi/
GdeOpenApi?method=getData&user=admin&password=admin&query=select
byTime(time_stamp, 20, 1, 3.0), application_name  as ApplicationName,
szTransactionName as TransactionName, AVG(dResponseTime) from trans_t
where time_stamp>=1126594800.64 and time_stamp<1126596000.64 and
application_name='Springfield_Location' and
szTransactionName='Springfield_infra_ems_login'
```

Example of rum_action_t Sample

This example illustrates retrieving the total server time for each URL as measured by RUM:

```
http://myServer/topaz/gdeopenapi/
GdeOpenApi?method=getData&user=admin&password=admin&query=select
application_name as ApplicationName,action_name as
ActionName,action_descriptor,AVG(tot_server_time) from rum_action_t where
time_stamp>=1304197200.64 and time_stamp<1306702800.64 and
application_name='EC2%20jpetstore' and action_name='Sign In'
```

Example of rum_application_stats_t Sample

This example illustrates retrieving the average server time of the application's actions on each of the servers serving the application as measured by RUM:

```
http://MyServer/topaz/gdeopenapi/
GdeOpenApi?method=getData&user=admin&password=admin&query=select
application_name as ApplicationName,server_host_name as
hostName,Avg(tot_server_time) as serverTime from rum_application_stats_t
where time_stamp>=1304197200.64 and time_stamp<1306702800.64 and
application_name='EC2 jpetstore' group by application_name,
server_host_name
```

Part III

Global Report Components

14

Working in Reports

This chapter includes:

Concepts

➤ Working in Reports - Overview on page 304

➤ Running Reports on page 306

➤ Publishing Reports on page 308

➤ Report User Messages on page 309

➤ Adobe Flash Player in Reports on page 312

➤ Report Times on page 312

Tasks

➤ How to Run Reports on page 315

➤ How to Configure Report Generation Settings on page 320

➤ How to Enable Unicode Font When Exporting to a PDF on page 321

Reference

➤ Working in Reports User Interface on page 322

Troubleshooting and Limitations on page 343

Concepts

Working in Reports - Overview

Reports consist of charts and tables that help you track and analyze the health of your monitored environment. You view and run reports, as well as drill down and apply various filtering setups to examine performance trends and pinpoint the cause of availability and performance issues.

Reports enable you to examine and analyze the data that HP Business Service Management collects. When running reports, you can specify various report settings, including time range and resolution, profile, grouping, and filters.

You can also customize reports by adding a header and a footer, by selecting to automatically or manually run the report, or by customizing other display elements. For customizing details, see "How to Customize Report Settings in the Infrastructure Settings Manager" on page 397.

For details on navigation functions in HP Business Service Management, see "Navigating and Using Business Service Management" in *Platform Administration*.

Note: HP Business Service Management presents certain reports within the context of transaction thresholds. For details on configuring transaction thresholds, see "Edit Thresholds Dialog Box" in *Using End User Management*.

Additional Features

Most BSM reports provide the following features:

Time comparison. For relevant reports, the time comparison feature enables you to display a report's component for different time frames, simultaneously. For details, see "Time Comparison Overview" on page 348.

Interactive charts. For relevant reports, the interactive charts enables you to better analyze the report information by using the interactive chart features. For details, see "Interactive Charts Overview" on page 362.

Annotation Tool. The Annotation Tool enables you to create a snapshot of select reports on which you can highlight important areas of the report. For details, see "Report Annotation Overview" on page 370.

Common user interface elements. Certain user interface elements are common to most report pages. For details, see "Common Report and Page Elements" on page 322.

Measurement timestamp. Business Service Management data collectors collect performance data and transmit it to the Gateway Server, which submits the data to profile databases using the loader mechanism. Data is inserted into the database along with a timestamp. BSM components synchronize their time clocks with that of the database server machine hosting the BSM database. Thus, the timestamp attached to each measurement inserted into the database is that of the database server clock at the time the measurement was collected.

Running Reports

You run reports to enable receiving data in an organized format. Certain reports are initially run automatically, whereas for others you must specify report setup and run the report manually. For a list of report elements used for report generation that are common to most reports, see "Common Report and Page Elements" on page 322.

This section includes the following topics:

- "Running Reports" on page 306
- "Time Range and Granularity" on page 307
- "Filtering Setup" on page 308
- "Publishing Options" on page 308
- "Screen Resolution" on page 308

Running Reports

You can configure HP Business Service Management to run reports automatically after selecting the report from the menu or to run reports only on demand from within the report. For details, see "How to Configure Report Generation Settings" on page 320.

You can run reports from the following locations in HP Business Service Management.

- In the various Reports tabs located in the **End User Management**, **Service Level Management**, and **System Availability Management** contexts under the **Applications** menu item.
- In Report Manager, accessed from the User Reports context under the **Applications** menu item. For details on Report Manager, see "Use Report Manager to Manage Custom Reports" on page 29.

Time Range and Granularity

You can configure the time range and granularity for which the report should be run. The granularity determines how many measurement samples are displayed in the report per time interval. By default, reports are limited to a maximum of 32 samples (trend reports have a maximum of 50 samples).

You can modify the allowed number of samples in reports. For details, see "Choose the time range and granularity" on page 316.

Note:

- In certain reports, the selected time range is displayed along the x-axis. HP Business Service Management breaks down the time range according to segments that differ depending on the selected time range. For details, see "Report Times" on page 312.
- Depending on the time range you select, HP Business Service Management runs reports using either raw data or aggregated data. A note is displayed in the report when aggregated data is used. For details, see "Aggregated Data in Reports" on page 416.

For details on configuring the time range and granularity for reports, see "How to Run Reports" on page 315.

Example:

- If you select the Day time range and the minutes granularity, since there are 1,440 minutes in a day and a maximum of 32 samples on a chart, the granularity ranges from every 45 minutes (1440/32=45) to every 59 minutes (above 59 minutes, you use the hour granularity unit).
- If you select the Day time range and a granularity of every 1 hour, the report is displayed using 24 samples (1 hour x 24 = 1 day).
- If you select the Month time range and a granularity of every 1 week, the report is displayed using 4 samples (1 week x 4 = 1 month).

Filtering Setup

You apply filtering setup to examine performance issue trends and pinpoint the cause of availability and performance issues.

Publishing Options

You can also choose from various options for publishing a report. These reports can be seen by individuals who do not usually work with HP Business Service Management. For details on publishing reports, see "Publishing Reports" on page 308.

Screen Resolution

If you change your screen resolution, data in reports adapts to the new resolution after you log out and then log in again to HP Business Service Management.

Publishing Reports

You can run up-to-date reports that can be viewed by users who do not usually work with HP Business Service Management, and, therefore, do not have the capability to create such reports. However, these users must have a network connection to HP Business Service Management to view the reports. You can also send the report (generally, by email) to the user.

You can publish the reports in .csv, Excel, XML, PDF, or printer-friendly formats. You can also send the report (generally, by email) to the user.

The report contains data that is updated when the report is accessed.

For example, when you prepare a report for the past month (24 Oct 2005 8:00 AM – 21 Nov 2005 8:00 AM), publish the report, and send the URL or an HTML file of the report to a user, the user accesses the report a week later (on 28 Nov 2005), at which time the report shows the updated past month (31 Oct 2005 8:00 AM – 28 Nov 2005 8:00 AM).

If you define a time period using the Custom option, the report always shows data reflecting the customized time period, no matter when the user accesses the report.

You can publish reports that use a relative tracking period (for example, past month, month to date), or publish reports that use an absolute tracking period (for example, hour, day, month).

Additionally, you can manually modify the time range and granularity of the reports by adding parameters to the published URL. For details, see the Generate URL element in the "Publish Report Dialog Box" on page 337

You can choose between two methods for publishing reports: URL and HTML. Use URL to submit the form with a **GET** method (recommended), and HTML to submit the form with a **POST** method.

Tip: When publishing a report, choose only from tracking periods that show data when the user accesses the report. For example, if you know that the monitor being tracked by the profile is going down shortly, and you are setting up a report to show data, ensure that you have configured the report to show data for a time when the monitor is up and running. Otherwise, the user's report does not include data.

For details on the user interface for publishing a report, see "Publish Report Dialog Box" on page 337.

Report User Messages

The report user messages feature displays messages that provide information or warnings relevant to the report. Each type of report has its own set of **info**, **warning**, and **error** messages.

The report user messages are issued when you run the report, modify elements of the report filter, or when a specific component in the report is re-run; for example, when a report displays a table and chart, and you select a different row in the table, the chart component is re-run.

This section also includes the following topics:

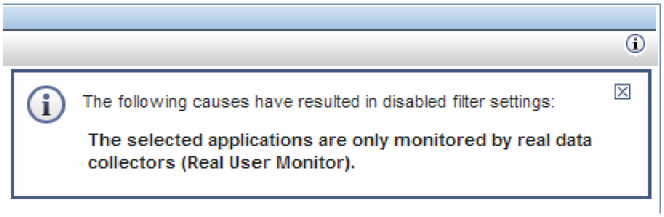
- "Displaying the User Messages" on page 310
- "Displaying One or More Messages" on page 311
- "Obsolete Messages" on page 311
- "Severity and Order in the List" on page 311

Displaying the User Messages

When the report has **info** or **warning** user messages, the user message icon is displayed in the top right side of the page.

You display the **info** or **warning** report user messages by moving the mouse over the user message button. The messages do not fade as long as the mouse pointer is located over the icon. When you move the mouse pointer away from the icon, the messages fade away after 5 seconds.

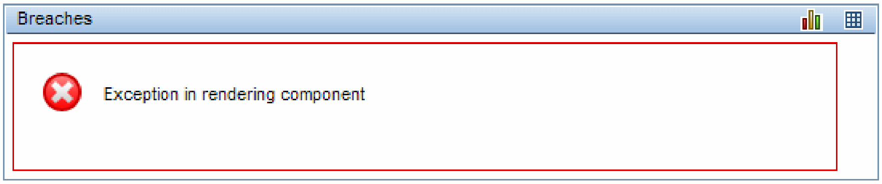
A typical info message is as follows:



The following causes have resulted in disabled filter settings:

The selected applications are only monitored by real data collectors (Real User Monitor).

When **Error** user messages are issued they usually replace the contents of the report page.



Exception in rendering component

You can copy/paste the contents of the report user message; for example, you can copy the message into an email.

Displaying One or More Messages

When you want to display one message only, point the cursor at the specific message. After 5 seconds, all the other messages fade away and only the message where the cursor pointer is located is displayed until you move the cursor pointer outside the message.

At all times, all the messages are displayed when the cursor pointer is located above the icon. Click the message close button to close the currently displayed messages instead of letting them fading away after 5 seconds (the messages are not deleted).

Obsolete Messages

A user message becomes obsolete when the condition that caused the message to be issued has disappeared or improved. An obsolete message is automatically deleted from the list of report user messages.

Severity and Order in the List

The severity of the report user message icon is determined by the worst child rule. For example, if all the report user messages have the **info** severity except for one message with the warning severity the report user message icon is assigned the **warning** severity.

When you move the cursor above the icon, all of the messages are displayed in a vertical list. The messages are sorted according to their severity order: higher severity messages (**warning**) are listed above the lower level messages (**info**). Inside each category, the messages are listed chronologically.

When a new message is added to the list of the current report, for example, as a result of user's action in the filter's fields, the new message displays alone for a few seconds and then fades out to signal to the user that a new message has been posted. After the new message fades away, the behavior of the list, which now includes the new message, returns to normal and the list displays when the mouse hovers over the report message icon.

Adobe Flash Player in Reports

HP Business Service Management utilizes Adobe Flash Player technology in selected reports to render report charts, to control the flow of information, and to add interest to your reports.

If you do not have Flash Player installed, the browser displays a message containing instructions on downloading that program.

Pie charts in Flash reports have the following functionality, available via the shortcut menu:

- **Enable Rotation.** When this option is selected, you can click and drag to rotate the pie. Toggles with **Enable Slicing Movement**.
- **Enable Slicing Movement.** When this option is selected, you can click a pie slice to slide it out from the main pie. Toggles with **Enable Rotation**.
- **View 2D/View 3D.** Toggle between these options as required.

By default, the KPIs Distribution Over Time, KPIs Summary, and KPIs Trend reports (available in Service Health and MyBSM Business Service Health) use Flash with a built-in one second delay for rendering the reports. If required, you can remove the delay (so that the reports are immediately displayed fully rendered). For details, see "Display the reports fully rendered – optional" on page 317.

Report Times

In some reports (for example, Average Response Times over Time and Transaction Breakdown over Time), the selected time range is displayed along the x-axis. The report mechanism breaks down the time range according to segments, which differ depending on the time range. For example, for the **Day** time range, the report mechanism uses one-hour segments.

The report mechanism calculates each time segment differently, depending on the selected time range. Each time segment is exactly the same amount of time with the exception of the first and last time segment of the time range, which are rounded to the start and end time of the report.

The table below describes the time segments that appear along the x-axis for each available time range. For illustration purposes, the information in the table is based on the starting date and time 13/9/10 12:03 PM, where the date format is **month/day/year** and the time format is **hours:minutes:seconds**.

Time Range	Segment	First Time Segment	Example of Middle Time Segment	Last Time Segment
Hour	5 minutes	9/13/10 12:03:00 PM to 9/13/10 12:04:59 PM	9/13/10 12:05:00 PM to 9/13/10 12:09:59 PM	9/13/10 1:00:00 PM to 9/13/10 1:02:59 PM
Day	1 hour	9/13/10 12:03:00 PM to 9/13/10 12:59:59 PM	9/13/10 1:00:00 PM to 9/13/10 1:59:59 PM	9/14/10 12:00:00 PM to 9/14/10 12:02:59 PM
Week	1 day	9/13/10 12:03:00 PM to 9/13/10 11:59:59 PM	9/14/10 12:00:00 AM to 9/14/10 11:59:59 PM	9/20/10 12:00:00 AM to 9/20/10 12:02:59 PM
Month	1 day	9/13/10 12:03:00 PM to 9/13/10 11:59:59 PM	9/14/10 12:00:00 AM to 9/14/10 11:59:59 PM	10/13/10 12:00:00 AM to 10/13/10 12:02:59 PM

Time Range	**Segment**	**First Time Segment**	**Example of Middle Time Segment**	**Last Time Segment**
Quarter*	1 week	9/13/10 12:03:00 PM to 9/16/10 11:59:59 PM	9/17/10 12:00:00 AM to 9/23/10 11:59:59 PM	12/10/10 12:00:00 AM to 12/13/10 12:02:59 PM
Year	1 month	9/13/10 12:03:00 PM to 9/30/10 11:59:59 PM	10/1/10 12:00:00 AM to 10/31/10 11:59:59 PM	9/1/11 12:00:00 AM to 9/13/11 12:02:59 PM

* For the **Quarter** time range, the week starts on Monday, and the first step is from the start time until the beginning of the following week.

Tasks

How to Run Reports

This task describes how to run reports to track and analyze the health of your monitored environment.

This task includes the following steps:

- "Access the report page" on page 315
- "Choose the time range and granularity" on page 316
- "Modify the maximum number of samples used in a report – optional" on page 316
- "Configure a report's parameters" on page 316
- "Display the reports fully rendered – optional" on page 317
- "Configure time comparisons for the report – optional" on page 318
- "Configure the report's interactive charts – optional" on page 318
- "Add annotations to a report – optional" on page 319
- "Enable the display of Japanese, Chinese, or Korean strings in reports when user locale uses other languages" on page 319
- "Result" on page 320

1 Access the report page

Access the relevant report page where you want to configure reports. For details on the reports contexts, see "Reports Overview" on page 22.

2 Choose the time range and granularity

When running a report, you choose the time range and granularity in which the report is displayed. For concept details, see "Time Range and Granularity" on page 307. For details on configuring the time range and granularity for reports, see "How to Run Reports" on page 315.

For additional information on choosing the time range and granularity in Service Level Management reports, see "Tracking Range and Granularity in Service Level Management" in *Using Service Level Management*.

3 Modify the maximum number of samples used in a report – optional

To modify the allowed number of samples in reports, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**:

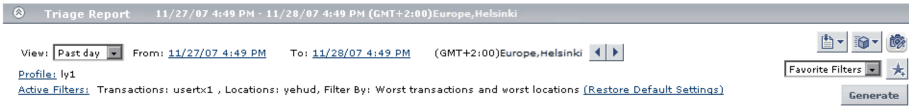
- ➤ Select **Foundations.**
- ➤ Select **End User/System Availability Management**.
- ➤ In the **End User/System Availability Management - Data** table, locate the **Max Data Points in Report** parameter entry. Modify the value to the required amount.

4 Configure a report's parameters

You configure the parameters of your report, and optionally apply filtering to receive specific data for the report. For details on the various elements used to configure reports that are common to most reports, see "Common Report and Page Elements" on page 322.

Example:

1. Click **Active Filters** links to select the relevant active filters to be monitored by the report.
2. Choose the time range for the report in the Time Range and Granularity bar.
3. Optionally, choose from the following:
4. Click the **Format** button to choose a format for production of the report.
5. Click the **Export** button to choose a format in which to transfer the report data, either via email, publishing, or uploading to Report Manager.
6. Add annotations to the report. For details on the user interface for annotating reports, see "Annotation Tool Dialog Box" on page 374.
7. Click **Run** to run the report.



Triage Report 11/27/07 4:49 PM - 11/28/07 4:49 PM (GMT+2:00)Europe,Helsinki

View: Past day From: 11/27/07 4:49 PM To: 11/28/07 4:49 PM (GMT+2:00)Europe,Helsinki

Profile: ly1

Active Filters: Transactions: usertx1 , Locations: yehud, Filter By: Worst transactions and worst locations (Restore Default Settings)

5 Display the reports fully rendered – optional

By default, the KPIs Distribution Over Time, KPIs Summary, and KPIs Trend reports (available in Service Health and MyBSM Business Service Health) use Flash with a built-in one second delay for rendering the reports. If required, you can remove the delay (so that the reports are immediately displayed fully rendered). To remove the delay, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**.

- Select **Applications**.
- Select **Service Health Application**.
- In the Business Reports Properties table, locate the **Reports Delay Time** entry. Modify the value to **False**.

6 Configure time comparisons for the report – optional

You use the time comparison feature to display information about the report for different time periods so you can compare the values or behavior of the elements described by the report. This feature is available for time-based reports. For user interface details, see "Time Comparison Dialog Box" on page 353.

7 Configure the report's interactive charts – optional

You can interact with a report's chart. Among other capabilities, you can:

- Select a series in the legend to highlight the corresponding element in the graph and vice-versa. Where relevant the X-axis or Y-axis reflect the selected series.
- Display or hide the series downtime indicators.
- Use context menus relevant to access other elements of the applications.
- Zoom in the graph to display more details.

For user interface details, see "Interactive Chart Area" on page 364.

8 Add annotations to a report – optional

You can use the Annotation Tool to create a snapshot of the report you are viewing and to highlight important areas of the report by drawing shapes, lines, and adding text to the snapshot. You can then show others the annotated reports with their emphasis on exceptional areas. The annotated reports can be uploaded to Report Manager, and/or saved to your local directory. For user interface details, see "How to Create an Annotated Report" on page 371.

9 Enable the display of Japanese, Chinese, or Korean strings in reports when user locale uses other languages

If your user locale is not Japanese, Chinese, or Korean, to make sure that a strings in those languages are displayed correctly in report's charts, you must configure the additionalSupportedLocale setting as follows:

a Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**:

b Select **Foundation**.

c Select **Reporting**.

d In the **Reporting - Display** table, locate the **Global Report Display Customization**.

e Edit the XML file by adding between the <**generic-properties**> and the </**generic-properties**> tags, the following:

```
<presentation-model type="Chart">
      <properties-set key="properties">
            <property key=" additionalSupportedLocale " value="<language>" />
    </properties-set>
</presentation-model>
```

Where language can be:

- **ja** for Japanese
- **zn_ch** for Chinese
- **ko** for Korean

10 Result

The resulting reports enable you to track and analyze the health of your monitored environment.

How to Configure Report Generation Settings

To configure the report generation settings in HP Business Service Management, users with appropriate administrative privileges should perform the changes described in the procedure below.

Note: You must have appropriate administrative privileges to configure these settings.

To configure report generation settings for reports:

1. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings:**
   - Select **Foundations.**
   - Select **Reporting.**
   - In the Reporting-Display table, locate the **Generate reports automatically** entry and modify the value as appropriate (default is false).
2. Click the **Edit** button and set the property value as required:
   - Select **true** to enable automatic report generation.
   - Select **false** to disable automatic report generation.

   To restore default settings, click the **Restore Default** button.

How to Enable Unicode Font When Exporting to a PDF

This task describes how to configure Unicode font to display characters that differ from the current locale when exporting a report to a PDF. This also enables you to view text consisting of characters from multiple languages.

You can configure Unicode font either using the Infrastructure Settings Manager, or by adding the font to the font library on your system.

To configure Unicode font using the Infrastructure Settings Manager:

1. Navigate to **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**.
2. Select **Foundations.**
3. Select **Reporting.**
4. In the **Reporting - Display** table, locate the **Unicode font path for PDF** parameter, which represents the path of the Unicode font located on the server, as follows:

- For Windows: C:\Windows\Font_Location\arialuni.ttf
- For UNIX: /opt/tmp/arialuni.ttf

To configure Arial Unicode MS font using the font library:

1. Navigate to the font library on your system.

   For example, in Windows: C:\Windows\Fonts
2. Download the Arial Unicode MS font into the selected font library. The font is available from the following web site: http://www.microsoft.com/typography/fonts/family.aspx?FID=24.
3. Restart HP Business Service Management.

Reference

Working in Reports User Interface

This section includes (in alphabetical order):

- ➤ Common Report and Page Elements on page 322
- ➤ Mail Details Dialog Box on page 335
- ➤ Publish Report Dialog Box on page 337
- ➤ Save as PDF to Report Manager Dialog Box on page 343

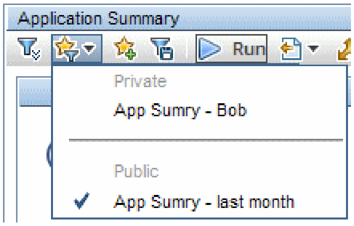
Common Report and Page Elements

This section describes elements that are common to most reports and pages. You may only see a few of these elements in your report or page. The Custom Report does not use the elements listed below.

Important information	Report and page elements specific to a certain application are described within that application's documentation. Reports usually include: the report's toolbar and components: tables, or charts. The components usually include a toolbar. This section describes each part of a report separately: ➤ "Report Toolbar" on page 323 ➤ "Report Component Toolbar" on page 332 ➤ "Report Component" on page 333

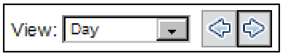
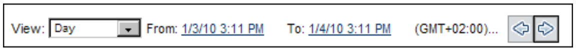
Report Toolbar

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

UI Element (A–Z)	Description
	Collapse Report Filter. Click to collapse or expand the report filter. **Tooltip:** When the collapsible report filter closes, the icon's tooltip displays details about the selections you made in the filter.
	Favorites. Lists the reports that were saved as favorites under two categories: ➤ **Private.** Only the user who configured the reports. ➤ **Public.** Displayed to all the users with the relevant permissions. For details about the permissions, see the description of the **Save Favorite** button.  Application Summary Run Private App Sumry - Bob Public App Sumry - last month **Note:** You can specify a running schedule for a Favorite Filter report. For details, see "Schedule Reports" on page 47 and "Favorite Filters" on page 32.

UI Element (A–Z)	Description
☆	**Save Favorite.** Opens the Save Favorite dialog box where you can save the current report setup as a favorite report by specifying the name and description of the report. You can select to save the report as: ➤ **Private.** The report or report object is available only to the user who configured it. ➤ **Public.** The report or report object is available to all users with the permission to view the report. **Note:** ➤ To save a private or a public favorite, you must be a system viewer and have permissions to view the specific report. ➤ To delete a favorite filter, select **Application** > **User Report** > **Report Manager**, locate the favorite filter you want to delete in the table, and click the **Delete** button. ➤ You can specify a running schedule for a Favorite Filter report. For details, see "Schedule Reports" on page 47 and "Favorite Filters" on page 32.
▽	**Edit Favorite.** Edits the current favorite report. The button is enabled after you have clicked the **Favorites** button and you have selected one of the listed reports. **Note:** You can specify a running schedule for a Favorite Filter report. For details, see "Schedule Reports" on page 47 and "Favorite Filters" on page 32.

UI Element (A–Z)	Description
▷ Run	**Run.** After you have specified the report setup, click the **Run** button to run the report. Some reports, such as Application Management for Siebel reports, are initially run automatically. Some reports are run manually, meaning that you must specify the report setup and click the **Run** button. For details on setting reports to be automatically run, see "Configure Report Generation Settings" on page 399. **Note:** ➤ When you have modified the report setup, the **Run** button flashes to remind you to click the button to refresh the report's display. ➤ When the report toolbar displays the following **Run** ▷ Run icon the contents of the report that are currently displayed do not correspond to the filter currently displayed. Click the button to synchronize the filter and the contents.

UI Element (A–Z)	Description
 View: Day	The report's granularity includes: the time-range and the time-unit. Some time-ranges are not available in some reports. ➤ **View.** Select a time-range for which you want to view the report: **Past hour, Past day, Past week, Past month, Past quarter, Past year, Previous Month, Hour, Day, Week, Month, Quarter, Year,** or **Custom** (a user-defined time period) **Note: Past Month** shows data from the past month based on the current date. **Previous Month** shows data from the previous calendar month. For example, if it is June 15, **Past Month** shows data from May 15 to June 15. **Previous Month** shows data from May 1 to June 1. ➤ Use the buttons as follows: ➤ ⇦ Decrements the time-range of the report by the value displayed in the **View** box. ➤ ⇨ Increments the time-range of the report by the value displayed in the **View** box. In some reports, the detailed time-range is displayed between the **View** box and the buttons. In other reports, the detailed time-range is displayed between the **View** box and the buttons, only after you click one of the buttons.  View: Day From: 1/3/10 3:11 PM To: 1/4/10 3:11 PM (GMT+02:00)... ➤ **From-To.** Click the links to display a calendar where you can change the time and date. For details, see "<calendar>" on page 331. ➤ **Every.** The time-unit used to split the time-range. The X-axis shows a value for each unit across the range. Depending on time-range selected in the **View** field, options may include: **Hour**, **Day**, **Week**, **Month**, **Quarter**, or **Year**. **Note:** This element is not available in BSM legacy reports. For a list of the legacy reports, see "SAM Legacy Reports" in *Using System Availability Management*.

UI Element (A–Z)	Description
	Format report data as... Displays the options available to format the report. Once the report is formatted you can save it to your local machine. The menu options can be: ➤ **Printer-Friendly / Report-Friendly.** Formats the report so it is ready to be send to a printer. **Tip:** Before printing, ensure that printer settings are set to print the selected frame, and not to print frames as laid out on screen. To obtain optimal print results if you are using Microsoft Internet Explorer, enable the **Print background color and images** option **(Tools** > **Internet Options** > **Advanced tab** > **Printing)**. ➤ **PDF.** Formats the report using the PDF format. To enable displaying characters in all languages in your PDF file, you must configure the Infrastructure Settings Manager to access the appropriate Unicode font file on your server. For details on performing this task, see "How to Enable Unicode Font When Exporting to a PDF" on page 321. ➤ **CSV.** Formats the report using the .csv format. ➤ **Excel.** Formats the report using the Excel format. You cannot format the report using the Excel format when the report's data is in chart format (for example, pie chart or line chart). ➤ **XML.** Formats the report using the XML format. ➤ **Help.** Accesses the online help for this menu options.

UI Element (A–Z)	Description
	Export report to... Displays the options available to export the report. **Note:** Many of format options appear as individual buttons on HP Business Service Management legacy reports. For a list of these reports, see "SAM Legacy Reports" in *Using System Availability Management*. The menu options can be: ➤ **Email.** Opens the Mail Details dialog box where you can configure how to send the report using email. For details on the user interface, see "Mail Details Dialog Box" on page 335. **Note:** The **Email** button is also available on the report screen of HP Business Service Management legacy reports. For a list of the legacy reports, see "SAM Legacy Reports" in *Using System Availability Management*. ➤ **Publish Report.** Opens the Publish Report dialog box where you can configure how to publish the report with updated data. For details on the user interface, see "Publish Report Dialog Box" on page 337. **Note:** The **Publish** button is not available in HP Business Service Management legacy reports. For a list of the legacy reports, see "SAM Legacy Reports" in *Using System Availability Management*. ➤ **Save as PDF.** Creates a PDF of the report and exports it to Report Manager. For details on Report Manager, see "Use Report Manager to Manage Custom Reports" on page 29. **Note:** The **Report Manager** button is not available in HP Business Service Management legacy reports. For a list of the legacy reports, see "SAM Legacy Reports" in *Using System Availability Management*.

UI Element (A–Z)	Description
	Annotation Tool. Captures the report and enables you to add annotations. For details on annotating reports, see "Report Annotation Overview" on page 370. **Note:** This element is not available in HP Business Service Management legacy reports. For a list of the legacy reports, see "SAM Legacy Reports" in *Using System Availability Management*.
ⓘ ⚠	The report user messages feature displays messages that provide information relevant to the report. Each type of report includes a built-in report alert mechanism and has its own set of **info**, **warning**, and **error** messages. For details, see "Report User Messages" on page 309.
CSV	Formats the report using the .csv format.
Email	Opens the Mail Details dialog box where you can configure how to send the report using email. For details on the user interface, see "Mail Details Dialog Box" on page 335. **Note:** The **Email** button is also available on the report screen of HP Business Service Management legacy reports. For a list of the legacy reports, see "SAM Legacy Reports" in *Using System Availability Management*.
Excel	Formats the report using the Excel format. **Note:** You cannot format the report using the Excel format when the report's data is in chart format (for example, pie chart or line chart).
Help	Accesses the online help for the **Format report data as...** menu options.

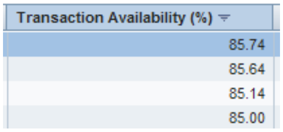
UI Element (A–Z)	Description
PDF	Formats the report using the PDF format. **Note:** To enable displaying characters in all languages in your PDF file, you must configure the Infrastructure Settings Manager to access the appropriate Unicode font file on your server. For details on performing this task, see "How to Enable Unicode Font When Exporting to a PDF" on page 321.
Publish Report	Opens the Publish Report dialog box where you can configure how to publish the report with updated data. For details on the user interface, see "Publish Report Dialog Box" on page 337. **Note:** The **Publish** button is not available in HP Business Service Management legacy reports. For a list of HP Business Service Management legacy reports, see "SAM Legacy Reports" in *Using System Availability Management*.
Printer-Friendly / Report-Friendly	Formats the report so it is ready to be send to a printer. **Tip:** Before printing, ensure that printer settings are set to print the selected frame, and not to print frames as laid out on screen. To obtain optimal print results if you are using Microsoft Internet Explorer, enable the **Print background color and images** option (**Tools** > **Internet Options** > **Advanced tab** > **Printing**).
Save as PDF	Formats the report using the PDF format and exports the formatted report to Report Manager. For details on Report Manager, see "Use Report Manager to Manage Custom Reports" on page 29. **Note:** The **Report Manager** button is not available in HP Business Service Management legacy reports. For a list of the legacy reports, see "SAM Legacy Reports" in *Using System Availability Management*.

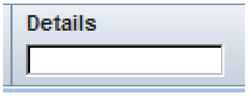
UI Element (A–Z)	Description
XML	Formats the report using the XML format. **Note:** Only those reports that support this functionality include the XML button.
⌛	**Downtime.** Displays downtime information in the current report. For details, see "Downtime Information in Reports" on page 381.
<**calendar**>	Opens the Calendar dialog box where you can configure the day, month, year, and time of the report's start and end. **Current.** Click the button to configure the calendar with the current date and time. The date and time that are configured correspond to the time you opened the calendar dialog box.

Report Component Toolbar

A report can include more than one component. A component is usually a table or a chart (pie, bar, or other).

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

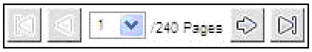
UI Element (A–Z)	Description
 Transaction Availability (%) ▼ 85.74 85.64 85.14 85.00	To sort a report by a specific column, click the column header. If the column is sortable, a small arrow icon is displayed. The direction of the arrow indicates the column's sorting direction (ascending/descending). Click the ▲▼ icon to change the sorting direction. When a column is used to sort the report, the column header is colored a darker blue. In some reports, you can do a second sorting, by sorting the first column and pressing the CTRL button while selecting the second column.
☰	**Reset column width.** Resets the table columns' width to its default setting. You can adjust the width of the table's columns by dragging the borders of the column to the right or the left.
▥	**Select Columns.** Opens the Select Columns/Choose Columns to Display dialog box and enables selection of columns you want to display in the table. If you modify the width of a column, and hide the column using the s feature then, when you re-display the column, it is displayed with the modified width.
📊	**View as Graph.** Displays a graphical representation of the data. This is generally the default view.

UI Element (A–Z)	Description
▦	**View as Table.** Displays a tabular representation of the data.
◷	**Time Comparison.** Opens the Time Comparison dialog box where you can define time comparisons for the report. For user interface details, see "Time Comparison Dialog Box" on page 353.
	Some columns include a filter box below their title. Enter a string in the filter box to filter the column entries so only the column entries that include the string are displayed. You can: ➤ Enter the first letters of the string. ➤ Use * as a wild card representing the beginning of the string.

Report Component

A report can include more than one component. A component is usually a table or a chart (pie, bar, or other).

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

UI Element (A–Z)	Description
	Divides a table of data or a list of reports into pages. You move from page to page by clicking the relevant button: ➤ To view the next/last page in the report, click the **Next/Last page** button. ➤ To view previous/first page in the report, click the **Previous page/First page** buttons.

UI Element (A–Z)	Description
<breadcrumbs>	The list of pages that you have navigated through to get to the current page. The list appears horizontally across the top of the page. **Note:** Each page in the list of breadcrumbs is a link which you can click to trace your path of navigation.
<color coding>	The reports use color-coding to organize data in a meaningful way, and to make the data more readable. Use the legend that appears in a report to get a basic description of the color coding used in the report. For detailed information about a specific report and how to interpret the color coding used, refer to that report's documentation.
<interactive chart>	Enables you to interact with the report's chart. Among other capabilities, you can: ➤ Select a series in the legend to highlight the corresponding element in the graph and vice-versa. Where relevant the X-axis or Y-axis reflect the selected series. ➤ Display or hide the series downtime indicators. ➤ Use context menus relevant to access other elements of the applications. ➤ Zoom in the graph to display more details. For details, see "Interactive Chart Area" on page 364.
<Selected element>	This feature is available in reports with dependency between its components. The selection influences other elements in the report (only when the report has a table format). For example, if you select a row that represents a specific location, other report elements that are dependent on the location information, display information relevant to the selected location.

Mail Details Dialog Box

This dialog box enables you to configure a report to be sent via email.

To access	Click **Export report to...** and select **Email**.
Important information	If you choose to use a mail option that displays the report content in the email client, verify that the email client does not employ security restrictions which prevent the running of scripts contained in HTML mail. Email clients that do employ such restrictions may be unable to properly display all the report's content.
See also	"Common Report and Page Elements" on page 322

User interface elements are described below:

UI Element (A-Z)	Description
Comments	Enter relevant comments, if required.
Include Images	Select the option to include all report resources (for example, graphics) in the email. Clear the option to remove the images from the email. In such a case, the images are located on HP Business Service Management servers, and you need a network connection to HP Business Service Management to access the servers and view the report images.
Reply-to	Enter an email address for receiving replies. **Note:** If required, an email address can be configured to appear in the Reply-to field by default. This is done in the Infrastructure Settings Manager. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**: ➤ Select **Foundations**. ➤ Select **Business Service Management Interface** ➤ In the Business Service Management Interface - Display table, locate the **Default Reply-To Address** entry. Update the value as required.

UI Element (A-Z)	Description
Send as Internet Explorer Archived HTML (.mht)	Select for all report resources (for example, graphics) to be displayed in the browser, which must support MHT format (such as Microsoft Internet Explorer). It is not necessary to have a connection to a HP Business Service Management machine to enable you to view the attachment. **Note:** This option is displayed only when **HTML attachment** has been selected in the **Send Report As** field.
Send Report As	Specify the format in which you want to send the report. Choose from the following options: ➤ **HTML mail.** The report is displayed in the email client (the email client must support, and be configured to display, HTML). ➤ **HTML attachment.** The report is displayed in HTML format in a browser. **Note:** You must have a connection to an HP Business Service Management machine to enable you to view the attachment. ➤ **PDF.** The report is displayed in PDF format in a new browser window.
Subject	Enter a descriptive subject, or accept the default value.
To	Enter an email address to which you want to send the report.
Zipped Attachment	Select to send the attachment in zipped format. **Note:** This field is available only when **HTML attachment** or **PDF** have been selected in the **Send Report As** field.

Publish Report Dialog Box

This dialog box enables you to publish HP Business Service Management reports in different formats for other users to view.

To access	Click the **Export report to...** button on the right side of the report page, and select the **Publish Report** options.
Important information	The log in and log out steps needed to view the report are transparent to the user.
See also	"Common Report and Page Elements" on page 322

User interface elements are described below:

UI Element (A-Z)	**Description**
Choose export format	Choose the export format for the report. The available options are: ➤ **PDF.** The report is saved in PDF format. ➤ **Printer-Friendly.** The report is saved in HTML format for printing purposes. ➤ **CSV.** The report is formatted as a comma-separated values (CSV) text file that can be displayed in a spreadsheet. **Note:** For the CSV formatted report to display correctly, the comma (,) must be defined as the list separator. ➤ In Windows, to verify or modify the list separator value, open **Regional Options** from the Control Panel, and on the Numbers tab ensure that the comma is defined as the List Separator value. ➤ In Solaris, you can specify the list separator in the application that opens the CSV file. ➤ **Excel.** The report is formatted as an XLS (Excel) file that can be displayed in a spreadsheet. **Note:** Any tooltips in the report are converted to comments in Microsoft Excel. To view all the text of a large tooltip, edit the comment by right-clicking the cell and choosing **Edit Comment**. Enlarge the box by dragging a corner of the comment box. ➤ **XML.** The report is formatted as an XML file that can be opened in a text or XML editor. **Tip:** To extract HTML code from the report: 1. Save the file as HTML 2. Open the file in an HTML editor 3. Copy the relevant table into the target file

UI Element (A-Z)	Description
Generate HTML	Sends the report as an HTML file. You can open or save the file on your local machine. **Note:** ➤ The user name and password are encrypted in the HTML file. ➤ If you include your own user name and password in the HTML file, when the user closes the report, you are simultaneously logged out of HP Business Service Management. ➤ In the Vista operating system, clicking the button may not publish the report; this usually happens when the file download setting is not enabled. To enable the file download setting, in the browser, click **Tools** > **Internet Options**, click the **Security** tab, click **Custom level...**, search for **Downloads**, select **Enable** in the **Automatic prompting for file download** and **Enable** in the **File download** section.

UI Element (A-Z)	Description
Generate URL	Generates the URL and displays the page in the resulting Published URL window. Click **Copy** to select the URL, then paste the URL into an email to send to the user. You can append the following elements to the end of the URL to customize the time range and granularity of the report as follows: Time Range ➤ **from_time_stamp**=<time value in seconds UTC> ➤ **to_time_stamp**=<time value in seconds UTC> Granularity ➤ **time_unit**=<months,days,weeks,hours> ➤ **time_step**=<integer> The number of time units For example, if you the time_unit=weeks and the time_stamp=2, your report would generate a data point every two weeks within the time range. **Notes:** ➤ You can add the raw data into the report for Trend Reports whose range is less than or equal to two days by appending raw_data=true to the URL. ➤ The URL should not exceed a maximum length of 2,000 characters (~2K), to ensure that it can be read by all systems. ➤ Do not modify the URL string. If necessary, make changes to the report itself, then publish it again. ➤ The user name and password are encrypted in the URL file. ➤ If you include your own user name and password in the URL, when the user closes the report, you are simultaneously logged out of HP Business Service Management. ➤ You can copy the URL of any report (except for the Custom Query whose capability is defined below) with the Publish Report capability. For details, see "Create a URL to directly access the report" on page 342. ➤ You can copy the URL of a Custom Query to an email for example, and use the link to open the corresponding Custom Query. For details, see "How to Create a Custom Query" on page 250.

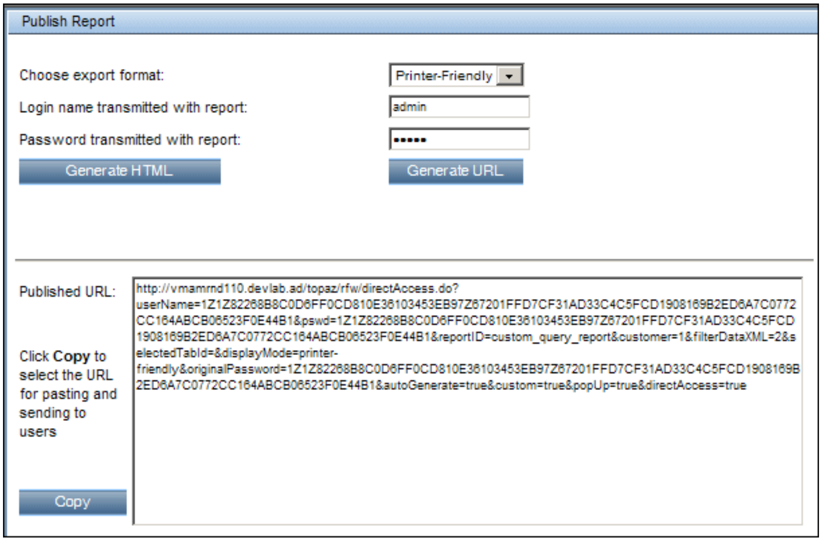
UI Element (A-Z)	Description
Login name transmitted with report	The login name used by the report recipient to login to HP Business Service Management and view the report. **Note:** ➤ The default login name is the login name you used to login to HP Business Service Management in the current session. ➤ Do not publish the report with administrator permissions. It is recommended that you create a login name and password for a user with permissions that are inferior to an administrator's permissions. For details, see "User Management — Overview" in *Platform Administration*.
Password transmitted with report	The password used by the report recipient to login to HP Business Service Management and view the report. **Note:** ➤ The default password is the password you used to log in to HP Business Service Management in the current session. ➤ Do not publish the report with administrator permissions. It is recommended that you create a login name and password for a user with permissions that are inferior to an administrator's permissions. For details, see "User Management — Overview" in *Platform Administration*.

Create a URL to directly access the report

For a report with the Publish capability, you can create a URL that corresponds to the actual report. To create the URL, in the generated report:

a Click the **Export report to...** button on the right side of the report page, and select **Publish Report**.

b In the Publish Report dialog box, select **Generate URL**. The URL of the report is displayed in the **Published URL** field.



Choose export format: Printer-Friendly

Login name transmitted with report: admin

Password transmitted with report: ••••••

Published URL:

```
http://vmamrnd110.devlab.ad/topaz/rfw/directAccess.do?
userName=1Z1Z82268B8C0D6FF0CD810E36103453EB97Z67201FFD7CF31AD33C4C5FCD1908169B2ED6A7C0772
CC164ABCB06523F0E44B1&pswd=1Z1Z82268B8C0D6FF0CD810E36103453EB97Z67201FFD7CF31AD33C4C5FCD
1908169B2ED6A7C0772CC164ABCB06523F0E44B1&reportID=custom_query_report&customer=1&filterDataXML=2&s
electedTabId=&displayMode=printer-
friendly&originalPassword=1Z1Z82268B8C0D6FF0CD810E36103453EB97Z67201FFD7CF31AD33C4C5FCD1908169B
2ED6A7C0772CC164ABCB06523F0E44B1&autoGenerate=true&custom=true&popUp=true&directAccess=true
```

Click **Copy** to select the URL for pasting and sending to users

c You can copy the URL and use the URL, in an email for example, to open the report that you have created.

Note: The whole length of the URL should not exceed n characters or symbols. If it is longer, an Internal error message is issued.

Save as PDF to Report Manager Dialog Box

This dialog box enables you to configure parameters of the report you want to save as a PDF to Report Manager.

To access	Click **Export report as...** and select **Save as PDF**.
See also	"Use Report Manager to Manage Custom Reports" on page 29

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

UI Element (A-Z)	Description
<report snapshot>	A snapshot of the selected report, as it currently appears.
Description	Optionally, enter a description for the report.
Report name	Enter a name for the report, to be displayed in Report Manager.
Save report as	Choose the privilege level of the report, as per the following options: ➤ **Private.** The report or report object is available only to the user who configured it. ➤ **Public.** The report or report object is available to administrators or to any user with appropriate permissions.

Troubleshooting and Limitations

This section describes troubleshooting and limitations for working in reports.

This section includes the following topics:

- "Formatting a Report" on page 344
- "Running a Report" on page 344

- "Viewing a Report" on page 344
- "Publishing a Report" on page 345

Formatting a Report

- When exporting a report to Microsoft Excel, if you are using Microsoft Excel 2007, an error message is issued. Click **OK** to close the error message window and display the data in Microsoft Excel.
- You cannot export information from charts into Microsoft Excel.
- If the table of a report does not expand to the whole width of the page when the report is in PDF format, proceed as follows:
  - Open the **\<HPBMS_Gateway_server>\AppServer\webapps\site.war\WEB-INF\rfw\conf\internal\ rfw-presentation.xml** file.
  - In the file, search for the string **presentation-model type=**"**Report**".
  - Increase the value of **staticWidth** to about 750.

Running a Report

If you configure a report with a time range that is limited to the past (meaning that it does not end in the present; for example, two days ago, three days ago, two days from now, three days from now), when you click **Run** to run the report, the report time range remains as it was originally configured and does not update itself to end in the present.

Viewing a Report

If you are having trouble viewing a specific report, you may need to install Flash player to properly view the report. Install Flash player on your machine, and then try accessing the report again. For details on viewing reports with Adobe Flash player, see "Adobe Flash Player in Reports" on page 312.

Publishing a Report

When producing a hierarchical RTSM report, the size of the PDF file is limited to the default number of data units defined for your environment. The default value is 400. A data unit is the information displayed under a CI in a report. In a table, each row is counted as one data unit. If this value does not suit your needs and must be modified, contact HP Software Support.

If the file you are producing contains more than the allotted number of data units, the PDF file is truncated.

15

Time Comparison

This chapter includes:

Concepts

➤ Time Comparison Overview on page 348

Tasks

➤ How to Configure and Manage a Report's Time Comparison Component on page 349

Reference

➤ Time Comparison Dialog Box on page 353

Concepts

Time Comparison Overview

A report can include several components where each component is either a table or a chart. Some report’s components provide the time comparison feature.

The time comparison feature enables you to display a report’s component for different time-frames, simultaneously. This enables you to compare the values or behavior of the elements described by the report’s component for those different time-frames, depending on the time comparison characteristics for the specific report’s component. For example, the time comparison feature may enable you to compare the behavior of a KPI over the past week and over the same week a year ago.

The time comparison feature is available for time-based reports.

Each time comparison is represented by an additional set of data points that use the same chart (line, area, stacked bar) as the original component.

The time comparison feature is not supported for pie charts.

For user interface details, see "Time Comparison Dialog Box" on page 353.

Tasks

How to Configure and Manage a Report's Time Comparison Component

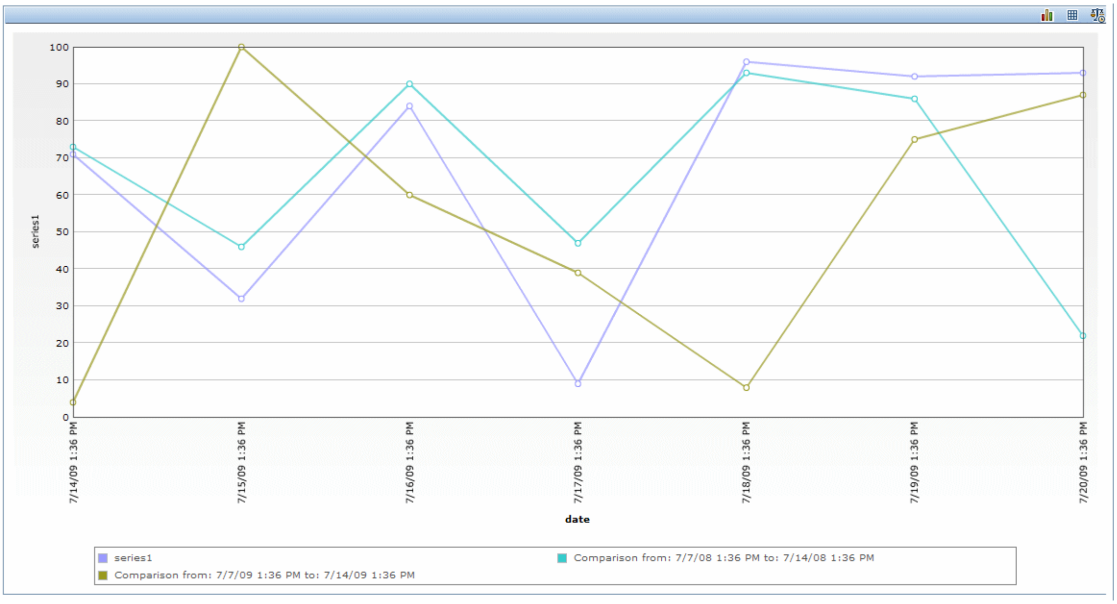
This task describes how to configure and manage a report's time comparison component.

To access the Time Comparison component in a report, click the **Time Comparison** button on the right side of the toolbar of the report's component. The Time Comparison Dialog box opens where you can specify the different time frames and display formats you want to use to compare the report's results for these different time frames. For details about the user interface, see "Time Comparison Dialog Box" on page 353.

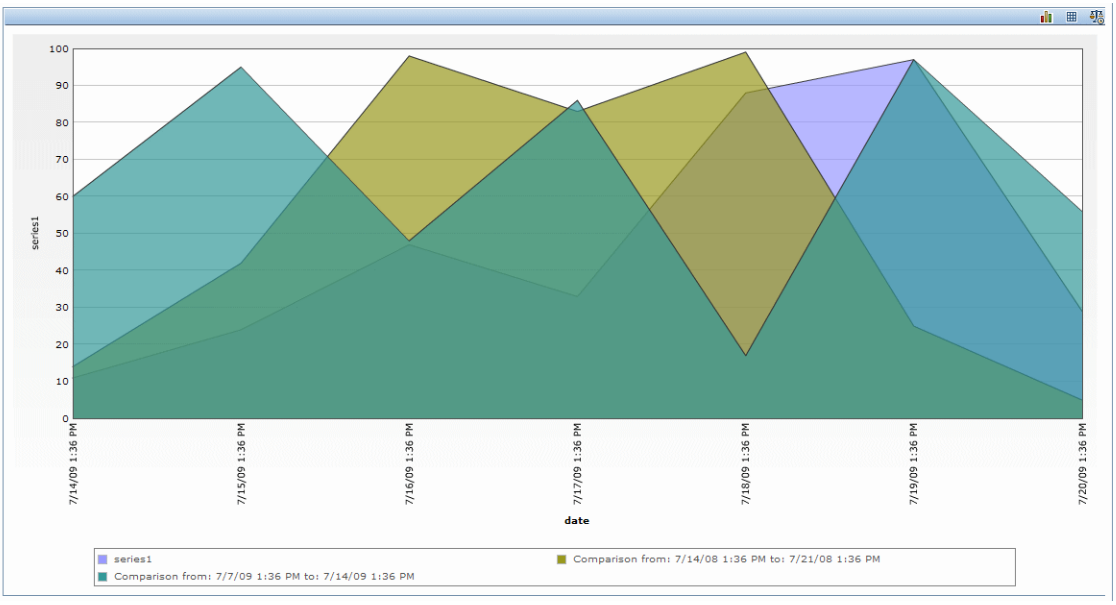
Example in Graph Format:

For example, in the following graph, the purple line represents the results of the original report, the turquoise line represents the results for the same time-frame a year before, while the olive line represents the results for the week before the current report time-frame.

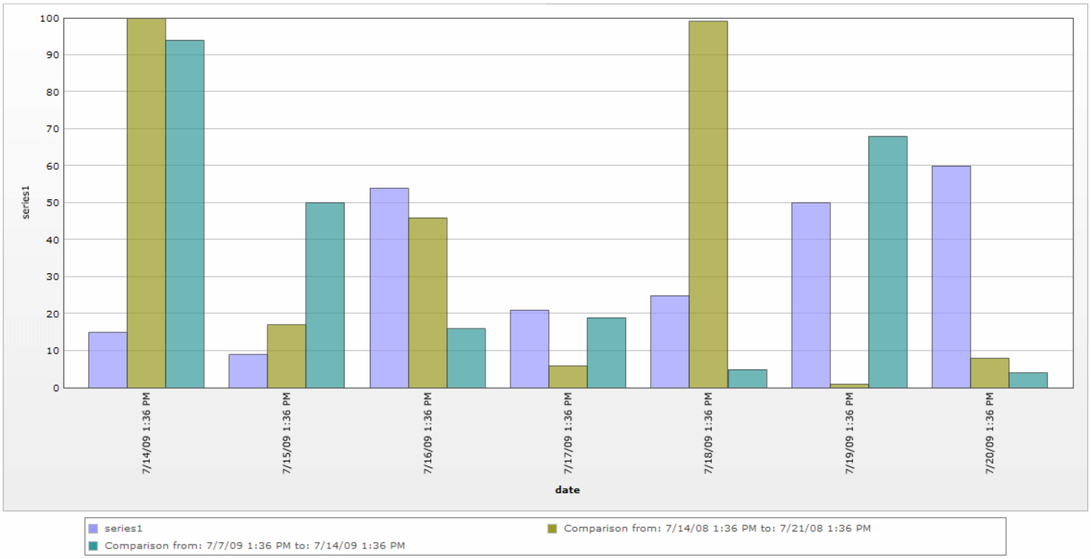
Example of the report in line chart format.



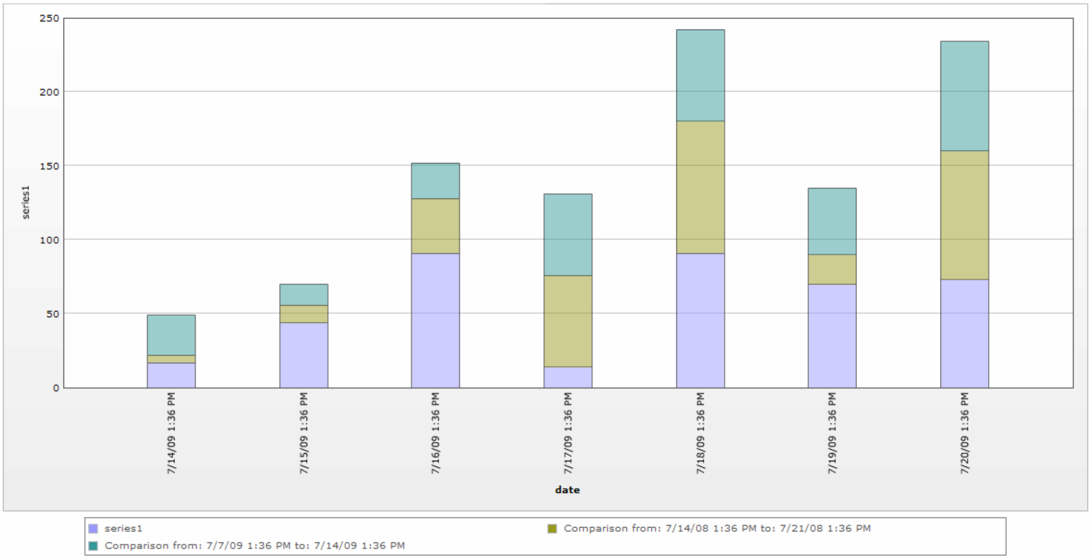
Example of the same report in area format.



Example of the same report in bar format.

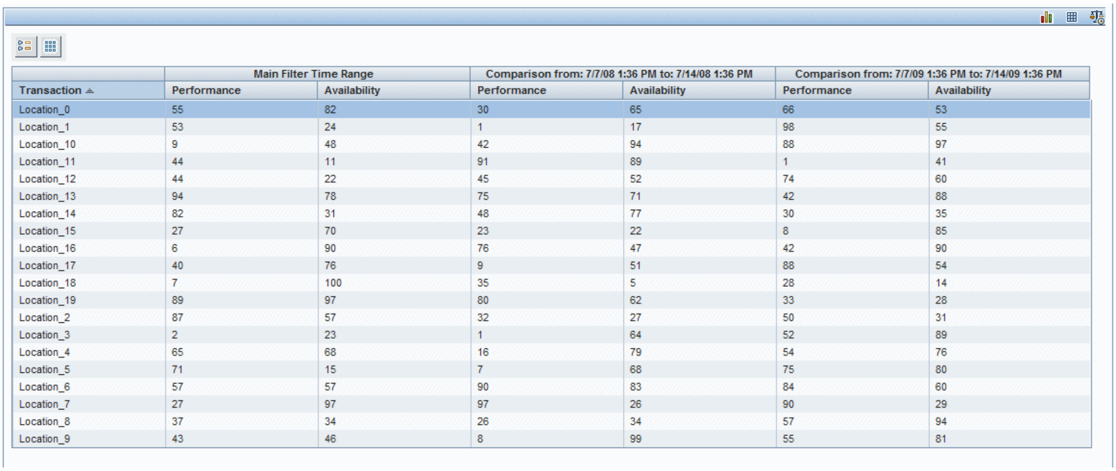


Example of the same report in stacked bar format.



Example in Table Format:

When the time comparison is displayed in table format, each time comparison is represented by the same columns as the original columns of the component, with the data appropriate for the time comparison's time-frame. The location (right or left of the component's original columns) depends on the time comparison characteristics for the component. The top title of the time comparison columns reflects the specified name of the time comparison. The following example presents time comparisons in table format.



	Main Filter Time Range		Comparison from: 7/7/08 1:36 PM to: 7/14/08 1:36 PM		Comparison from: 7/7/09 1:36 PM to: 7/14/09 1:36 PM	
Transaction ▲	Performance	Availability	Performance	Availability	Performance	Availability
Location_0	55	82	30	65	66	53
Location_1	53	24	1	17	98	55
Location_10	9	48	42	94	88	97
Location_11	44	11	91	89	1	41
Location_12	44	22	45	52	74	60
Location_13	94	78	75	71	42	88
Location_14	82	31	48	77	30	35
Location_15	27	70	23	22	8	85
Location_16	6	90	76	47	42	90
Location_17	40	76	9	51	88	54
Location_18	7	100	35	5	28	14
Location_19	89	97	80	62	33	28
Location_2	87	57	32	27	50	31
Location_3	2	23	1	64	52	89
Location_4	65	68	16	79	54	76
Location_5	71	15	7	68	75	80
Location_6	57	57	90	83	84	60
Location_7	27	97	97	26	90	29
Location_8	37	34	26	34	57	94
Location_9	43	46	8	99	55	81

Reference

Time Comparison Dialog Box

This dialog box enables you to configure and manage a report's component time comparison. A report can include several components (charts or tables). The time comparison feature can display information about the component's data for different time periods so you can compare the values or behavior of the elements described by the component. This feature is available for time-based report's components.

To access	Click the **Time Comparison** button on the right side of the toolbar of the report's component.
Important information	➤ The permissions for the time comparison feature reflect the report permissions. ➤ The top part of the Time Comparison dialog box is where you create or edit time comparisons. It reflects the changes you make to the report's filter. The report filter does not reflect changes made to the Time Comparison time-frame. ➤ The time comparison default time-frame reflects the report's time-frame definition. You can modify the time comparison time-frame. ➤ **Limitations:** ➤ The time comparisons defined for a report are deleted when you rerun the report. ➤ For report components that display information in both table and chart format in a single tab layout (where you can toggle between chart and table), or only in chart format, the length of the report time-frame and the length of the time comparison must be the same and is limited to the time-frame of the chart. For example, if the report time-frame is a week, the time comparison time-frame must also be a week, but it can be a week of a different past month or past year. ➤ For reports that display information only in table format, the length of the report time-frame and the length of the time comparison can be different. For example, the report time-frame can be a week, while the time comparison's time-frame can be a month. ➤ The time comparison feature is not available for pie charts.
Relevant tasks	"How to Run Reports" on page 315
See also	"Time Comparison Overview" on page 348

Define Time Comparison Area

This area enables you to define or edit time comparisons.

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

UI Element (A–Z)	Description
<top message>	The message indicates that you cannot define more than n time comparisons. The number of time comparisons that can be defined for a report's component depends on the time comparison characteristics of the report's component. That number cannot be modified.
Add	Select the appropriate conditions in the time comparison and click **Add** to add the time comparison to the table where you can check that the time comparison name and time period are correct. **Note:** ➤ You can define a limited number of time comparisons at a time – depending on the default set for the report's component. If you try to define an additional time comparison, the **Add** button is disabled. You must delete an existing time comparison before adding a new one. ➤ The new time comparison is rendered and the time comparison is displayed when you click the **OK** button at the bottom of the dialog box. ➤ All the time comparisons defined for the report's components are cleared when you re-run the report.

UI Element (A–Z)	Description
Compare to <nn> <time period>	The relative time comparison time-frame. The length of the time-frame you want to use for the time comparison. **Note:** ➤ When the report's filter time bar is set to Custom, the relative time comparison option is disabled, and you can only define absolute time comparisons. ➤ In chart/table reports, the selection in this field corresponds to the time-frame of the report chart definition. **Example:** If you want to compare the current report data with the report data during the same month last year, you enter 1 month in the **Compare to** boxes and enter 1 year or 4 Quarters in the **Going back** boxes.

UI Element (A–Z)	Description
From... To....	The absolute time comparison time-frame. **Chart or table/chart reports**. Initially, the time comparison time-frame reflects the report's time-frame definition. If you modify the entry in one of the **From**/**To** boxes, the entry in the other box automatically adjusts to the correct date and time, so the difference between the two boxes reflects the report's original time-frame. **Table only reports**. Initially, the time comparison time-frame reflects the report's time-frame definition. Once you modify the time-frame, the values of the **From**/**To** boxes remain as you defined them. There is no automatic adjustment, because the time-frame doesn't have to be limited to the report filter's time-frame. **Example:** For a chart or table/chart reports, if the report time-frame is past week, the time and date displayed in the **From** and **To** boxes reflect the past week; the **To** box displays today's date and time and the **From** box displays the date and time a week earlier. **Note:** ➤ When the report's filter time bar is set to Custom, the relative time comparison option is disabled, and you can only define absolute time comparisons. ➤ If you make a change to the time-frame of the report, you must run the report to reflect the new time-frame in the Time Comparison dialog box. Time comparisons that were previously defined for the report's component are automatically deleted.

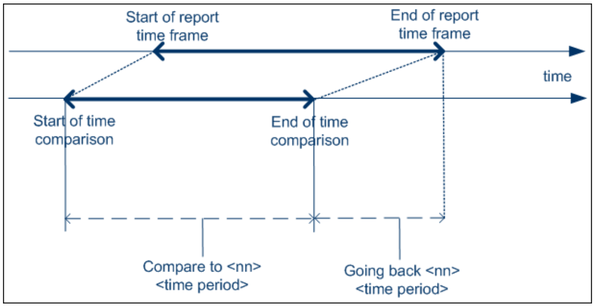
<table>
<tr><th>UI Element (A–Z)</th><th>Description</th></tr>
<tr><td>

Going back <nn> <time period>

</td><td>

The offset from the end date and time specified in the report’s filter.

The report’s filter end date and time minus the value of **Going back** (offset) is the date and time when the time comparison should end. The report’s filter end date and time minus the offset and minus the **Compare to** duration is the date and time when the time comparison should start.



Note: In chart/table reports, the default selection in this field corresponds to the time-frame of the report chart definition.

Example: See example in **Compare to** field.

</td></tr>
<tr><td>

Name

</td><td>

The name of the current time comparison. The name must be unique.

You can modify the default name. The name is used as the display label in the time comparison’s chart legend or as the name of the time comparison column in tables.

Note:

- If you change the time range of the time comparison, the time range section in the time comparison’s default name automatically reflects the change.
- If you have changed the time comparison’s name and then you modify the time definition, the time comparison’s name returns to its default and displays the new time definition.

</td></tr>
</table>

UI Element (A–Z)	Description
Update	Select a time comparison in the table, make changes, and click the **Update** button to temporarily save the changes you made to the time comparison. **Note:** ➤ The changes are saved when you click the **OK** button at the bottom of the dialog box. ➤ All the time comparisons defined for the report's components are cleared when you re-run the report.

Existing Time Comparison Area

This area lists the time comparisons that were previously defined for the report.

User interface elements are described below:

UI Element (A–Z)	Description
✖	**Delete.** Deletes the selected time comparison.
Name	The name of the time comparison.
OK	Click to save the new or edited time comparison. The new time comparison or edited time comparison is not saved until you have clicked **OK**. A time comparison is not deleted until you click **OK**. The time comparison is then part of the report.
Time range	The time range of the time comparison.

16

Interactive Charts

This chapter includes:

Concepts

➤ Interactive Charts Overview on page 362

Tasks

➤ How to Use Interactive Charts to Analyze the Report's Data on page 363

Reference

➤ Interactive Chart Area on page 364

Concepts

Interactive Charts Overview

A report can include several components where each component is either a table or a chart (pie, line, area, bars, stacked bars). Some report's components use the interactive chart feature to renderer the data.

The interactive chart feature uses Flex technology. It is used to represent:

- Line, area, bars, stacked bars charts, and combinations of these types of charts.
- Pie charts.
- Scatter charts.
- Bubble charts.

Tasks

How to Use Interactive Charts to Analyze the Report's Data

This task describes how to use a report's interactive chart to analyze the report's data.

To analyze the report's data:

Note: The interactive chart features depend on the type of chart used in the report's interactive chart component.

1. Select an element in the legend to highlight the corresponding line point, bar, or slice in the chart and vice-versa. The X-axis or Y-axis usually reflect the selected element.
2. Display or hide the element's downtime indicators.
3. Use the context menus relevant to access additional information in the relevant applications.
4. Zoom inside the chart to display more details.

For details about these capabilities, see "Interactive Chart Area" on page 364.

Reference

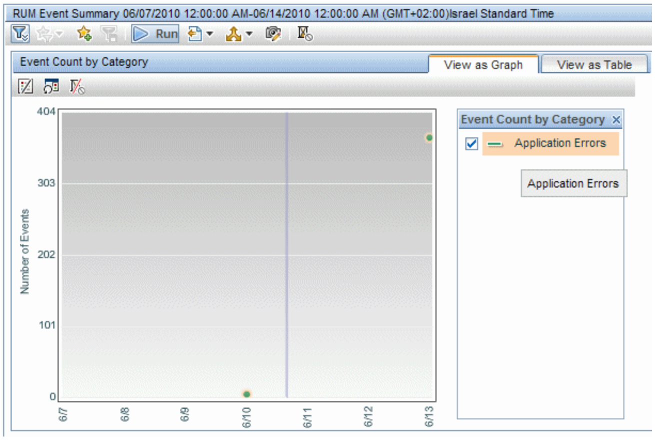
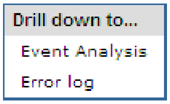
Interactive Chart Area

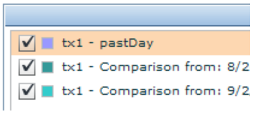
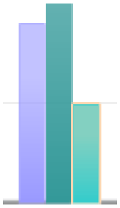
This area provides interactive capabilities. For details, see "Interactive Charts Overview" on page 362.

Important information	Flex charts are displayed as images in reports that are exported to PDF.

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

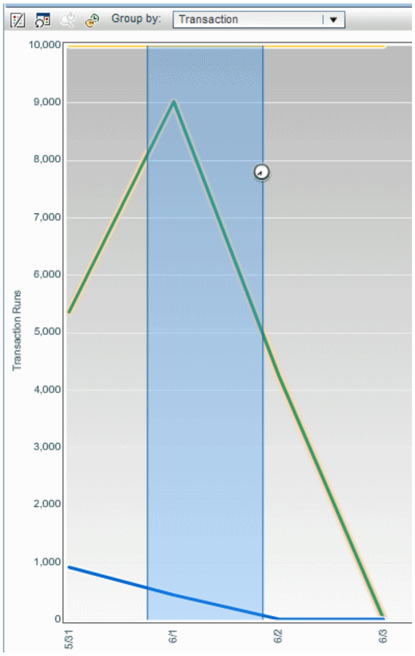
UI Element (A-Z)	Description
	Show/Hide Legend. Displays or hides the legend. When the legend is hidden, the chart expands to fit the page.
	Dock Legend. Resets the position and the size of the legend to their original values.
	Reset Zoom. Resets the chart's zoom.

UI Element (A-Z)	Description
⌛	**Show/Hide Downtime.** Displays or hides the report's component downtime information. The downtime ranges are located on the line point, or bar. The downtime range tooltip provides information about the start and end of the downtime.  RUM Event Summary 06/07/2010 12:00:00 AM-06/14/2010 12:00:00 AM (GMT+02:00)Israel Standard Time Run Event Count by Category View as Graph View as Table 404 303 202 101 0 Number of Events 6/7 6/8 6/9 6/10 6/11 6/12 6/13 Event Count by Category ☑ Application Errors Application Errors In printer-friendly or PDF mode, a separate table provides the downtime information for all the elements of the report's component.
<Context menus>	Right-click a line point, bar, or slice to display the context menu. The context menu provides a list of one or more options that you can use to navigate to other locations in the applications. These locations are usually other reports that provide more information about the selected line point, bar, or slice. 

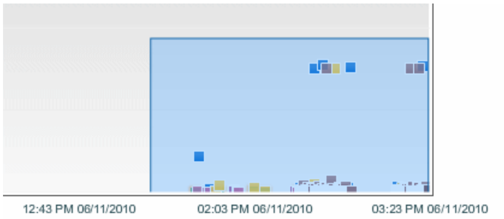
UI Element (A-Z)	Description
<Legend>  ☑ 🟪 tx1 - pastDay ☑ 🟩 tx1 - Comparison from: 8/2 ☑ 🟦 tx1 - Comparison from: 9/2	The chart legend is interactive and displays the element's label and color. **Default:** The first element in the legend is selected by default. ➤ When you select one of the elements in the legend, in the chart: ➤ The X-axis displays the data corresponding to the selected element. ➤ The relevant downtime indication are displayed if the chart includes these elements. ➤ The relevant bars, slices, or scatter points are surrounded by an orange frame (see the turquoise bar below). In line charts, the relevant line is highlighted.  ➤ When you select a slice, bar, or line in the chart, the corresponding element is highlighted in the legend. ➤ Click ☒ to close the legend. ➤ You can drag and resize the legend. The legend may include a scroll bar. ➤ Select/clear a legend element to display/hide the corresponding element in the chart.
<Tooltip>	Each line point, bar, or slice provides a tooltip that includes the name of the line point, bar, or slice, its value, and its status. The background color of the tooltip title represents the status of the line point, bar, or slice.
<Two Y-axis>	Depending on the data displayed in the chart, the chart can display two Y-axes.

<table>
<tr><th>UI Element (A-Z)</th><th>Description</th></tr>
<tr><td><Zoom in></td><td>

- **Line charts.** Drag the cursor over the chart to select the X-axis range used to zoom in. A new chart is created according to the selected range.



- **Scatter or bubble charts,** Drag the cursor over the chart to select the X-and Y-axis range used to zoom in. A new chart is created according to the selected range.



Note: If the report component includes a table display, the table is refreshed for the chart's zoomed-in ranget.

</td></tr>
</table>

17

Report Annotation

This chapter includes:

Concepts

➤ Report Annotation Overview on page 370

Tasks

➤ How to Create an Annotated Report on page 371

Reference

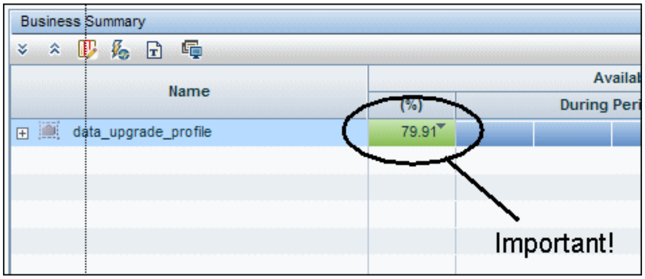
➤ Annotation Tool Dialog Box on page 374

Troubleshooting and Limitations on page 379

Concepts

Report Annotation Overview

The Annotation Tool creates a snapshot of the report you are viewing and enables you to highlight important areas of the report by drawing circles, squares or rectangles around those areas, or by adding lines or text to the snapshot.



You can show annotated reports to other users to emphasize specific areas of the report. You can send annotated reports to recipients via email, or you can upload the reports to Report Manager, or save them to your local directory.

The Annotation Tool is accessible by clicking the **Annotation Tool** button displayed on the right side of a report's page.

For details on the user interface for creating an annotation, see "Annotation Tool Dialog Box" on page 374.

Tasks

How to Create an Annotated Report

This task describes how to create an annotated report.

This task includes the following steps:

- "Add annotations to a report" on page 371
- "Print, save, or email an annotated report" on page 373

1 Add annotations to a report

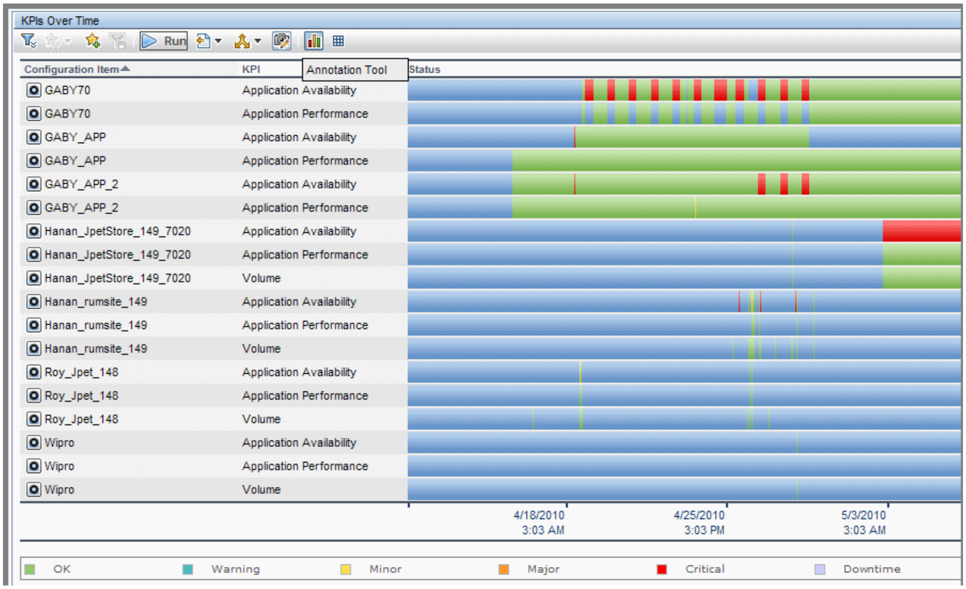
Open the relevant report and click the **Annotation Tool** button on the right side of the page. It creates a snapshot of the report.

You can add shapes (rectangles, ovals, rounded, rectangles, lines) to any area of the report. You can customize the colors of the shapes and lines, and select solid or jagged lines. You can also add text to the snapshot of the report. For details, see "Annotation Tool Dialog Box" on page 374.

Example:

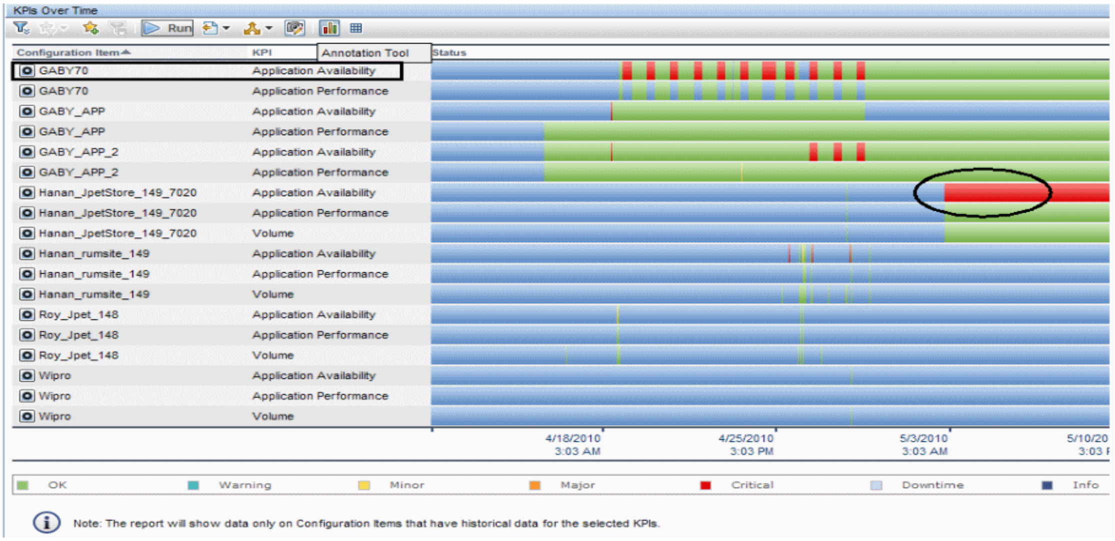
One of John's associates has saved an annotated Trend report to Report Manager, and John wants to view the areas in the report that have been highlighted by the annotations. He selects the annotated report in Report Manager and clicks the **View Report** button to view the report's annotations.

The resulting Report Manager page appears as follows:



Configuration Item	KPI
GABY70	Application Availability
GABY70	Application Performance
GABY_APP	Application Availability
GABY_APP	Application Performance
GABY_APP_2	Application Availability
GABY_APP_2	Application Performance
Hanan_JpetStore_149_7020	Application Availability
Hanan_JpetStore_149_7020	Application Performance
Hanan_JpetStore_149_7020	Volume
Hanan_rumsite_149	Application Availability
Hanan_rumsite_149	Application Performance
Hanan_rumsite_149	Volume
Roy_Jpet_148	Application Availability
Roy_Jpet_148	Application Performance
Roy_Jpet_148	Volume
Wipro	Application Availability
Wipro	Application Performance
Wipro	Volume

The annotated report appears, with annotations indicated by black and pink boxes, as follows:



Configuration Item	KPI
GABY70	Application Availability
GABY70	Application Performance
GABY_APP	Application Availability
GABY_APP	Application Performance
GABY_APP_2	Application Availability
GABY_APP_2	Application Performance
Hanan_JpetStore_149_7020	Application Availability
Hanan_JpetStore_149_7020	Application Performance
Hanan_JpetStore_149_7020	Volume
Hanan_rumsite_149	Application Availability
Hanan_rumsite_149	Application Performance
Hanan_rumsite_149	Volume
Roy_Jpet_148	Application Availability
Roy_Jpet_148	Application Performance
Roy_Jpet_148	Volume
Wipro	Application Availability
Wipro	Application Performance
Wipro	Volume

Note: The report will show data only on Configuration Items that have historical data for the selected KPIs.

2 Print, save, or email an annotated report

You can:

- ➤ Save the annotated snapshot in .png format to your local machine.
- ➤ Send the annotated snapshot using email.
- ➤ Save the annotated snapshot in the report repository.

Reference

Annotation Tool Dialog Box

This page enables you to annotate a snapshot of the report you are viewing, to highlight important areas.

To access	Click the **Annotate** button on the report toolbar.
Important information	➤ The annotation options are located on the left side of the annotation window. ➤ When saving the annotation: ➤ The snapshot is saved in .png format. ➤ You cannot select the **New Folder** icon when saving in the **My Documents** directory or any of its subdirectories. **Limitation:** The annotation tool is not available for user reports. For details about user reports, see "Report Manager Overview" on page 30.
Relevant tasks	"Running Reports" on page 306
See also	"Report Annotation Overview" on page 370

Annotation Options

The elements that enable you to annotate your snapshot.

User interface elements are described below:

UI Element (A–Z)	Description
✋	**Pan Tool.** Click to navigate the snapshot.
⬚	**Select Tool.** Click and drag to select a specific area of the snapshot.
☐	**Shape Tool.** Click and drag to add a shape to the snapshot. Clicking the shape tool button enables the following shape buttons: ➤ ☐ **Rectangle.** Click and drag to mark an area of the snapshot with a rectangle. ➤ ▣ **Filled Rectangle.** Click and drag to mark an area of the snapshot with a filled rectangle. ➤ ○ **Oval.** Click and drag to mark an area of the snapshot with an oval. ➤ ● **Filled Oval.** Click and drag to mark an area of the snapshot with a filled oval. ➤ ▢ **Rounded Rectangle.** Click and drag to mark an area of the snapshot with a round rectangle. ➤ ▣ **Filled Rounded Rectangle.** Click and drag to mark an area of the snapshot with a filled round rectangle. **Customization.** After selecting this button, you can customize your line appearance through the following parts of the interface: ➤ **Line Type.** Choose the type of line you want to add. Options include: ➤ Solid Line ➤ Jagged Line ➤ **Line Width.** Select the width of the line, in pixels, in the annotation.

UI Element (A–Z)	**Description**

╲	**Line Tool.** Click and drag to enable the line tool, which marks the selected area of the snapshot with a line.
	Customization. After selecting this button, you can customize your line appearance through the following parts of the interface:
	➤ **Line Style.** Choose the style of line you want to add. Options include:
	  ➤ Regular line
	  ➤ Line with endpoints
	  ➤ Line with arrows
	➤ **Line Type.** Choose the type of line you want to add. Options include:
	  ➤ Solid Line
	  ➤ Jagged Line
	➤ **Line Width.** Select the width of the line, in pixels, in the annotation.

T	**Text Tool.** Click and drag to open a box where you can add text to the snapshot. **Example:** Add the syntax: This is the problematic transaction above a line marking an area of the report.

UI Element (A–Z)	Description
Border and Fill Colors	Select the relevant square to choose the color of the border and fill of your annotations. The available squares are: ➤ **Upper Square.** Click to choose the color of lines, as generated by the line tool and displayed in unfilled shapes. ➤ **Lower Square.** Click to choose the color to fill shapes. Clicking either of the squares generates a dialog box with the following tabs where you choose the color: ➤ Swatches ➤ HSB ➤ RGB
Opacity	Slide the opacity bar to choose the darkness level of the selected shape line, text line, or shape color in the annotation. **Note:** ➤ A higher opacity percentage means that the selection appears darker. A lower opacity percentage means that the selection appears lighter. ➤ This field is enabled when either the shape tool, line tool, or text tool button is selected.

Menu Bar

Displays the elements which enable you to perform selected actions on your snapshot.

Important information	The menu bar contains elements which enable you to: ➤ Change the appearance of the snapshot. ➤ Save, print, email, or upload an annotation report to Report Manager. ➤ Customize the appearance of text annotated onto your snapshot. These elements are enabled only when the **Text Tool** button T is selected.

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

UI Element (A–Z)	Description
💾	**Save.** Saves the snapshot on your local machine. **Note:** ➤ The snapshot is saved in .png format. ➤ You cannot select the **New Folder** 📁 icon when saving in the **My Documents** directory or any of its subdirectories.
⬚	**Select All.** Selects all of the annotations added to your snapshot.
✖	**Clear Selected.** Clears all annotations.
↶	**Undo.** Rolls back the most recent action performed on the snapshot.
↷	**Redo.** Cancels the roll back of the most recent action performed on the snapshot.
🔍	**Zoom In.** Brings the snapshot view closer.
🔍	**Zoom Out.** Sets the snapshot view further away.
🔍	**Restore original size.** Restores the snapshot to its original size.
🖨	**Print.** Prints the snapshot.
✉	**Send E-mail.** Click to send the snapshot via email.
⇧	**Save to repository.** Uploads the snapshot to Report Manager. For details on Report Manager, see "Report Manager Overview" on page 30. **Note:** This option is not available when accessing the Annotation Tool from the SiteScope feature.

UI Element (A–Z)	Description
?	**Help.** Displays online documentation help for the page you are currently viewing.
B	**Bold.** Bolds the text. **Note:** This field is enabled only when selecting the **Text Tool** T button.
I	**Italic.** Italicizes the text. **Note:** This field is enabled only when selecting the **Text Tool** T button.
U	**Underline.** Underlines the text. **Note:** This field is enabled only when selecting the **Text Tool** T button.
🟩	**Anti-aliasing.** Adjusts the pixel reading of text or annotation lines so that they appear smoother. **Note:** This field is only enabled when selecting the **Text Tool** T button.
<Font Family>	Select the font for the text in the report. **Note:** This field is only enabled when selecting the **Text Tool** T button.
<Font Size>	Select the size of the font in the report. **Note:** This field is only enabled when selecting the **Text Tool** T button.

Troubleshooting and Limitations

This section describes troubleshooting and limitations for annotating reports.

Annotating a Report

You cannot select the **New Folder** icon 📁 when saving an annotation in the **My Documents** directory or any of its subdirectories.

18

Downtime Information in Reports

This chapter includes:

Concepts

➤ Downtime Information in Reports Overview on page 382

➤ Displaying Downtime Information in Reports on page 382

➤ Exporting Reports with Downtime Information on page 386

➤ Reports with Downtime Information in Custom Reports on page 387

Tasks

➤ How to Select the Type of Downtime Information Displayed in Relevant Reports on page 388

Reference

➤ Downtime Information Area on page 390

Concepts

Downtime Information in Reports Overview

A central downtime manager provides the ability to define expected service downtime events due to planned changes. A downtime can be defined for servers and applications as a one time event or as a recurring event. As part of definition, the customer is able to understand what other applications, services, and SLAs are affected by the defined downtime to decide which other entities go into downtime state as a result of the planned change. In addition, you can define how the system behaves during the downtime period: stop monitors from reporting data, stop sending alerts to user, and so on. For downtime details, see "Downtime Management — Overview" in *Platform Administration*.

When machines are in downtime mode, CI data can be skewed. You can specify that a CI is affected by the downtime.

Because downtime has an impact on CIs, you may want to display, in reports, downtime information for a specific CI and for a specific time period, if the conditions corresponding to the action options you selected, are fulfilled. For task details, see "How to Select the Type of Downtime Information Displayed in Relevant Reports" on page 388.

Displaying Downtime Information in Reports

Depending on the report structure and on the report contents, downtime information can be displayed different ways in the report.

This section includes the following topics:

- "Standalone Downtime Information" on page 383
- "Downtime Information Embedded in the Report's Table" on page 383
- "Downtime Information in Report's Charts" on page 384

Standalone Downtime Information

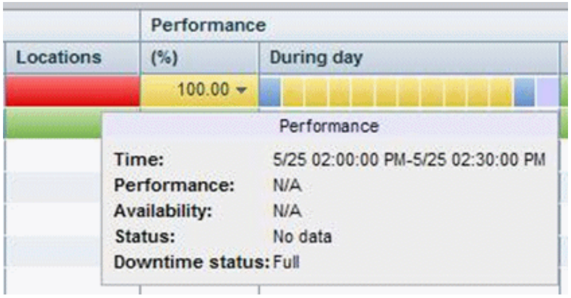
In some reports, the downtime information is displayed in a separate table at the end of the report. The table presents all the downtime information independently of the information displayed by the report. For user interface details, see "Downtime Information Area" on page 390.

Downtime Information Embedded in the Report's Table

In some reports, a table displays CI information over a specified time-frame, meaning that each cell in the table displays CI data for a specific time-slot.

The following situations can occur:

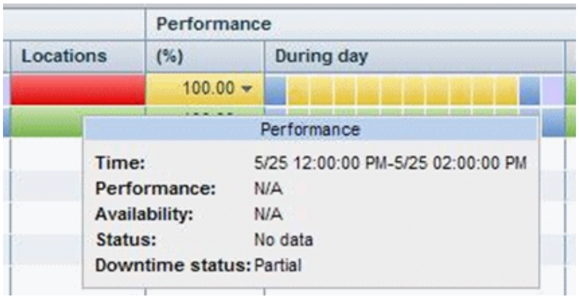
- **Complete downtime status.** There is a downtime during the whole report's selected time-frame:
  - Each cell's tooltip provides information about the downtime. The background color of the tooltip title is lavender.
  - If a cell is assigned a background color, the cell's background color is lavender.



Performance

Time: 5/25 02:00:00 PM-5/25 02:30:00 PM
Performance: N/A
Availability: N/A
Status: No data
Downtime status: Full

- **Partial downtime status.** There is downtime for part of the report's selected time-frame:
  - Each cell's tooltip provides information about the downtime. The background of the tooltip' title is the color of the cell's status. The tooltip indicates that it is a partial downtime status.
  - If the cell is assigned a background color, the cell's background color depends on the cell's status.



Performance

Time: 5/25 12:00:00 PM-5/25 02:00:00 PM
Performance: N/A
Availability: N/A
Status: No data
Downtime status: Partial

- **No downtime status.** There is no downtime during the whole report's selected time-frame:
  - The cell's tooltip does not provides information about the downtime. The background of the tooltip's title reflects the cell's status.
  - If the cell is assigned a background color, the cell's background reflects the cell's status.

Downtime Information in Report's Charts

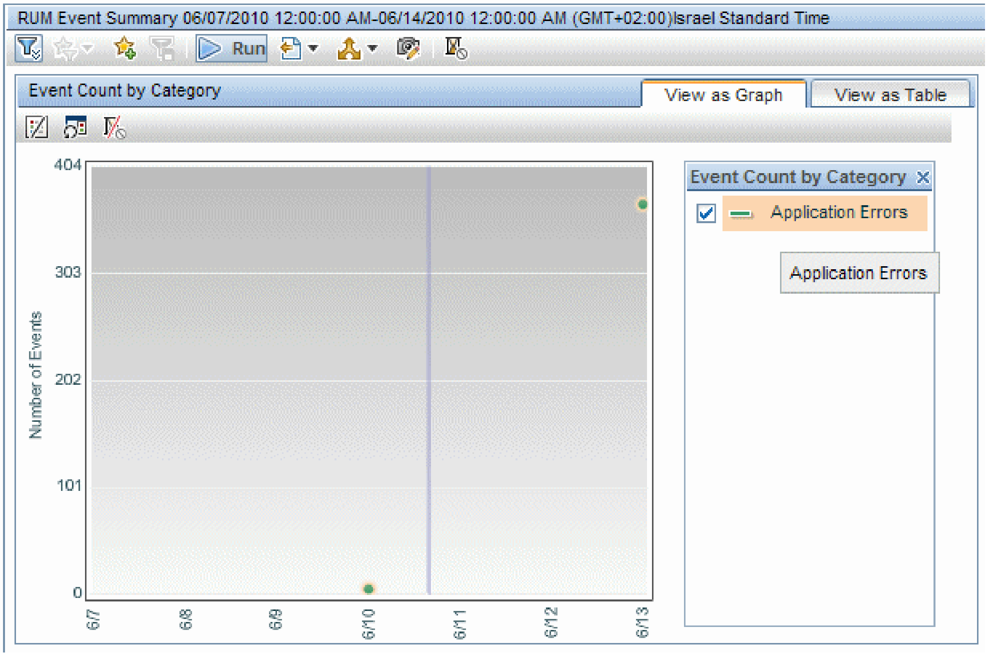
Only reports with line, bar, stacked bar, area, scatter, or bubbles charts can display downtime information. Reports with pie charts do not display such information because they do not display "over time" data.

If the element had no downtime during the report's selected time-frame, the downtime information is not displayed.

Each element listed in the interactive section of the legend can have different time-ranges and different downtime information, since each selected element can represent a different CI. The downtime information is displayed per selected element as follows:

- Downtime information is displayed, in the chart, as a lavender vertical area (rectangle). The beginning of the lavender area corresponds to the start of the downtime period for the selected element and the end of the lavender area corresponds to the end of the downtime period.
- The tooltip provides information about the name of the element and the start time and end time of the downtime period that affects the selected element.

If the element had no downtime during the selected time-frame, the downtime information is not displayed.



Exporting Reports with Downtime Information

When you export a report where downtime information is part of the report table, or is a separate section at the end of the report, the report displays downtime information as follows:

Export Format	**Report in Table Format**	**Report in Chart Format**	**Report with Separate Downtime Table or Tab**
Printer-friendly or PDF	The background indicates the cell's status. **Complete downtime:** the cell's background is lavender. **Partial downtime:** the cell does not provide that information.	Displays the downtime information in table format in a separate section of the report. The table specifies downtime ranges for all the element.	Exports as is
Excel	The cell background indicates the cell's status. Tooltips appear as Excel tooltips. **Complete downtime:** the cell's background is lavender. **Partial downtime:** the cell does not provide that information. If available, a tooltip might indicate partial downtime.	**Limitation:** Reports in chart format are not exported to Excel format.	Exports as is
CSV	There is no indication of downtime in the CSV format.	There is no indication of downtime in the CSV format.	Exports as is
XML	There is no indication of downtime in the XML format.	There is no indication of downtime in the XML format.	Exports as is

For details, see "Downtime Information in Report's Charts" on page 384.

Reports with Downtime Information in Custom Reports

If you add a report with downtime information to a custom report:

- If the report is in table format, the background of the status cell indicate the cell's status. If there is a downtime during the whole report's selected time-frame, the cell's background is lavender.
- If the report is in chart format, no downtime information is available.
- Custom Reports do not support separate downtime sections.

Tasks

How to Select the Type of Downtime Information Displayed in Relevant Reports

This task describes how to set up to display downtime information in relevant reports.

This task includes the following steps:

- "Prerequisites" on page 388
- "Set up the action options" on page 388
- "Results" on page 389

1 Prerequisites

The report must include the capability to display downtime information.

2 Set up the action options

To select the type of downtime information that can be displayed in the report, click **Admin** > **Platform** > **Downtime**, and select one of the following options:

- **Suppress events, alerts & notifications**
- **Enforce downtime on KPI calculations; suppress events, alerts & notifications**
- **Enforce downtime on Reports and KPI calculations; suppress events, alerts & notifications**

Downtime data embedded in relevant reports is displayed if you select one of the actions listed above.

The separate dowtime component displayed in relevant reports provides downtime information for all 5 types of actions.

For details about the actions, see "Action Page" in *Platform Administration*.

3 Results

To display a report downtime information, in the relevant report, click the **Downtime** button.

Depending on the report structure and on the report contents, downtime information can be displayed in a separate table, or can be embedded in the report's table. For details on the different formats of the downtime information, see "Downtime Information in Reports Overview" on page 382.

Limitations:

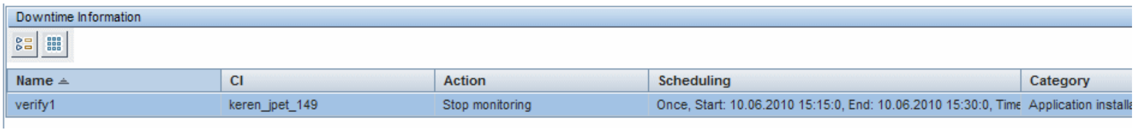
- If you export a report with downtime information to other formats, some information might not be displayed. For details, see "Exporting Reports with Downtime Information" on page 386.
- If you add a report with downtime information to a Custom Report, some information might not be displayed. For details, see "Reports with Downtime Information in Custom Reports" on page 387.

Reference

Downtime Information Area

This report's area enables you, for the CI and time-frame you selected in the report's filter, to view downtime information as a separate downtime component located at the end of the report. Other reports provide embedded downtime information. For details about the embedded downtime information, see "Downtime Information Embedded in the Report's Table" on page 383 or "Downtime Information in Report's Charts" on page 384.

The following graphic displays a typical report downtime component.



Downtime Information

Name	CI	Action	Scheduling	Category
verify1	keren_jpet_149	Stop monitoring	Once, Start: 10.06.2010 15:15:0, End: 10.06.2010 15:30:0, Time	Application installa

To access	Open the relevant report and click the button.
Important information	When available in a report, this component is displayed in all export modes: printer-friendly, PDF, Excel, CSV, or HTML.
Relevant tasks	"How to Select the Type of Downtime Information Displayed in Relevant Reports" on page 388

User interface elements are described below:

UI Element (A-Z)	Description
Action	The downtime action as defined in the "Downtime Management Page" in *Platform Administration*.
Category	The downtime category selected in the "Properties Page" of the New Downtime Wizard in *Platform Administration*.

UI Element (A-Z)	Description
CI	The name of the CI affected by the downtime.
Description	The downtime description provided in the "Properties Page" of the New Downtime Wizard in *Platform Administration*.
Name	The name of the downtime.
Scheduling	The start and end time and date of the downtime period.

19

Customizing Reports

This chapter includes:

Concepts

- Customizing Reports - Overview on page 394
- Configuring a Report Header and Footer on page 395

Tasks

- How to Customize Report Settings in the Infrastructure Settings Manager on page 397

Concepts

Customizing Reports - Overview

You can specify various settings in the Infrastructure Settings manager to enable you to customize the look and display of your BSM reports.

BSM enables you to choose from the following customizing options:

- **Specify a header and a footer for reports.** For details, see "Configuring a Report Header and Footer" on page 395.
- **Specify the default browser.** For details, see "Specify the Default Browser" on page 397.
- **Run reports automatically.** For details, see "How to Schedule a Report" on page 49.
- **Customize the display of global reports.** For details, see "Customize the Global Reports Display" on page 399.
- **Configure the maximum number of data units exportable to .pdf.** For details, see "Configure the Maximum Number of Data Units Exportable to PDF" on page 400.
- **Configure the maximum number of rows per table.** For details, see "Configure the Maximum Number of Rows Per Table" on page 400.
- **Customize the display of specific reports.** For details, see "Customize the Specific Reports Display" on page 401.

Note: BSM also enables you to customize the look and layout of specific reports (customizable reports). Contact HP Software Support to assist you in performing this type of report customization.

Configuring a Report Header and Footer

You can add a header and a footer to a report. You can also modify an existing header and footer or return to the default header and footer (blank).

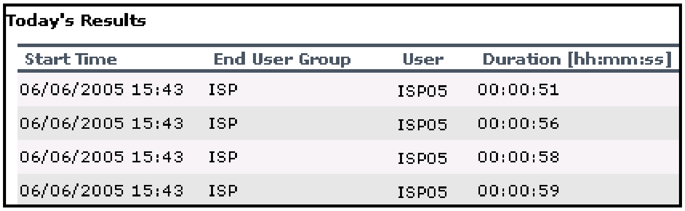
You can add a header or footer in one of the following ways:

- **Configure a global report header and footer in the Infrastructure Settings Manager.**

  The global report header and footer has the following characteristics:

  - The text of the header/footer has to be valid HTML.
  - The changes take effect immediately.
  - The change is applied to all the customizable reports.
  - The header/footer is static. It remains displayed on the page while you scroll the report lines.

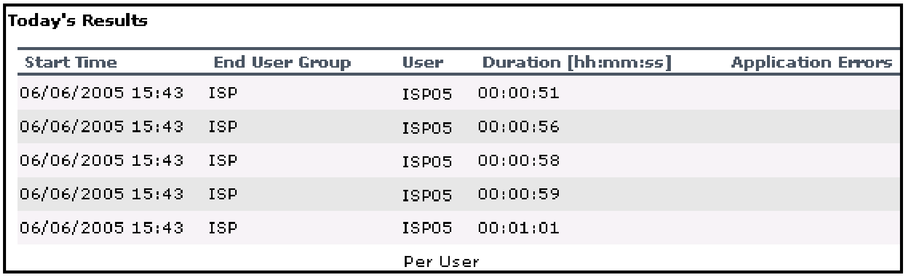
  For example, if you specify the header <b>Today's Results</b>, the header appears with a bold font.



Today's Results

Start Time	End User Group	User	Duration [hh:mm:ss]
06/06/2005 15:43	ISP	ISP05	00:00:51
06/06/2005 15:43	ISP	ISP05	00:00:56
06/06/2005 15:43	ISP	ISP05	00:00:58
06/06/2005 15:43	ISP	ISP05	00:00:59

As another example, if you specify the footer <center>Per User</center> the report shows the footer aligned to the center of the report.



Today's Results

Start Time	End User Group	User	Duration [hh:mm:ss]	Application Errors
06/06/2005 15:43	ISP	ISP05	00:00:51	
06/06/2005 15:43	ISP	ISP05	00:00:56	
06/06/2005 15:43	ISP	ISP05	00:00:58	
06/06/2005 15:43	ISP	ISP05	00:00:59	
06/06/2005 15:43	ISP	ISP05	00:01:01	

Per User

For details on configuring a global header and footer, see "Configure the Global Report Header" on page 398.

- **Configure a default header and footer for all custom and trend reports in Report Manager.** For details, see "Default Header/Footer Dialog Box" on page 40.
- **Configure a header and footer for a specific user report via the selected report wizard in Report Manager.** For details, see "Header/Footer Page" on page 88 (for Custom Reports), or "Header/Footer Page" on page 138 (for Trend Reports).

  The report header and footer you add for the specific user report in the appropriate wizard overrides the default header and footer configured for all custom and trend reports in Report Manager. The default header and footer configured for all custom and trend reports via the **Set default header / footer for Custom & Trend reports** button in Report Manager overrides the global report header and footer configured in the Infrastructure Settings Manager.

Tasks

How to Customize Report Settings in the Infrastructure Settings Manager

You can perform the following report customization settings in the Infrastructure Settings Manager:

- "Specify the Default Browser" on page 397.
- "Configure the Global Report Header" on page 398.
- "Configure the Global Report Footer" on page 398.
- "Configure Report Generation Settings" on page 399.
- "Customize the Global Reports Display" on page 399.
- "Configure the Maximum Number of Data Units Exportable to PDF" on page 400.
- "Configure the Maximum Number of Rows Per Table" on page 400.
- "Customize the Specific Reports Display" on page 401.

Specify the Default Browser

To specify the default browser to view reports with:

1. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings.**
2. Select **Foundations**.
3. Select **Reporting**.
4. In the Reporting-Display table, locate **Default Browser**. Change the value to:
   - **true** to enable Internet Explorer
   - **false** to enable another browser

Configure the Global Report Header

You can configure the global header that appears for all reports.

1. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**.
2. Select **Foundations**.
3. Select **Reporting**.
4. In the Reporting-Display table, locate **Display static report header**. Change the value to the report header you want to use in the report.

Note: The header configured either using the **Set default header / footer for all Custom & Trend reports** button or the User Report Wizard in Report Manager overrides the global report header.

Configure the Global Report Footer

You can configure the global footer that appears for all reports.

1. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**.
2. Select **Foundations**.
3. Select **Reporting**.
4. In the Reporting-Display table, locate **Display static report footer**. Change the value to the report footer you want to use in the report.

Note: The footer configured either using the **Set default header / footer for all Custom & Trend reports** button or the User Report Wizard in Report Manager overrides the global report footer.

Configure Report Generation Settings

You can configure HP Business Service Management to run reports automatically after selecting the report from the menu or to run reports only on demand from within the report.

To configure these settings, users with appropriate administrative privileges should perform the changes described in the procedure below.

Note: You must log in again for the changes to take effect.

To configure the report generation settings:

1. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings.**
2. Select **Foundations**.
3. Select **Reporting**.
4. In the Reporting-Display table, locate **Generate reports automatically**. Change the value to:
   - **true** to enable automatic report generation.
   - **false** to disable automatic report generation (default).

Customize the Global Reports Display

You can customize the appearance of your reports by configuring display elements to be applied to all reports.

To customize the global display for reports:

1. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings.**
2. Select **Foundations**.
3. Select **Reporting**.

4 In the Reporting - Display table, locate **Global reports display customization**. Change the value to the XML script for the report components you want to customize. A sample configuration file is located at: **<HPBSM root directory>\HPBAC\AppServer\webapps\site.war\WEB-INF\rfw\conf\internal\rfw-presentation.xml**

Configure the Maximum Number of Data Units Exportable to PDF

You can configure the maximum number of data units that can be presented when exporting hierarchic reports in PDF format.

To configure the maximum amount of data units exportable to PDF:

1. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings.**
2. Select **Foundations**.
3. Select **Reporting**.
4. In the Reporting - Display table, locate **Maximum number of data units exportable to .pdf**. Change the value to the number of data units you want to set as the maximum number of data units exportable to a hierarchic PDF report.

Configure the Maximum Number of Rows Per Table

You can configure the maximum number of rows that are presented when generating a table in a report.

To configure the maximum number of rows per table:

1. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**.
2. Select **Foundations**.
3. Select **Reporting**.
4. In the Reporting - Display table, locate **Maximum number of rows per table**. Change the value to the maximum number of rows you want displayed in the table.

Customize the Specific Reports Display

You can customize the appearance of your reports by configuring display elements to be applied to specific reports.

To customize the display for specific reports:

1. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**.
2. Select **Foundations**.
3. Select **Reporting**.
4. In the Reporting **-** Display table, locate **Specific report display customization.** Change the value to the XML script for the report components you want to customize. A sample configuration file is located at:

   <HPBSM root directory>\HPBAC\AppServer\webapps\site.war\WEB-INF\rfw\conf\applications\*-presentation.xml

20

Reports Log

This chapter includes:

Concepts

➤ Reports Log - Overview on page 404

➤ Reports Log Level on page 405

Tasks

➤ How to Set the Reports Log Level on page 407

Reference

➤ Reports Log Structure on page 408

Concepts

Reports Log - Overview

Business Service Management logs all activities related to reports as well as errors that occur when generating reports. Such activities include: creating a new report, generating a report, modifying report filters, drilling down in reports, and so forth.

BSM records all activities related to specific reports in a reports log. The activities that are logged are:

- Errors. For details, see "Logging Errors" on page 404.
- Any other activity performed on the report. For details, see "Logging Activities" on page 405.

The reports log records activities for all BSM reports, except for legacy reports. For a list of legacy reports, see "SAM Legacy Reports" in *Using System Availability Management*.

The reports log is located at
<HPBSM root directory>\log\EJBContainer\reports.log.

Each error and activity is recorded using a specific format – for details about the reports log format, see "Reports Log Structure" on page 408.

Logging Errors

Logging occurs for any error during:

- Report initialization.
- Report customization – for details on customizing reports, see "Customizing Reports" on page 393.
- Report rendering (creating the report display).

Logging Activities

Logging occurs for any action related to reports. The actions that are logged are:

- Creating a new report.
- Generating a report.
- Updating the filter of a report that is included in a custom report.
- Drilling down in a report and between reports.
- Updating the filter of a report.
- Printing a generated report, exporting it using email, or opening it in Microsoft Excel file format or in PDF format. For details on these actions, see "Common Report and Page Elements" on page 322.

Reports Log Level

Depending on the log level you specify, the following information can be recorded in the reports log:

- Debugging information.
- Activities performed on reports.
- Warning messages.
- Error messages.
- Fatal errors.

The log levels have the following hierarchy: **DEBUG**, **INFO**, **WARN**, **ERROR**, and **FATAL**, where **DEBUG** represents the lowest level and **FATAL** the highest level. The default level is **ERROR**.

The log level hierarchy means that if you select one of the levels, the report includes all the information related to that level and the levels above it, as follows:

Level	Reports log
DEBUG	Includes debugging information, activities performed on reports, warning messages, error messages, and fatal errors.
INFO	Includes activities performed on reports, warning messages, error messages, and fatal errors.
WARN	Includes warning messages, error messages, and fatal errors.
ERROR	Includes error messages, and fatal errors.
FATAL	Includes fatal errors.

Tasks

How to Set the Reports Log Level

You set the Reports log level to record the reports information that you want to track.

1. Open the **<HPBSM root directory>conf\core\Tools\log4j\EJB\topaz.properties** file with a text editor.
2. Search for the following line: **log4j.category.com.mercury.am.bac.core.reports= ${<loglevel>}, reports.appender**
3. Change **<loglevel>** to **DEBUG, INFO, WARN, ERROR**, or **FATAL**.
4. Save the file.

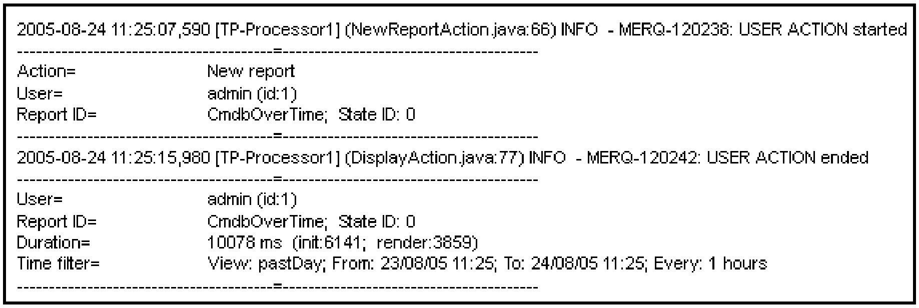
Reference

Reports Log Structure

The reports log includes entries for each activity or error. Each entry has the following structure:

```
2005-08-24 11:25:07,590 [TP-Processor1] (NewReportAction.java:66) <loglevel> -
MERQ-120238: USER ACTION started
---------------------------------------=---------------------------------------
Action=              <action>
User=                <user> (id:<id>)
Report ID=           <report_id>;  State ID: <state_id>
---------------------------------------=---------------------------------------
2005-08-24 11:25:15,980 [TP-Processor1] (DisplayAction.java:77) <loglevel> - MERQ-
120242: USER ACTION ended
---------------------------------------=---------------------------------------
User=                <user> (id:<id>)
Report ID=           <report_id>;  State ID: <state_id>
Duration=            <duration> ms  (init:6141;  render:3859)
Time filter=         View: <view>; From:<from_day_time>; To: <to_day_time>; Every:
<periodicity>
---------------------------------------=---------------------------------------
```

For example, the following entry specifies that a new report CMDBOverTime has been created by the admin user:



```
2005-08-24 11:25:07,590 [TP-Processor1] (NewReportAction.java:66) INFO  - MERQ-120238: USER ACTION started
---------------------------------------=---------------------------------------
Action=                     New report
User=                       admin (id:1)
Report ID=                  CmdbOverTime;  State ID: 0
---------------------------------------=---------------------------------------
2005-08-24 11:25:15,980 [TP-Processor1] (DisplayAction.java:77) INFO  - MERQ-120242: USER ACTION ended
---------------------------------------=---------------------------------------
User=                       admin (id:1)
Report ID=                  CmdbOverTime;  State ID: 0
Duration=                   10078 ms  (init:6141;  render:3859)
Time filter=                View: pastDay; From: 23/08/05 11:25; To: 24/08/05 11:25; Every: 1 hours
---------------------------------------=---------------------------------------
```

The parameters are as follows:

Parameter Value	**Description**
<**log_level**>	Represents the level that you selected – for details about the log level, see "How to Set the Reports Log Level" on page 407.
<**action**>	The type of activity that has been logged: ➤ **New report.** The user created a new report from a menu. ➤ **Generate.** The user clicked the **Generate** button. ➤ **CustomSaveFilter.** The user clicked **OK** in the filter of new reports when creating a custom report. ➤ **Update filter.** The user modified the filter in one of the reports. ➤ **Navigate.** The user drilled down in a report or between reports. ➤ **Export.** The user exported a report to Excel, .PDF, .CSV, or e-mail formats.
<**user**>	The login name.
<**id**>	For internal use.
<**report_id**>	The report requested by the user action.
<**state_id**>	For internal use.
<**duration**>	The number of milliseconds the server took to perform the user action. The time filter that was used in the activity includes the following information: ➤ <**view**> indicates the filter that was selected. This information is for internal use. ➤ <**from_day_time**> indicates when the activity started. This information is for internal use. ➤ <**to_day_time**> indicates when the activity ended. ➤ <**periodicity**> indicates the sampling periodicity. This information is for internal use.

Part IV

Data Reference

21

Data Aggregation

This chapter includes:

Concepts

- Data Aggregation – Overview on page 414
- Understanding Data Aggregation on page 415
- Aggregated Data in Reports on page 416

Tasks

- How to Customize Data Aggregation on page 417

Reference

Troubleshooting and Limitations on page 419

Concepts

Data Aggregation – Overview

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. BSM data aggregation tasks are performed on the Data Processing Server.

BSM aggregates various types of data that it collects for reports (for example, response time data collected by Business Process Monitor, infrastructure machine performance data collected by SiteScope, and user traffic data collected by Real User Monitor). Data aggregation involves combining individual measurements into manageable chunks. The result is improved speed and performance of report generation.

BSM groups data into the following categories:

- **Raw data.** The actual metrics collected by data collectors.
- **Fine aggregation granularity.** Data grouped into hourly chunks.
- **Coarse aggregation granularity.** Data grouped into daily chunks.

Understanding Data Aggregation

BSM aggregates data collected by Business Process Monitor and SiteScope data collectors (not including SiteScope Integration Monitors using the event data template). Data is aggregated as follows:

Hourly

Hourly aggregation is performed every hour.

The default schedule is that the hourly aggregation for Business Process Monitor and SiteScope data is done every hour for the time period that began 2 hours earlier (for example, at 12:00 PM HP Business Service Management aggregates the data collected between 10:00 AM and 11:00 AM).

Daily

Daily aggregation is performed once a day after the hourly aggregation.

The default schedule is that aggregation begins at 1:00 AM for the previous day (for example, at 1:00 AM, BSM aggregates the data collected between 12 am, 25 hours ago and 12 am, 1 hour ago). When configuring profile properties, you can specify the time zone that BSM uses to determine when to perform daily aggregation in **GMT Offset**.

You can define a different delay for when the aggregation begins in the Offline Aggregator infrastructure setting. For details, see "How to Customize Data Aggregation" on page 417.

Aggregated Data in Reports

Whether BSM displays a report using raw data, daily aggregated data, or hourly aggregated data depends on several factors:

- For all reports except SiteScope reports, BSM chooses the optimal combination of data categories, for the requested time range and granularity, so that the smallest amount of rows must be retrieved from the database.

  For example, for a time range Jan. 1 10:40 AM **-** Jan. 3 10:40 AM and granularity of 1 day, BSM chooses data categories as follows:

Range	**Category**
Jan. 1 10:40 AM - Jan. 1 11:00 AM	raw data is used
Jan. 1 11:00 AM - Jan. 1 11:59 PM	hourly aggregated data is used
Jan. 2 12:00 AM - Jan. 2 11:59 PM	daily aggregated data is used
Jan. 3 12:00 AM - Jan. 3 10:00 AM	hourly aggregated data is used
Jan. 3 10:00 AM - Jan. 3 10:40 AM	raw data is used

- If the time granularity for the report (or report time range in reports that are not over time) is set to less than a day, regardless of the chosen time range, BSM never uses daily aggregated data.
- If the time granularity for the report (or report time range in reports that are not over time) is set to less than an hour, regardless of the chosen time range, BSM always uses raw data.

Tasks

How to Customize Data Aggregation

The following steps describe how to customize the data aggregation feature.

- "Modify the default Aggregation Start Delay" on page 417
- "Modify the aggregated data usage policy" on page 418

Modify the default Aggregation Start Delay

You can define a different delay for when the aggregation begins in the Offline Aggregator context of the Infrastructure Settings page.

To modify the way aggregated data is used in reports:

1. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**.
2. Select **Foundations**.
3. Select **Offline Aggregator**.
4. In the **Offline Aggregator - General** table, you can specify a separate delay for Business Process Monitor, custom, and SiteScope data. The delay you specify is for both the hourly and daily aggregations. It is recommended that only advanced users change the defaults set in Infrastructure Settings and after first consulting HP Software Support or your HP Services representative.

Modify the aggregated data usage policy

The **Aggregation Policy** setting defines the aggregated data usage policy for reports that use custom data. By default, reports use all available data, raw and aggregated. In certain circumstances, however, it may be necessary to modify this setting. For example, if the aggregation engine is not working (aggregator process on the Data Processing Server is down), you can modify the setting so that only raw data is used.

To modify the way aggregated data is used in reports:

1. Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**:
2. Select **Foundations**.
3. Select **Generic Data Engine**.
4. In the **Generic Data Engine - Aggregation**, locate and modify the **Aggregation Policy** setting.

Note: In general, **Aggregation Policy** setting should not be modified without first consulting HP Software Support. It is not relevant for HP Software-as-a-Service customers.

Reference

Troubleshooting and Limitations

This section describes troubleshooting and limitations for data aggregation.

The following limitations apply, as a result of data aggregation:

- When viewing aggregated data, you may not always be able to see results when drilling down to individual transaction instances.
- When viewing aggregated data for non-rounded time periods, there might be inaccuracies for the time period close to the starting and ending times of the report. For example, if you run a report on a Thursday based on data collected between 9:45 AM the previous Monday and 9:45 AM the previous Tuesday, the time period between 9:45 AM and 10:00 AM Monday will not contain any data, even if data was originally collected.
- HP Business Service Management is unable to display both aggregated and raw data simultaneously in the Multi-Profile report.
- When viewing SiteScope data that is aggregated hourly, keep in mind that if the aggregator did not finish aggregating the necessary data, the latest hour may not include all the data. This may happen on rare occasions when there is a large amount of data needing hourly aggregation.
- Service Level Management aggregates some data differently. For details, see "Aggregated Data" in *Using Service Level Management*.

22

Data Samples

This chapter includes:

Reference

➤ Samples Overview on page 422

➤ Special Fields on page 422

➤ Data Samples for Service Health on page 423

➤ Data Samples for Service Level Management on page 425

➤ Data Samples for SiteScope on page 428

➤ Data Samples for Business Process Monitor on page 439

➤ Data Samples for Real User Monitor on page 457

➤ Data Samples for Alerts on page 507

➤ Data Sample for TransactionVision on page 511

➤ Data Samples for SOA on page 516

➤ Data Samples for Business Process Insight (BPI) on page 522

➤ Data Samples for HP Diagnostics on page 528

➤ Data Samples for RTSM on page 537

➤ Data Samples for the Custom Query Builder on page 538

Reference

Samples Overview

The data samples, and their fields, are available in various contexts in HP Business Service Management (BSM) (including Custom Reports, Measurement Filters, and Custom Query Builder). These samples can also be used to create queries to extract data from the BSM profile database using the BSM API.

Special Fields

This section describes the special fields that are available in various BSM contexts.

IP Addresses

In some samples, IP addresses are returned as 32 bits representing an array of four bytes. Each byte represents a segment of the IP address. To get the standard text representation of an IP address, convert the returned value to binary and pad left with zeros to a length of 32. Convert each eight bits separately into decimal representation and concatenate the text representation of the resulting numbers together with decimal points between the numbers. For example:

```
The query returns: 167772247
The binary representation is: 1010000000000000000001010111
Pad to length of 32: 00001010000000000000000001010111
Split into bytes: 00001010.00000000.00000000.01010111
Convert each byte to decimal and present with the standard IP format: 10.0.0.87
```

Time Stamps

Time in queries and return data is a double data type representing seconds since January 1, 1970. For details on understanding date-time values returned by queries, see "Date-Time Values" on page 296.

Data Samples for Service Health

This section describes the samples and sample fields for Service Health data (that is, data processed by the Business Logic Engine). These samples use the Universal Data Exchange (UDX) framework.

Limitation: There is currently no configuration item name field, and it is not possible to map CI names to their CMDB IDs (entity_id field). As such the value of these samples is limited.

The samples and sample fields for Service Health are:

- "Sample: KPI Statuses (bl_kpi_ot_ke)" on page 423
- "Sample: KPI Values (bl_kpi_ot_kt)" on page 424

Sample: KPI Statuses (bl_kpi_ot_ke)

The KPI Statuses sample (bl_kpi_ot_ke) contains data used when generating the KPIs Over Time report.

Field	Display Name	Data Type	Units	Description
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
entity_id	CMDB Entity id	BINARY		Configuration ID of CI
heartbeat	Heartbeat	INT	0 or 1	If 0, data sample representing status change has been sent from the source If 1, no status change has been sent from the source in the last 24 hours

Field	Display Name	Data Type	Units	Description
kpi_id	Kpi instance cmdb id	BINARY		Configuration ID of KPI instance
kpi_type	Kpi type	INT		The ID of the KPI, as displayed in the Repositories page (**Admin** > **Service Health** > **Repositories** > **KPIs**)
sampletype		STRING		The name of the sample
status	Status	INT		The ID as defined in the **From** field in the Parameter Details window (**Admin** > **Service Health** > **Repositories** > **KPIs)**
time_stamp		DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
TUID		STRING		Internal ID

Sample: KPI Values (bl_kpi_ot_kt)

The KPI Values sample (bl_kpi_ot_kt) contains data used when generating the KPI Over Time report.

Field	Display Name	Data Type	Units	Description
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
entity_id	CMDB Entity id	BINARY		Configuration ID of CI
kpi_id	Kpi instance cmdb id	BINARY		Configuration ID of KPI instance

Field	Display Name	Data Type	Units	Description
kpi_type	Kpi type	INT		The ID of the KPI, as displayed in the Repositories page (**Admin** > **Service Health** > **Repositories** > **KPIs**)
sampletype		STRING		The name of the sample
time_stamp		DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
TUID		STRING		Internal ID
Value	Value	DOUBLE	Depends on related rule	The result of the business rule calculation

Data Samples for Service Level Management

This section describes the samples and sample fields for Service Level Management data that is processed by the Business Logic Engine.

Limitation: There is currently no configuration item name field, and it is not possible to map CI names to their CMDB IDs (entity_id field). As such the value of these samples is limited.

Sample: Health Indicator Status Change (hi_status_change)

The Health Indicator Status Change sample (hi_status_change) contains data used to perform calculations in Service Level Management, based on health indicator status changes.

Field	Display Name	Data Type	Units	Description
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
cmdb_id	CMDB ID	BINARY		Configuration ID of CI
etiValue	etiValue	DOUBLE		The value of the health indicator, which is used to set its severity (for example, CPU utilization high)
hi_type	Health Indicator Type	INT		The ID of the health indicator, as displayed in the Repositories page (**Admin** > **Service Health** > **Repositories** > **Health Indicators**)
severity	Severity	INT		The severity of the health indicator
sub_component	sub component	STRING		Text describing the metric that sent data for the health indicator (for example Disk D)
time_stamp	Sample Time	DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
TUID		STRING		Internal ID

Sample: SLA aggregation result (bl_sla_closed_sla), SLA <period> aggregation result (bl_sla_closed_<period>), SLA ongoing aggregation result (bl_sla_open_load)

The SLA aggregation result (bl_sla_closed_sla), SLA <period> aggregation result (bl_sla_closed_<period>) where <period> can be: hour, day, week, month, quarter, or year, or SLA ongoing aggregation result (bl_sla_open_load) samples contain data used to aggregate data for SLA calculation.

Field	Display Name	Data Type	Units	Description
value	Actual Value			Value for the aggregated period
customer_name	Customer Name			Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
entity_id	Entity ID			CI ID
kpi_type	KPI Type			KPI ID
sampletype	sampletype			Type of sample: ongoing aggregation, or closed period.
sc_id	Schedule ID			Calendar ID
ts_start	Start Of Period			Start time of the sample
Status	Status			Status for the aggregated period
sub_ctx_id	Sub Context ID			SLA ID

Field	**Display Name**	**Data Type**	**Units**	**Description**
time_stamp	Sample Time	DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970; for the open sample this is the time to date.
tr_p_id	Tracking Period ID			Tracking period ID
TUID	TUID			Internal ID
Value<n> where n=1 to 10	Value<n> where n=1 to 10			Additional values for the KPI, as defined by the calculation rule

Data Samples for SiteScope

This section describes the samples and sample fields for SiteScope data:

- "Sample: SiteScope Monitor (ss_monitor_t)" on page 429
- "Sample: SiteScope Heartbeat (ss_heartbeat)" on page 431
- "Sample: Event (event)" on page 432
- "Event Sample Examples" on page 434
- "Sample: SiteScope Measurement (ss_t)" on page 435
- "Sample: SiteScope Measurement Aggregation (ss_hr_t)" on page 437

Sample: SiteScope Monitor (ss_monitor_t)

The SiteScope Monitor sample (ss_monitor_t) includes the monitor data measured by SiteScope.

Field	Display Name	Data Type/Units	Description
cfg_frequency	Configuration Frequency	DOUBLE	The configuration frequency of the monitor
class_logical_name		STRING	The monitor class display name (for example, **CPU** for CPU monitor), as defined in the SiteScope monitor configuration
class_real_name		STRING	The monitor class name
class_type_id		U_INT	The ID that corresponds to the monitor class name
customer_name	Customer Name	STRING	A legacy field - value = 1
dTime		DOUBLE/ milliseconds	Time stamp of when the sample was taken
frequency	Frequency	DOUBLE	The average frequency that the monitor was run
monitor_description		STRING	The description of the monitor (sent only in configuration sample)
monitor_full_id		STRING	The ID of the monitor, including the profile name and the full monitor ID (sent only in configuration sample). For example: profile/group/24
monitor_full_path		STRING	The path of the monitor, including the groups in which the monitor is defined (sent only in configuration sample)
monitor_logical_name	Monitor Name	STRING	The display name of the monitor
profile_name	Profile Name	STRING	Profile name

Field	Display Name	Data Type/Units	Description
strCustomerName	Customer Name	STRING	Same as customer_name
szConnectionName		STRING	Name of the instance of the monitor that monitors the measurement
szMonitorName	Monitor Type	STRING	Type of monitor that retrieved that measurement
szSessionName		STRING	BSM session name to which the sample belongs
szStatusMessage	Status Message	STRING	In **Normal** status, field is empty; in **No data** status, field returns reason for No Data status (for example, monitor disabled or monitor suspended)
szTargetName	Target Name	STRING	Name of the host that the monitor monitors
time_stamp		DOUBLE/ seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970 of when the sample was taken
u_iConnectionId		U_INT	ID of the instance of the monitor that monitors the measurement
u_iMonitorId		U_INT	BSM ID of the monitor type that retrieved the measurement
u_iQuality	Quality	U_INT	Quality of the monitor from 0 to 3 (3 is bad)
u_iSessionId		U_INT	Profile ID as stored in the SESSIONS table in the management database
u_iStatus	Status ID	U_INT	Status of the value: Value is valid = 0; error and the value is not valid = 1
u_iTargetId		U_INT	ID of the host that the monitor monitors

Sample: SiteScope Heartbeat (ss_heartbeat)

The SiteScope Heartbeat sample (ss_heartbeat) indicates that SiteScope is functioning properly and that its integration with HP Business Service Management is healthy. The sample is only sent if SiteScope is in data reduction mode (in which case the sample is sent every minute).

Field	Display NameDisplay Name	Data Type/Units	Description
customer_name	Customer Name	STRING	Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
profile_name	Profile Name	STRING	Profile name
time_stamp	Time Stamp	DOUBLE/ seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
sampletype		STRING	The name of the sample
status		INT	The Worst Child status of the SiteScope health monitors
status_description		STRING	The status value displayed in Service Health (for example two out of 5 monitors are in Error)
TUID		STRING	Internal ID
u_iSessionId		U_INT	Profile ID as stored in the SESSIONS table in the management database

Sample: Event (event)

The Event sample (event) includes data from integration monitors (external EMS data), SiteScope alerts, and SiteScope status changes. You can use these fields when configuring integration monitor field mappings. For concept details, see "Integration Monitor Field Mapping for Event Samples" in *Using SiteScope*. This sample uses the Universal Data Exchange (UDX) framework.

Field	Display Name	Description
acknowledged_by	Acknowledged By	Name of user that acknowledged this event
attr1		Extra data slot
attr2		Extra data slot
attr3		Extra data slot
attr4		Extra data slot
attr5		Extra data slot for long strings
ci_type	CI Type	The type of configuration item that is monitored by the EMS monitor that captures the event
collector_host_ip	Collector Host IP	IP address of the machine running SiteScope
collector_host_name	Collector Host Name	Host name of the machine running SiteScope
customer_name	Customer Name	Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
data_source	Data Source	System that generated the event
description	Description	Textual description of event
event_id	Event ID	Unique identifier of this event
instance	Instance	**Optional field:** Instance of subject that generated the event (for example D:\ ); lowest level of hierarchy describing the event source
logical_group	Logical Group	Logical grouping of this event

Field	**Display Name**	**Description**
monitor_group	Monitor Group	Monitor group that reported this event
object	Object	Optional level in the hierarchy describing the event source
orig_severity_name	Original Severity Name	Severity in external EMS terminology
owner	Owner	Name of user who owns this event
severity	Severity	One of the following severities: SEVERITY_UNKNOWN SEVERITY_INFORMATIONAL SEVERITY_WARNING SEVERITY_MINOR SEVERITY_MAJOR SEVERITY_CRITICAL
severity_name	Severity Name	Severity name
status	Status	Status of event in external EMS terminology
subject	Subject	Subject of event (for example: CPU, SAP application, Hard Disk), middle/high level hierarchy describing the event source. The hierarchy describing an event is in the following format: monitor_group (optional) --> target_name --> object (optional) --> subject --> instance More levels can be added above monitor monitor_group by using logical_group, and attr1 - 5
target_ip	Target IP	IP of host or device that generated the event
target_name	Target Name	Name of device or host that generated the event
time_stamp	Time Stamp	Time stamp in seconds since Jan 1 1970
value	Value	Use to transfer numerical values from the event

Event Sample Examples

Infrastructure status change events (popular in EMS):

Timestamp	IP	Severity	Alert name
11/5/2004 10:20 AM	192.168.82.74	Critical	Server Unionville_1 is down

Ticketing system events:

Ticket ID	Severity	Region	Product	Open Date	Close Date
2321	1	Europe	BSM	11/5/2004 11:38 AM	13/5/2004 11:38 AM

Call center logs:

Call ID	Customer ID	Time Stamp	Queue number	Response Time	Call Answered	Call Duration
43443	4344322	15/5/04 8:23 AM	4	32 Sec.	Yes	284 Sec.

Miscellaneous events (server backup log):

Time stamp	IP	Backup Start Time	Backup Duration	Errors
15/5/04 8:23 AM	192.168.82.74	15/5/04 8:23 AM	15/5/04 14:23 AM	0

Sample: SiteScope Measurement (ss_t)

The SiteScope Measurement sample (ss_t) is sent from the SiteScope server to BSM for each metric that is measured. For example, if a CPU monitor measures utilization, for each run of the monitor, a sample is sent returning the value for this metric. If a monitor is configured to measure more than one metric, each run of the monitor sends a separate sample for each measured value.

Field	Display Name	Data Type/Units	Description
cfg_frequency	Configuration Frequency	DOUBLE	The configuration frequency of the monitor
CMDB_ID		Byte (16)	CMDB ID of the SiteScope monitor
customer_name		STRING	Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
dTime		DOUBLE/ milliseconds	Time stamp of when the measurement was taken
dValue	Measurement Value	DOUBLE	Value of the measurement taken
ETI_ID		Byte (16)	The ID of the ETI
frequency	Frequency	DOUBLE	The average frequency that the monitor was run
instance_id		INT	A unique id per instance that is set by the dispatcher
measurement_description	Measurement Description	STRING	The description of the measurement
monitor_curr_quality		INT	The average frequency that the measurement was run
profile_name	Profile Name	STRING	Profile name
start_time		DOUBLE	The start time of the bulk report
szCategoryName	Category Name	STRING	Measurement type name

Field	Display Name	Data Type/Units	Description
szConnectionName	Connection Name	STRING	Name of the instance of the monitor that monitors the measurement
szErr	Error Message	STRING	Error message if the sample has an error
szMeasurementName	Measurement Name	STRING	BSM measurement name
szMonitorName	Monitor Name	STRING	Type of monitor that retrieved that measurement
szMonitorTitle	Monitor Title	STRING	Name given to the monitor upon creation
szSessionName		STRING	BSM session name to which the sample belongs
szTargetName	Target Name	STRING	Name of the host that the monitor monitors
time_stamp	Time Stamp	DOUBLE/ seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
u_iCategoryId		U_INT	measurement type ID
u_iConnectionId		U_INT	BSM ID of the monitor that monitors the measurement
u_iMeasurementId		U_INT	BSM measurement ID
u_iMonitorId		U_INT	BSM ID of the monitor type that retrieved the measurement
u_iMsmtQuality	Measurement Quality	U_INT	The measurement quality, indicating whether the value of the measurement represent a real value or an error value (helps to differentiate between 0 value that represents a real sample and 0 value that represents a error)
u_iQuality	Quality	U_INT	Quality of the measurement from 0 to 3 (3 is bad)

Field	Display Name	Data Type/Units	Description
u_iSessionId		U_INT	Profile ID as stored in the SESSIONS table in the management database
u_iStatus	Status ID	U_INT	Status of the monitor; Value is valid = 0; error and the value is not valid = 1
u_iTargetId		U_INT	ID of the host that the monitor monitors

Sample: SiteScope Measurement Aggregation (ss_hr_t)

The SiteScope Measurement Aggregation sample (ss_hr_t) contains the hourly aggregated data of the data in the SiteScope Measurement sample.

Field	Display Name	Data Type/Units	Description
customer_name	Customer Name	STRING	Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
dValue_max		DOUBLE	The maximum value of the measurements taken in the hour
dValue_min		DOUBLE	The minimum value of the measurements taken in the hour
dValue_sum		DOUBLE	Sum of the value of the measurements taken for the hour
dValue_sumsqr		DOUBLE	The sum of the squares of the value of the measurements taken for the hour. Can be used to calculate standard deviations
instance_id		INT	A unique id per instance that is set by the dispatcher
profile_name	Profile Name	STRING	Profile name as stored in the SESSIONS table in the management database
szCategoryName	Category Name	STRING	The category of the measurement (what the measurement measures)

Field	Display Name	Data Type/Units	Description
szConnectionName	Connection Name	STRING	Name of the instance of the monitor that monitors the measurement
szMeasurementName	Measurement Name	STRING	BSM measurement name
szMonitorName	Monitor Name	STRING	Monitor type as known by BSM
szMonitorTitle	Monitor Title	STRING	Name given to the monitor upon creation
szTargetName	Target Name	STRING	Name of the host that the monitor monitors
time_stamp	Time Stamp	DOUBLE/ seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
u_iCategoryId		U_INT	ID of the category
u_iConnectionId		U_INT	ID of the instance of the monitor that monitors the measurement
u_iMeasurementId		U_INT	BSM measurement ID
u_iMonitorId		U_INT	Index of the monitor type
u_iQuality_good_sum		U_INT	Number of samples in the hour with a good status
u_iQuality_poor_sum		U_INT	Number of samples in the hour with a poor status
u_iQuality_warn_sum		U_INT	Number of samples in the hour with a warning status
u_iSessionId		U_INT	Profile ID as stored in the SESSIONS table in the management database
u_iStatus_abnormal_count		U_INT	Number of samples with an abnormal value that passed in the hour
u_iStatus_fail_count		U_INT	Number of samples with a non-valid value that passed in the hour

Field	Display Name	Data Type/Units	Description
u_iStatus_pass_count		U_INT	Number of samples with a valid value that passed successfully in the hour
u_iTargetId		U_INT	ID of the host that the monitor monitors

Data Samples for Business Process Monitor

This section describes the samples and sample fields for Business Process Monitor data:

- "Sample: BPM Transaction (trans_t)" on page 439
- "Sample: BPM Transaction Component Breakdown (trans_cbd_t)" on page 446
- "Sample: BPM Error (trans_err_t)" on page 450
- "Sample: BPM Webtrace (trc_path_t)" on page 453
- "Sample: BPM Hop (trc_hop_t)" on page 455

Sample: BPM Transaction (trans_t)

Field	Display Name	Data Type	Units	Description
application_id	Application ID	BINARY		Business Application CI ID monitored by BPM
application_name	Application Name	STRING		Business Application CI name monitored by BPM
availability_status	Availability Status	DOUBLE		Transaction Availability status in range 0-1
baseline_download_time_std	Baseline Threshold	DOUBLE		Currently not in use
baseline_network_time_mean	Baseline Threshold	DOUBLE		Currently not in use

Field	Display Name	Data Type	Units	Description
baseline_network_time_std	Baseline Threshold	DOUBLE		Currently not in use
baseline_resp_time_loc_mean	Baseline Threshold	DOUBLE		Currently not in use
baseline_resp_time_loc_std	Baseline Threshold	DOUBLE		Currently not in use
baseline_resp_time_mean	Baseline Threshold	DOUBLE		Currently not in use
baseline_resp_time_std	Baseline Threshold	DOUBLE		Currently not in use
baseline_server_time_mean	Baseline Threshold	DOUBLE		Currently not in use
baseline_server_time_std	Baseline Threshold	DOUBLE		Currently not in use
customer_id	Customer ID	INT		The Business Process Monitor Customer ID
customer_name	Customer Name	STRING		The Business Process Monitor Customer Name
device_id	Device ID			Internal ID number for mobile device for script emulation
device_name	Device name			Name of mobile device for script emulation
Downtime_indicator	Downtime State	INT		The downtime state when the data was reported—0
dResponseTime	Response Time	DOUBLE	milliseconds	The sum of the response times (duration) for the hour
ErrorCount	Total Errors Count	INT		The number of errors

Field	Display Name	Data Type	Units	Description
eug_id	End User Group ID	BINARY		End User Group CI ID that has an IP range configuration that includes the BPM machine IP address
eug_name	End User Group Name	STRING		End User Group CI Name that has an IP range configuration that includes the BPM machine IP address
iComponentErrorCount	Component Error Count	INT		The number of child components
iPageCount	Page Count	INT		The number of pages
location_latitude	Location Latitude	DOUBLE		The latitude of the BPM location
location_longitude	Location Longitude	DOUBLE		The longitude of the BPM location
property_1	Host Property 1	STRING		Currently not in use
property_10	Host Property 10	STRING		Currently not in use
property_11	Host Property 11	STRING		Currently not in use
property_12	Host Property 12	STRING		Currently not in use
property_13	Host Property 13	STRING		Currently not in use
property_14	Host Property 14	STRING		Currently not in use
property_15	Host Property 15	STRING		Currently not in use
property_2	Host Property 2	STRING		Currently not in use

Field	Display Name	Data Type	Units	Description
property_3	Host Property 3	STRING		Currently not in use
property_4	Host Property 4	STRING		Currently not in use
property_5	Host Property 5	STRING		Currently not in use
property_6	Host Property 6	STRING		Currently not in use
property_7	Host Property 7	STRING		Currently not in use
property_8	Host Property 8	STRING		Currently not in use
property_9	Host Property 9	STRING		Currently not in use
ServerIP	Server IP	STRING		Server IP monitored by the BPM Script. The BPM Agent recognizes a server IP only when it runs a script.
ServerName	Server Name	STRING		Server Name monitored by the BPM Script.
subnet_end_ip	Subnet End IP	U-INT		The Business Process Monitor Subnet End IP address
subnet_id	Subnet ID	BINARY		The Business Process Monitor Subnet ID number
subnet_name	Subnet Name	STRING		The Business Process Monitor Subnet Name
subnet_start_ip	Subnet Start IP	U-INT		The Business Process Monitor Subnet start IP address
szBpmAgent Name	BPM Agent Name	STRING		The Business Process Monitor agent name

Field	Display Name	Data Type	Units	Description
szBTFName	BTF Name	STRING		The business transaction flow Name
szLocationName	Location Name	STRING		The Business Process Monitor location name
szScriptName	Script Name	STRING		The Business Process Monitor script name
szTransactionDesc	Transaction Description	STRING		The Business Process Monitor transaction description
szTransactionName	Transaction Name	STRING		The Business Process Monitor transaction name
szUniqueIdentifer	Unique Id	STRING		A unique identifier for this transaction run from the specific data collector
Tot_critical_Hits	Performance Status Counter	U-INT		The number of samples that passed the critical performance threshold
Tot_minor_Hits	Performance Status Counter	U-INT		The number of samples that passed the minor performance threshold
Tot_ok_Hits	Performance Status Counter	U-INT		The number of samples within the OK performance thresholds
trans_instance_id	Instance ID	INT		A unique id per transaction instance that is set by the dispatcher
u_iBpmAgentId	BPM Agent ID	U-INT		The Business Process Monitor agent ID
u_iBTFId	BTF ID	BINARY		The business transaction flow ID number
u_iLocationId	Location ID	BINARY		BPM Location CI ID

Field	**Display Name**	**Data Type**	**Units**	**Description**
u_iScriptId	Script ID	U-INT		The business transaction flow script ID number
u_iSize	Download data size	U_INT	kilobytes	The sum of the total download size
u_iStatus	Status ID	U-INT		Status of the value: Value is valid = 0; error and the value is not valid = 1
u_iSumConnectionTime_sum	Summary Connection Time	U_INT	milliseconds	The hourly sum of component connection times in the transaction breakdown.
u_iSumDnsTime	Summary DNS Time	U_INT	milliseconds	Sum of component DNS times in the transaction breakdown. This data is not presented in the reports.
u_iSumDownload Time	SummaryDownload Time	U-INT	milliseconds	The sum of the squares of the hourly sum of component download times in the transaction breakdown. Can be used to calculate standard deviations.
u_iSumFirst BufTime	Summary First Buffer Time	U-INT	milliseconds	The sum of the squares of the hourly sum of component 'time to first buffer' times in the transaction breakdown. Can be used to calculate standard deviations.
u_iSumNetTime	Summary Network Time	U-INT	milliseconds	The sum of the squares of the hourly sum of component network times in the transaction breakdown. Can be used to calculate standard deviations.

Field	Display Name	Data Type	Units	Description
u_iSumRetryTime	Summary Retry Time	U-INT	milliseconds	The sum of the squares of the hourly sum of component retry times in the transaction breakdown. Can be used to calculate standard deviations.
u_iSumServer Time	Summary Server Time	U-INT	milliseconds	The sum of the squares of the hourly sum of component server times in the transaction breakdown. Can be used to calculate standard deviations.
u_iSumSSLTime	Summary SSL Time	U-INT	milliseconds	The sum of the squares of the hourly sum of component SSL times in the transaction breakdown. Can be used to calculate standard deviations.
transaction_id	Transaction ID	BINARY		Business Transaction CI ID monitored by BPM
u_iWConnection Time	Weighted Connection Time	U-INT	milliseconds	The sum of the connection times in the transaction breakdown for the hour, using a weighed aggregation algorithm.
u_iWDnsTime	Weighted DNS Time	U-INT	milliseconds	The DNS time in the transaction breakdown for the hour, using a weighed aggregation algorithm. Can be used to calculate standard deviations.
u_iWDownload Time	Weighted Download Time	U-INT	milliseconds	The download time in the transaction breakdown for the hour, using a weighed aggregation algorithm.
u_iWFirstBufTime	Weighted Network First Buffer Time	U-INT	milliseconds	The time to first buffer in the transaction breakdown for the hour, using a weighed aggregation algorithm.

Field	Display Name	Data Type	Units	Description
u_iWNetTime	Weighted Network Time	U-INT	milliseconds	The network time in the transaction breakdown for the hour, using a weighed aggregation algorithm.
u_iWRetryTime	Weighted Retry Time	U-INT	milliseconds	The retry time in the transaction breakdown for the hour, using a weighed aggregation algorithm.
u_iWSeverTime	Weighted Server Time	U-INT	milliseconds	The server time in the transaction breakdown for the hour, using a weighed aggregation algorithm.
u_iWSSLTime	Weighted SSL Time	U-INT	milliseconds	The SSL time in the transaction breakdown for the hour, using a weighed aggregation algorithm.

Sample: BPM Transaction Component Breakdown (trans_cbd_t)

Field	Display Name	Data Type	Units	Description
application_id	Application ID	BINARY		The Business Process Monitor application ID number
application_name	Application Name	STRING		The Business Process Monitor application name
customer_id	Customer ID	INT		The Business Process Monitor customer ID number
customer_name	Customer Name	STRING		The Business Process Monitor customer name
Downtime _indicator	Downtime State	INT		The downtime state when the data was reported—0
dStartTime	Component Offset Time	DOUBLE		The component (download) start time

Field	Display Name	Data Type	Units	Description
error_num	Errors Count	INT		The number of errors
eug_id	End User Group ID non-persistent	BINARY		The Business Process Manager end-user group ID
eug_name	End User Group Name	STRING	- non-persistent	End-user Name as configured in Business Process Management
iComponentId	Component ID	INT		The Business Process Manager component ID
iPageId	Page ID	INT		The Business Process Manager page ID
iRetryCount	Retry Time	INT		The component retry count (that is, the number of attempts to download the componenet)
iServerIP	Component Server IP	U-INT		The component server IP Address
iStatus	Status	U-INT		Status of the value: Value is valid = 0; error and the value is not valid = 1
property_1	- non-persistent			Currently not in use
property_10	- non-persistent			Currently not in use
property_11	- non-persistent			Currently not in use
property_12	- non-persistent			Currently not in use
property_13	- non-persistent			Currently not in use

Field	Display Name	Data Type	Units	Description
property_14	- non-persistent			Currently not in use
property_15	- non-persistent			Currently not in use
property_2	- non-persistent			Currently not in use
property_3	- non-persistent			Currently not in use
property_4	- non-persistent			Currently not in use
property_5	- non-persistent			Currently not in use
property_6	- non-persistent			Currently not in use
property_7	- non-persistent			Currently not in use
property_8	- non-persistent			Currently not in use
property_9	- non-persistent			Currently not in use
ServerIP	Component Server IP - non-persistent	U-INT		The component server IP Address
ServerName	- non-persistent	STRING		The Name of the Server
subnet_end_ip	Subnet End IP- non-persistent	U-INT		The Business Process Monitor Subnet End IP address
subnet_id	- non-persistent	INT		The subnet ID

Field	Display Name	Data Type	Units	Description
subnet_name	- non-persistent	STRING		The name of the subnet
subnet_start_ip	- non-persistent	U-INT		The Business Process Monitor Subnet start IP address
szBpmAgent Name	- non-persistent	STRING		The Business Process Monitor agent name
szBTFName	BTF Name	STRING		Business Transaction Flow CI name monitored by BPM
szComponent Name	Component Name	STRING		Name of component as configured in Business Process Monitor administration
szLocationName	Location Name	STRING		The Business Process Monitor location name
szPageName	Page Name	STRING		Name of page as configured in Business Process Monitor administration
szScriptName	Script Name	STRING		The Business Process Monitor script name
szTransaction Desc	Transaction Description	STRING		Transaction description
szTransaction Name	Transaction Name	STRING		Name of the transaction
trans_instance_id	Transaction Instance ID	INT		A unique id per transaction instance that is set by the dispatcher
u_iBpmAgentId	BPM Agent ID -non-persistent	U-INT		The Business Process Monitor agent ID

Field	Display Name	Data Type	Units	Description
u_iBTFId	BTF ID	BINARY		Business Transaction Flow CI ID monitored by BPM
u_iComponent Size	Component Size	U-INT		The size of the component

Sample: BPM Error (trans_err_t)

Field	Display Name	Data Type	Units	Description
application_id	Application ID	BINARY		BSM RTSM application ID number
application_name	Application Name	STRING		BSM RTSM application Name
customer_id	Customer ID	INT		The Business Process Monitor Customer ID
customer_name	Customer Name	STRING		The Business Process Monitor customer name
device_id	Device ID			Internal ID number for mobile device for script emulation
device_name	Device name			Name of mobile device for script emulation
error_category_id	Error Type ID Category	U-INT		The error type category ID
eug_id	End User Group ID	BINARY		The Business Process Manager end-user group ID
eug_name	End User Group Name	STRING		The end user group name
iErrID	Error Type ID	INT		The error type ID
iFileLine	File Line	INT		File line that caused the error
location_latitude	Location Latitude	DOUBLE		The latitude of the BPM location

Field	**Display Name**	**Data Type**	**Units**	**Description**
location _longitude	Location Longitude	DOUBLE		The longitude of the BPM location
property_1	Host Property 1	STRING		Currently not in use
property_10	Host Property 10	STRING		Currently not in use
property_11	Host Property 11	STRING		Currently not in use
property_12	Host Property12	STRING		Currently not in use
property_13	Host Property 13	STRING		Currently not in use
property_14	Host Property 14	STRING		Currently not in use
property_15	Host Property 15	STRING		Currently not in use
property_2	Host Property 2	STRING		Currently not in use
property_3	Host Property 3	STRING		Currently not in use
property_4	Host Property 4	STRING		Currently not in use
property_5	Host Property 5	STRING		Currently not in use
property_6	Host Property 6	STRING		Currently not in use
property_7	Host Property7	STRING		Currently not in use
property_8	Host Property 8	STRING		Currently not in use

Field	Display Name	Data Type	Units	Description
property_9	Host Property 9	STRING		Currently not in use
ServerIP	Component Server IP	U-INT		The component server IP Address
ServerName	Server Name	STRING		The server name
subnet_end_ip	Subnet End IP	U-INT		The Business Process Monitor Subnet End IP address
subnet_id	Subnet ID	BINARY		The subnet ID
subnet_name	Subnet Name	STRING		The subnet name
subnet_start_ip	Subnet Start IP	U-INT		The Business Process Monitor Subnet start IP address
szBpmAgent Name	BPM Agent Name	STRING		The Business Process Monitor agent name
szBTFName	BTF Name	STRING		The business transaction flow Name
szFileName	File Name	STRING		The name of the file in which the error occured
szLocationName	Location Name	STRING		The Business Process Monitor location name
szScriptName	Script Name	STRING		The Business Process Monitor script name
szStrMsg	Error Message	STRING		The error string message
szTransaction Desc	Transaction Description	STRING		Transaction description
szTransaction Name	Transaction Name	STRING		The transaction name
time_stamp	SampleTime	DOUBLE		The sample time
trans_instance_id	Instance ID	INT		A unique id per transaction instance that is set by the dispatcher

Field	Display Name	Data Type	Units	Description
u_iBpmAgentId	BPM Agent ID	U-INT		The Business Process Monitor agent ID
u_iBTFId	BTF ID	BINARY		Business Transaction Flow CI ID monitored by BPM
u_iLocationId	Location ID	BINARY		The BPM machine Location CI ID
u_iScriptId	Script ID	U-INT		The business transaction flow script ID number
u_iTransactionId	Transaction ID	BINARY		Business Transaction CI ID monitored by BPM

Sample: BPM Webtrace (trc_path_t)

Field	Display Name	Data Type	Units	Description
TUID	Unique ID	STRING		Internal database ID
time_stamp	Sample Time	DOUBLE	s1 1970	The sample time
customer_id	Customer ID	INT		The Business Process Monitor Customer ID
customer_name	Customer Name	STRING		The Business Process Monitor Customer name
u_iLocationId	Location ID	BINARY		The Business Process Monitor machine location ID
szLocationName	Location Name	STRING		The Business Process Monitor location name
u_iBpmAgentId	BPM Agent Id	DOUBLE		The Business Process Monitor agent ID
szBpmAgent Name	BPM Agent Name	STRING		The Business Process Monitor agent name
webtrace_id	Webtrace ID	DOUBLE		The business transaction flow WebTrace ID number

Field	Display Name	Data Type	Units	Description
u_iBTFId	BTF ID	BINARY		The Business Transaction Flow CI ID monitored by BPM
szBTFName	BTF Name	STRING		The business transaction flow Name
application_id	Application ID	BINARY		The BSM RTSM application ID number
application_name	Application Name	STRING		The BSM RTSM application ID name
szSrcIp	Source IP	STRING		Source BPM machine IP address
szDstName	Dest Name	STRING		Destination name
szDstIp	Dest IP	STRING		Destination IP address
iRoundTrip		INT	milliseconds	The time taken to reach the destination and back
iIsReachable		INT		Availability of the destination (that is, the destination was reachable)
iDnsTime		INT	milliseconds	DNS Time in milliseconds
iRetries	Global errors	INT		The average number of retries when trying to reach hops in the WebTrace
property_1	Property 1	STRING		Currently not in use
property_2	Property 2	STRING		Currently not in use
property_3	Property 3	STRING		Currently not in use
property_4	Property 4	STRING		Currently not in use
property_5	Property 5	STRING		Currently not in use
property_6	Property 6	STRING		Currently not in use
property_7	Property 7	STRING		Currently not in use
property_8	Property 8	STRING		Currently not in use

Field	Display Name	Data Type	Units	Description
property_9	Property 9	STRING		Currently not in use
property_10	Property 10	STRING		Currently not in use
property_11	Property 11	STRING		Currently not in use
property_12	Property 12	STRING		Currently not in use
property_13	Property 13	STRING		Currently not in use

Sample: BPM Hop (trc_hop_t)

Field	Display Name	Data Type	Units	Description
TUID	Unique ID	STRING		Internal database ID
time_stamp	SampleTime	DOUBLE		The sample time
customer_id	Customer ID	INT		The customer ID
customer_name	Customer Name	STRING		The Business Process Monitor customer name
u_iLocationId	Location ID	BINARY		The BPM machine Location CI ID
szLocationName	Location Name	STRING		The Business Process Monitor location name
u_iBpmAgentId	BPM Agent Id	DOUBLE		The ID of the Business Process Monitor agent
szBpmAgent Name	BPM Agent Name	STRING		The Business Process Monitor agent name
webtrace_id	Webtrace ID	DOUBLE		The business transaction flow WebTrace ID number
u_iBTFId				The Business Transaction Flow CI ID monitored by BPM
szBTFName	BTF Name	STRING		The business transaction flow Name

Field	Display Name	Data Type	Units	Description
application_id	Application ID	BINARY		The application ID
application_name	Application Name	STRING		The application name
szSrcIp	Source IP	STRING		Source BPM machine IP address
szDstName	Dest Name	STRING		Destination name
szDstIp	Dest IP	STRING		Destination IP address
property_1	Property 1	STRING		Currently not in use
property_2	Property 2	STRING		Currently not in use
property_3	Property 3	STRING		Currently not in use
property_4	Property 4	STRING		Currently not in use
property_5	Property 5	STRING		Currently not in use
property_6	Property 6	STRING		Currently not in use
property_7	Property 7	STRING		Currently not in use
property_8	Property 8	STRING		Currently not in use
property_9	Property 9	STRING		Currently not in use
property_10	Property 10	STRING		Currently not in use
property_11	Property 11	STRING		Currently not in use
property_12	Property 12	STRING		Currently not in use
property_13	Property 13	STRING		Currently not in use
property_14	Property 14	STRING		Currently not in use
property_15	Property 15	STRING		Currently not in use
downtime_state	Downtime State	INT		The downtime state when the data was reported—0
iHopIndex	Number in Routing	INT		The hop number in the path to the destination hop

Field	Display Name	Data Type	Units	Description
iHopRetries	Retries Number	INT	number of retries	The number of retries when trying to reach the hop
iHopRoundTrip	Time in Milliseconds	INT	milliseconds	The roundtrip time to the hop
iIsReachable		INT		The availability of the hop (that is, the hop was reachable)
szHopName		STRING		The hop name
szHoplp		STRING		The hop IP address

Data Samples for Real User Monitor

This section describes the samples and sample fields for Real User Monitor data. These samples use the Universal Data Exchange (UDX) framework.

This section describes the following samples and sample fields for Real User Monitor:

- "Sample: RUM Actions (rum_action_t)" on page 458
- "Sample: RUM Active End Users (rum_active_eu_t)" on page 465
- "Sample: RUM Application Statistics (rum_application_stats_t)" on page 467
- "Sample: RUM Broken Links (rum_bro_links_t)" on page 470
- "Sample: RUM Events (rum_event_t)" on page 471
- "Sample: RUM Most Error Actions (rum_most_error_action_t)" on page 473
- "Sample: RUM Session Statistics (rum_session_stats_t)" on page 475
- "Sample: RUM Sessions (rum_session_t)" on page 477
- "Sample: RUM Slow Actions (rum_slow_action_t)" on page 480
- "Sample: RUM Slowest End Users (rum_slow_eu_t)" on page 481
- "Sample: RUM Slowest Locations (rum_slow_location_t)" on page 483

- "Sample: RUM TCP Applications Statistics (rum_tcp_application_stats_t)" on page 485
- "Sample: RUM Top Actions (rum_top_action_t)" on page 495
- "Sample: RUM Top Locations (rum_top_location_t)" on page 496
- "Sample: RUM Transactions (rum_trans_t)" on page 498

Sample: RUM Actions (rum_action_t)

The RUM Action sample (rum_action_t) contains data about the actions performed on web pages and SQL queries for databases.

Field	Display Name	Data Type	Units	Description
action_descriptor	Action Descriptor	STRING		The action descriptor or page URL
action_id	Action ID	DOUBLE		The internal ID of the action
action_name	Action Name	STRING		The configured name of the action
action_type	Action Type	INT		The type of the action, which is determined by the application protocol
application_id	Application ID	BINARY		BSM RTSM application ID number
application_name	Application Name	STRING		BSM RTSM application Name
application_tier_id	Application Tier ID	INT		BSM internal application ID number
application_tier _name	Application Tier Name	STRING		The configured name of the application tier
availability	Available Actions	INT	Number of hits	Total available action hits
bytes_in	Bytes from client to server	DOUBLE	Bytes	The number of bytes received by the software element

Field	**Display Name**	**Data Type**	**Units**	**Description**
bytes_out	Bytes from server to client	DOUBLE	Bytes	The number of bytes sent by the software element
client_host_name	Client Host Name	STRING		The name of the client machine that requested the action
client_id	Client ID	BINARY		The RTSM ID of the client machine that requested the action
customer_id	Customer ID	INT		BSM internal application Customer ID number
customer_name	Customer Name	STRING		Customer name to whom the sample belongs (for HP Software-as-a-Service, otherwise Default client)
downtime_state	Downtime State	INT		The downtime state when the data was reported
eug_id	End User Group ID	BINARY		The RTSM end-user group ID
eug_name	End User Group Name	STRING		End-user group name as configured in End User Management Administration
eug_subnet_end_ip	End User Group Subnet End IP	INT		End-user subnet IP as configured in End User Management Administration
eug_subnet_end_ip_ipv6	End User Group Subnet End IP IPV6	BINARY		End-user IPv6 subnet as configured in End User Management Administration
eug_subnet_id	End User Group Subnet ID	BINARY		The RTSM end-user subnet ID
eug_subnet_name	End User Group Subnet Name	STRING		End-user subnet name as configured in End User Management Administration

Field	Display Name	Data Type	Units	Description
eug_subnet_start_ip	End User Group Subnet Start IP	INT		End-user subnet starting IP address as configured in End User Management Administration
eug_subnet_start_ip_ipv6	End User Group Subnet Start IP IPV6	BINARY		End-user subnet starting IPv6 address as configured in End User Management Administration
has_diag_integ		INT		Integration with HP Diagnostics enabled.
has_tv_integ	TV Integration enabled	INT		Integration with TransactionVision enabled
loc_id	Location ID	BINARY		The RTSM end-user location ID
location_name	Location Name	STRING		The end-user location name as configured in BSM
max_client_time	Maximum Request Client Time	DOUBLE	milliseconds	Maximum request-response client time for all requests on this application
max_dl_time	Maximum Request Download Time	DOUBLE	milliseconds	Maximum download time for all requests on this application
max_network_time	Maximum Request Network Time	DOUBLE	milliseconds	Maximum request-response network time for all requests on this application
max_server_time	Maximum Request Server Time	DOUBLE	milliseconds	Maximum request-response server time for all requests on this application
min_client_time	Minimum Request Client Time	DOUBLE	milliseconds	Minimum request-response client time for all requests on this application

Field	**Display Name**	**Data Type**	**Units**	**Description**
min_dl_time	Minimum Request Download Time	DOUBLE	millisec onds	Minimum request-response time for all requests on this application
min_network_time	Minimum Request Network Time	DOUBLE	millisec onds	Minimum request-response network time for all requests on this application
min_server_time	Minimum Request Server Time	DOUBLE	millisec onds	Minimum request-response server time for all requests on this application
server_id	Software Element Server ID	BINARY		The ID of the server on which the software element is installed
server_ips	Software Element Server IPS	STRING		The IPs of the server on which the software element is installed
server_name	Software Element Server Name	STRING		The name of the server on which the software element is installed
stopped_hits	Stopped actions	INT		The number of hits cancelled by the user
sum_squares_client _time	Sum Squares of Request Client Time	DOUBLE	Square Millisec onds	Sum of the squares of the request-response client time for all requests on this application
sum_squares_dl _time	Sum Squares of Request Download Time	DOUBLE	Square Millisec onds	Sum of the squares of the request-response time for all requests on this application
sum_squares _network_time	Sum Squares of Request Network Time	DOUBLE	Square Millisec onds	Sum of the squares of the request-response network time for all requests on this application

Field	Display Name	Data Type	Units	Description
sum_squares_server_time	Sum Squares of Request Server Time	DOUBLE	Square Milliseconds	Sum of the squares of the request-response server time for all requests on this application
swe_id	Software Element ID	BINARY		The ID of the software element
swe_name	Software Element Name	STRING		The name of the software element
time_stamp	End Time	DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
tot_client_time	Total Request Client Time	DOUBLE	milliseconds	Total request-response client time for all requests on this application
tot_connect_time	Total Connection Negotiation Time	DOUBLE	milliseconds	Total TCP handshake time for all connections to the application
tot_dl_color		DOUBLE		Total download time—a negative number indicates good (green) status and a positive number indicates bad (red) status
tot_dl_o_dth	Total download time for hits over download threshold	DOUBLE	number of hits	The total number of hits with a time to first buffer more than the threshold configured in End User Management Administration
tot_dl_time	Total Request Download Time	DOUBLE	milliseconds	Total request-response time for all requests on this application

Field	Display Name	Data Type	Units	Description
tot_error_events	Application error events	INT	number of error events	Total number of application error events on page
tot_frstbffr_time	Total Request Time to first Buffer	DOUBLE	millisec onds	Total request-response time to first buffer for all requests on this application
tot_hits_o_dth	Hits over download threshold	INT	number of hits	Total number of hits with a download time more than the threshold configured in End User Management Administration
tot_hits_o_sth	Hits over server thresholds	INT		The total number of hits with a time to first buffer more than the threshold configured in End User Management Administration
tot_info_events	Application info events	INT		The total number of information (non error) events for this action
tot_network_time	Total Request Network Time	DOUBLE	millisec onds	Total request-response network time for all requests on this application
tot_performance _events	Performance events	INT	number of events	Total number of performance events that occurred in the session
tot_requests	Total Requests from this EU	INT	requests	Total number of component requests for this action
tot_retransmission_ time	Total Retransmission Time	DOUBLE	millisec onds	Total time spent on retransmissions during the page download

Field	Display Name	Data Type	Units	Description
tot_server_color	Total Server Color	DOUBLE	number representing color	Color representing status of server in Service Health
tot_server_o_sth	Total Server time for hits over server threshold	DOUBLE		The total number of hits with a time to first buffer more than the server threshold configured in End User Management Administration
tot_server_time	Total Request Server Time	DOUBLE	milliseconds	Total request-response server time for all requests on this application
tot_ssl_time	Total SSL negotiation Time	DOUBLE	milliseconds	Total SSL handshake time for all connections that were opened for transferring the page data
total_hits	Total Hits	INT		The total number of action hits
TUID	Unique ID	STRING		Internal ID from the profile database

Sample: RUM Active End Users (rum_active_eu_t)

The RUM Active End Users sample (rum_active_eu_t) contains data about the end users that were detected as having performed the most hits in the last interval. This interval is defined in End User Management Administration.

Field	Display Name	Data Type	Units	Description
application_id	Application ID	BINARY		BSM RTSM application ID number
costomer_id	Customer ID	INT		BSM internal application Customer ID number
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
downtime_state	Downtime State	INT		The downtime state when the data was reported
eug_subnet_id	End User Group Subnet ID	BINARY		The RTSM end-user subnet ID
eug_subnet_name	End User Group Subnet Name	STRING		End-user subnet name as configured in End User Management Administration
time_stamp	Sampletime	DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
tot_app_plain_bytes_in	Total plain application bytes in	DOUBLE	bytes	Total amount of plain application traffic, not including TCP overhead, to the server
Tot_app_plain_bytes_out	Total plain application bytes out	DOUBLE	bytes	Total amount of plain application traffic, not including TCP overhead, from the server

Field	Display Name	Data Type	Units	Description
tot_app_ssl_bytes_in	Total SSL application bytes in	DOUBLE	bytes	Total amount of encrypted application traffic, not including TCP overhead, to the server
Tot_app_ssl_bytes_out	Total SSL application bytes out	DOUBLE	bytes	Total amount of encrypted application traffic, not including TCP overhead, from this server
tot_conn	Total Connections open by this EU	INT	connections	Total attempts to open connections from the end user Total attempts to open connections to this server
tot_latency	Total Latency	DOUBLE	milliseconds	total latency of all packets sent by end user
tot_packets	Total number of packets	DOUBLE	packets	Total amount of packets to and from this server
tot_requests	Total Requests from this EU	INT	requests	
TUID	Unique ID	STRING		Internal ID from the profile database

Sample: RUM Application Statistics (rum_application_stats_t)

The RUM Application Statistics sample (rum_application_stats_t) contains data describing a specific application and contains statistics about the performance, availability and volume of an application monitored by Real User Monitor.

Field	Display Name	Data Type	Units	Description
application_id	Application ID	INT		BSM RTSM application ID number
application_name	Application Name	STRING		RTSM application name
application_tier_id	Application Tier ID	INT		The RTSM ID of the application tier
application_tier_name	Application Tier Name	STRING		The Name of the application tier
availability_color	availability_color	DOUBLE	number representing color	Color representing status of application in Service Health—a positive number indicates good (green) status and a negative number indicates bad (red) status
baseline_app_avail_mean		DOUBLE		Not currently used
baseline_app_avail_std		DOUBLE		Not currently used
baseline_server_avail_mean		DOUBLE		Not currently used
baseline_server_avail_std		DOUBLE		Not currently used
client_host_name	Client Host Name	STRING		The name of the machine on which the client is installed

Field	Display Name	Data Type	Units	Description
client_id	Client ID	BINARY		The RTSM ID of the client machine that requested the action
client_ips	Client IPS	STRING		The IP of the machine on which the client is installed
customer_id	Customer ID	INT		BSM internal application Customer ID number
customer_name	Customer Name	STRING		Customer name to whom the sample belongs (for HP Software-as-a-Service, otherwise Default client)
downtime_state	Downtime State	INT		The downtime state when the data was reported
eug_id	End User Group ID	INT		The RTSM end-user group ID
eug_name	End User Group Name	STRING		End-user ID as configured in End User Management Administration
eug_subnet_end_ip	End User Group Subnet End IP			End-user subnet IP as configured in End User Management Administration
eug_subnet_end_ip_ipv6	End User Group Subnet End IP IPV6			End-user subnet IP v6 as configured in End User Management Administration
eug_subnet_name	End User Group Subnet Name	STRING		End-user subnet name as configured in End User Management Administration
eug_subnet_start_ip	End User Group Subnet Start IP			End-user subnet IP start as configured in End User Management Administration
eug_subnet_start_ip_ipv6	End User Group Subnet Start IP IPV6			End-user subnet IP v6 start as configured in End User Management Administration

Field	**Display Name**	**Data Type**	**Units**	**Description**
loc_id	Location ID	INT		The RTSM end-user location ID
location_name	Location Name	STRING		Data collector location name
server_host_id	Software Element Server ID	INT		The ID of the server on which the software element is installed
server_host_ips	Software Element Server IPS	STRING		The IPs of the server on which the software element is installed
server_host_name	Software Element Server Name	STRING		The name of the server on which the software element is installed
server_swe_id	Software Element ID	INT		The ID of the software element
server_swe_name	Software Element Name	STRING		The name of the software element
subnet_id	Subnet ID	INT		The ID of the subnet
time_stamp	Time Stamp	DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
totalhits	Total Hits	INT		Total number of action hits
tot_actions_over_server_th	Total actions over server threshold			The total number of action hits with server time more than the threshold configured in End User Management Administration
tot_actions_over_total_th	Total actions over total time threshold			The total number of action hits with server time more than the total time threshold configured in End User Management Administration

Field	Display Name	Data Type	Units	Description
tot_available _action_hits	Total Available Action			Total number of available actions
tot_event_error	Total Error Events			Total number of error events
tot_event_info	Total Info Events			Total number of information events
tot_event_perf		DOUBLE		
tot_requests_hits	Total Requests			Total number of requests
TUID	UNIQUE ID	STRING		Internal ID from the profile database

Sample: RUM Broken Links (rum_bro_links_t)

The RUM Broken Links sample (rum_bro_links_t) contains data about a component that was missing. Only components that were accessed from within a site defined in End User Management Administration are reported.

Field	Display Name	Data Type	Units	Description
application_id	Application ID	BINARY		BSM RTSM application ID number
application_name	Application name	STRING		BSM RTSM application Name
application_tier _id	Application Tier ID	INT		BSM internal application ID number
application_tier _name	Application Tier Name	STRING		The configured name of the application tier.
comp_url	Component URL	STRING		URL of component on page
customer_id	Customer ID	INT		BSM internal application Customer ID number

Field	Display Name	Data Type	Units	Description
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
downtime_state	Downtime State	INT		The downtime state when the data was reported
ref_url	Referer URL	STRING		URL of page that requested component
tot_comp_hits	Total Component Hits	INT	number of hits	Total number of components hit

Sample: RUM Events (rum_event_t)

The RUM Events sample (rum_event_t) contains data about a defined event that was detected. The different event types are configured in End User Management Administration.

Field	Display Name	Data Type	Units	Description
action_id	Action ID	DOUBLE		The internal ID of the action
application_id	Application ID	INT		BSM RTSM application ID number
application_name	Application Name	STRING		BSM RTSM application Name
application_tier_id	Application Tier ID	INT		BSM internal application ID number
application_tier_name	Application Tier Name	STRING		The configured name of the application tier
bb_guid	BB GUID	STRING		An internal, unique session ID from the Real User Monitor probe

Field	Display Name	Data Type	Units	Description
client_id	Client ID	BINARY		The RTSM ID of the client machine that requested the action
customer_id	Customer ID	INT		BSM internal application Customer ID number
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
eu_host_name	End User Host Name	STRING		Host machine name of the end user
eu_ip	End User IP	INT		IP address of end user
eu_user_name	End User Login Name	STRING		Login name of end user
eug_id	End User Group ID	BINARY		The RTSM end-user group ID
eug_name	End User Group Name	STRING		End-user name as configured in End User Management Administration
event_data	Event Extra Data	STRING	alpha-numeric	Actual values returned from event
event_id	Event ID	INT		BSM internal event ID number
event_name	Event Name	STRING		Name of event as configured in End User Management Administration
event_type	Event Type	INT	number (of event type)	Event type as configured in End User Management Administration
location_id	Location ID	BINARY		The RTSM end-user location ID
location_name	Location Name	STRING		Data collector location name

Field	Display Name	Data Type	Units	Description
session_comp_seq	Component Sequence Number in Session	INT	number	Last component sequence number on the page on which the event occurred
softw_elem_id	Software Element ID	BINARY		The RTSM end-user software element ID
softw_elem_name	Software Element Name	STRING		The Software Element Name
softw_elem_server_ips	Software Element Server IPS			The Software Element Server IPs
softw_elem_server_name	Software Element Server Name	STRING		The Software Element Server Name
subnet_end_ip	Subnet End IP	INT		The Subnet End IP
subnet_name	Subnet Name	STRING		The Subnet Name
subnet_start_ip	Subnet Start IP	INT		The Subnet Start IP

Sample: RUM Most Error Actions (rum_most_error_action_t)

The RUM Most Error Action sample (rum_most_error_action_t) contains data about actions with the most errors.

Field	Display Name	Data Type	Units	Description
action_descriptor	Action Descriptor	STRING		The action descriptor or page URL
action_hits	Total Hits	INT		The total number of hits for the action

Field	Display Name	Data Type	Units	Description
action_id	Action ID	DOUBLE		The internal ID of the action
application_id	Application ID	BINARY		BSM RTSM application ID number
application_name	Application Name	STRING		BSM RTSM application Name
application_tier _id	Application Tier ID	INT		BSM internal application ID number
application_tier _name	Application Tier Name	STRING		The configured name of the application tier
customer_id	Customer ID	INT		BSM internal application Customer ID number
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
downtime_state	Downtime State	INT		The downtime state when the data was reported
time_stamp	End Time	DOUBLE		Time stamp in seconds since Jan 1 1970
tot_errors	Total Errors	INT		The total number of errors for the action
TUID	UNIQUE ID	STRING		Internal ID from the profile database

Sample: RUM Session Statistics (rum_session_stats_t)

The RUM Session Statistics sample (rum_session_stats_t) contains aggregated data about open sessions over a five minute period for a specific application on a specific Real User Monitor engine.

Field	Display Name	Data Type	Units	Description
active_session_count	Active Sessions Counter	DOUBLE		Number of sessions that were active during the time frame to which the sample refers
application_id	Application ID	BINARY		BSM RTSM application ID number
application_name	Application Name	STRING		BSM RTSM application Name
closed_session_count	Closed Sessions Counter	DOUBLE		Number of sessions closed during the time frame to which the sample refers
customer_id	Customer ID	INT		BSM internal application Customer ID number
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
downtime_state	Downtime State	INT		The downtime state when the data was reported
eug_id	End User Group ID	BINARY		The RTSM end-user group ID
eug_name	End User Group Name	STRING		End-user name as configured in End User Management Administration
location_id	Location ID	BINARY		The RTSM end-user location ID
location_name	Location Name	STRING		Data collector location name

Field	**Display Name**	**Data Type**	**Units**	**Description**
op_se_total _events_count	Active sessions with performance or error events on unique sessions	DOUBLE		Total Number of active sessions in which an event occurred during the time frame to which the sample refers
op_se_with_err _count	Active Sessions With Errors Counter	DOUBLE		Number of active sessions in which an error event occurred during the time frame to which the sample refers
op_se_with_perf _count	Active Sessions With Performance Event Counter	DOUBLE		Number of active sessions in which a performance event occurred during the time frame to which the sample refers
open_session _count	Opened Sessions Counter	DOUBLE		Number of sessions opened during the time frame to which the sample refers
subnet_end_ip	Subnet End IP	INT		The subnet end IP
subnet_name	Subnet Name	STRING		The name of the subnet
subnet_start_ip	Subnet Start IP	INT		The subnet start IP
time_stamp	Sample Timestamp	DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
TUID	Unique ID	STRING		Internal ID from the profile database

Sample: RUM Sessions (rum_session_t)

The RUM Sessions sample (rum_session_t) contains information about a user session. This sample is sent only after the session has ended. The rum_session_t is always sent with the rum_session_id_t sample.

Field	**Display Name**	**Data Type**	**Units**	**Description**
application_id	Application ID	BINARY		BSM RTSM application ID number
application_name	Application name	STRING		BSM RTSM application Name
application_tier_id	Application Tier ID	INT		BSM internal application ID number
application_tier_name	Application Tier Name	STRING		The configured name of the application tier
availability	Availability	INT		
bb_guid	BB GUID	STRING		An internal, unique session ID from the Real User Monitor probe
best_bb_guid	BB GUID of the best fully-captured session which includes the given transaction	STRING		An internal, unique session ID from the Real User Monitor probe
browser	End User Browser	STRING		Type of browser used for the session
customer_id	Customer ID	INT		BSM internal application Customer ID number
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)

Field	Display Name	Data Type	Units	Description
download_time	Download Time	DOUBLE	milliseconds	Total download time of all in the session
downtime_state	Downtime State	INT		The downtime state when the data was reported
dwell_time	Dwell Time	DOUBLE		Currently not used
engine_id	Engine ID	DOUBLE		BSM internal Real User Monitor engine ID number
eu_host_name	End User Host Name	STRING		Host machine name of the end user
eu_ip	End User IP	INT		IP address of end user
eu_user_name	End User Login Name	STRING		Login name of end user
eug_id	End User Group ID	BINARY		The RTSM end-user group ID
eug_name	End User Group Name	STRING		End-user name as configured in End User Management Administration
has_tv_integ	TV Integration enabled	INT		Integration with TransactionVision enabled
http_version	End User Http Version	STRING		HTTP version used for session
location_id	Location ID	BINARY		The RTSM end-user location ID
location_name	Location Name	STRING		Data collector location name
server_id	Server ID	BINARY		BSM RTSM server ID number
server_ips	Server IPs	STRING		The IP address of the server included in the session

Field	Display Name	Data Type	Units	Description
server_name	Server Name	STRING		Server name as configured in End User Management Administration
session_size	Session Size	DOUBLE	bytes	
sessions_wih_txs	Total number of sessions which include at least one of the given transactions	INT		
soft_elem_name	Software Element Name	STRING		Software element name as configured in End User Management Administration
softw_elem_id	Software Element ID	BINARY		BSM RTSM Software Element ID number
start_time	Session Start Time	DOUBLE	seconds since Jan 1 1970	Time that the session started
subnet_end_ip	Subnet End IP	INT		The Subnet End IP
subnet_name	Subnet Name	STRING		Subnet name as configured in End User Management Administration
subnet_start_ip	Subnet Start IP	INT		The Subnet Start IP
time_stamp	End Time	DOUBLE		Time stamp in seconds since Jan 1 1970
tot_event_app _error	Application Errors	INT	number of events	Total number of application events that occurred in the session

Field	Display Name	Data Type	Units	Description
tot_event_info	Informational Events	INT	number of events	Total number of information events that occurred in the session
tot_event _performance	Performance Events	INT	number of events	Total number of performance events that occurred in the session
TUID	Unique ID	STRING		Internal ID from the profile database

Sample: RUM Slow Actions (rum_slow_action_t)

The RUM Slow Actions sample (rum_slow_action_t) contains information about a slow action .

Field	Display Name	Data Type	Units	Description
action_descriptor	Action Descriptor	STRING		The action descriptor or page URL.
action_id	Action ID	DOUBLE		The internal ID of the action.
action_name	Action Name	STRING		BSM Action Name
application_id	Application ID	BINARY		BSM RTSM application ID number
application_name	Application Name	STRING		BSM RTSM application Name
application_tier _id	Application Tier ID	INT		BSM internal application ID number
application_tier _name	Application Tier Name	STRING		The configured name of the application tier.
customer_id	Customer ID	INT		BSM internal application Customer ID number

Field	Display Name	Data Type	Units	Description
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
downtime_state	Downtime State	INT		The downtime state when the data was reported
tot_action_hits	Total Hits	INT		The number of total hits for the action in the last five minutes
tot_dl_time	Total Request Download Time	DOUBLE	milliseconds	Total request-response time for all requests on this application
tot_server_time	Server Time	DOUBLE	milliseconds	Total server time
TUID	UNIQUE ID	STRING		Internal ID from the profile database

Sample: RUM Slowest End Users (rum_slow_eu_t)

The RUM Slowest End Users sample (rum_slow_eu_t) contains data about the slowest end users that were detected in the last interval. The interval is defined in End User Management Administration. The slowest end users are those that experienced the highest average network latency for the defined interval.

Field	Display Name	Data Type	Units	Description
application_id	Application ID	BINARY		BSM RTSM application ID number
customer_id	Customer ID	INT		BSM internal application Customer ID number
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)

Field	Display Name	Data Type	Units	Description
downtime_state	Downtime State	INT		The downtime state when the data was reported
eug_subnet_id	End User Group Subnet ID	BINARY		BSM internal application End User Group ID number
eug_subnet_name	End User Group Subnet Name	STRING		End-user subnet name as configured in End User Management Administration
time_stamp	time_stamp	DOUBLE		The time that the sample was sent
tot_app_plain_bytes_in	Total plain application bytes in	DOUBLE	bytes	Total amount of plain application traffic, not including TCP overhead, from the end user
tot_app_plain_bytes_out	Total plain application bytes out	DOUBLE	bytes	Total amount of plain application traffic, not including TCP overhead, to the end user
tot_app_ssl_bytes_in	Total SSL application bytes in	DOUBLE	bytes	Total amount of encrypted application traffic, not including TCP overhead, from the end user
tot_app_ssl_bytes_out	Total SSL application bytes out	DOUBLE	bytes	Total amount of encrypted application traffic, not including TCP overhead, to the end user
tot_conn	Total Connection Open by this EU	INT		Currently not used
tot_latency	Total Latency	DOUBLE	milliseconds	total latency of all packets sent by end user

Field	Display Name	Data Type	Units	Description
tot_latency_color	tot_latency_color	DOUBLE	number representing color	Color representing status of the end user—a negative number indicates good (green) status and a positive number indicates bad (red) status
tot_packets	Total number of packets	DOUBLE	packets	Total amount of packets to and from this server
tot_requests	Total Requests from this EU	INT	requests	The total number of hits from this end-user group
TUID	Unique ID	STRING		Internal ID from the profile database

Sample: RUM Slowest Locations (rum_slow_location_t)

The RUM Slowest Locations sample (rum_slow_location_t) contains data about the locations with the slowest actions. Slow actions are measured against the configured action thresholds.

Field	Display Name	Data Type	Units	Description
application_id	Application ID	BINARY		BSM RTSM application ID number
application_tier_id	Application Tier ID	INT		BSM internal application ID number
customer_id	Customer ID	INT		BSM Customer ID number
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
downtime_state	Downtime State	INT		The downtime state when the data was reported
location_id	Location ID	BINARY		The RTSM end-user location ID

Field	Display Name	Data Type	Units	Description
location_name	Location Name	STRING		Data collector location name
time_stamp	End Time	DOUBLE		Time stamp in seconds since Jan 1 1970
tot_app_plain _bytes_in	Total plain application bytes in	DOUBLE	bytes	Total amount of plain application traffic, not including TCP overhead, to this location
Tot_app_plain _bytes_out	Total plain application bytes out	DOUBLE	bytes	Total amount of plain application traffic, not including TCP overhead, from this location.
tot_app_ssl_bytes _in	Total SSL application bytes in	DOUBLE	bytes	Total amount of encrypted application traffic, not including TCP overhead, to this server
Tot_app_ssl_bytes _out	Total SSL application bytes out	DOUBLE	bytes	Total amount of encrypted application traffic, not including TCP overhead, from this server
tot_conn	Total Connection Open by this EU	INT		Currently not used
tot_latency	Latency	DOUBLE	milliseconds	Total latency of all packets sent by end-user
tot_latency_color	Total Latency Color	DOUBLE	number representing color	Color representing status of the location—a negative number indicates good (green) status and a positive number indicates bad (red) status
tot_packets	Total number of packets	DOUBLE	packets	Total amount of packets to and from this server

Field	Display Name	Data Type	Units	Description
tot_requests	Total Requests from this EU	INT	requests	The total number of slow requests from this location
TUID	Unique ID	STRING		Internal ID from the profile database

Sample: RUM TCP Applications Statistics (rum_tcp_application_stats_t)

The RUM TCP Applications Statistics (rum_tcp_application_stats_t) sample contains statistics about the performance, availability, and volume of an application monitored by Real User Monitor or TCP layer data about an end-user group and TCP layer data about a server whose traffic is monitored by Real User Monitor.

Fields	Display Name	Data Type	Units	Description
application_id	Application ID	INT		BSM RTSM application ID number
application_name	Application Name	STRING		RTSM application name
application_tier_id	Application Tier ID	INT		The ID of the application tier
application_tier_name	Application Tier Name	STRING		The name of the application tier
baseline_app_conn_avail_mean		DOUBLE		Not currently used
baseline_app_conn_avail_std		DOUBLE		Not currently used
baseline_app_traffic_mean		DOUBLE		Not currently used

Fields	Display Name	Data Type	Units	Description
baseline_app _traffic_std		DOUBLE		Not currently used
baseline_eug _latency_mean		DOUBLE		Not currently used
baseline_eug _latency_std		DOUBLE		Not currently used
baseline_eug _traffic_mean		DOUBLE		Not currently used
baseline_eug _traffic_std		DOUBLE		Not currently used
baseline_loc _latency_mean		DOUBLE		Not currently used
baseline_loc _latency_std		DOUBLE		Not currently used
baseline_loc _traffic_mean		DOUBLE		Not currently used
baseline_loc _traffic_std		DOUBLE		Not currently used
baseline_server _conn_mean		DOUBLE		Not currently used
baseline_server _conn_std		DOUBLE		Not currently used
baseline_server _traffic_mean		DOUBLE		Not currently used
baseline_server _traffic_std		DOUBLE		Not currently used
client_host _name	Client Host Name	STRING		The name of the machine on which the client is installed
client_id	Client ID	BINARY		The RTSM ID of the client machine that requested the action

Fields	Display Name	Data Type	Units	Description
client_ips	Client IPs	STRING		The IPs of the machine on which the client is installed
client_type	Client Type	STRING		
customer_id	Customer ID	INT		ID of the customer to whom the sample belongs (for HP Software-as-a-Service, otherwise Default client)
customer_name	Customer Name	STRING		Name of the customer to whom the sample belongs (for HP Software-as-a-Service, otherwise Default client)
downtime_state	Downtime State	INT		The downtime state when the data was reported
eug_id	End User Group ID	BINARY		The RTSM end-user group ID
eug_name	End User Group Name	STRING		End-user name as configured in End User Management Administration
eug_subnet_end_ip	End User Group Subnet End IP	INT		End-user subnet IP as configured in End User Management Administration
eug_subnet_end_ip_ipv6	End User Group Subnet End IP IPV6	BINARY		End-user subnet IP v6 as configured in End User Management Administration
eug_subnet_name	End User Group Subnet Name	STRING		End-user subnet name as configured in End User Management Administration
eug_subnet_start_ip	End User Group Subnet Start IP	INT		End-user subnet IP start as configured in End User Management Administration
eug_subnet_start_ip_ipv6	End User Group Subnet Start IP IPV6	BINARY		End-user subnet IP v6 start as configured in End User Management Administration

Fields	Display Name	Data Type	Units	Description
loc_id	Location ID	BINARY		The RTSM end-user location ID
location_name	Location Name	STRING		Data collector location name
max_bytes_per_sec	Maximum rate of bytes per sec	DOUBLE	milliseconds	Currently not used
max_client_time	Maximum Request Client Time	DOUBLE	milliseconds	Maximum request-response client time for all requests from the end user
max_dl_time	Maximum Request Download Time	DOUBLE	milliseconds	Maximum request-response time for all requests from the end user
max_frstbffr_time	Maximum Request Time to first Buffer	DOUBLE	milliseconds	Maximum request-response time to first buffer for all requests to this server
max_network_time	Maximum Request Network Time	DOUBLE	milliseconds	Maximum request-response network time for all requests from the end user
max_server_time	Maximum Request Server Time	DOUBLE	milliseconds	Maximum request-response server time for all requests to this server
min_client_time	Minimum Request Client Time	DOUBLE	milliseconds	Minimum request-response client time for all requests from the end user
min_dl_time	Minimum Request Download Time	DOUBLE	milliseconds	Minimum request-response time for all requests from the end user
min_frstbffr_time	Minimum Request Time to first Buffer	DOUBLE	milliseconds	Minimum request-esponse time to first buffer for all requests to this server

Fields	Display Name	Data Type	Units	Description
min_network _time	Minimum Request Network Time	DOUBLE	milliseconds	Minimum request-response network time for all requests from the end user
min_server _time	Minimum Request Server Time	DOUBLE	milliseconds	Minimum request-response server time for all requests to this server
server_host_id	Software Element Server ID	BINARY		The ID of the server on which the software element is installed
server_host_ips	Software Element Server IPS	STRING		The IPs of the server on which the software element is installed
server_host _name	Software Element Server Name	STRING		The name of the server on which the software element is installed
server_swe_id	Software Element ID	BINARY		The ID of the software element
server_swe _name	Software Element Name	STRING		The name of the software element
subnet_id		BINARY		The ID of the subnet
sum_squares _client_time	Sum Squares of Request Client Time	DOUBLE	Square milliseconds	Sum of the squares of the request-response client time for all requests from the end user
sum_squares _dl_time	Sum Squares of Request Download Time	DOUBLE	Square milliseconds	Sum of the squares of the request-response time for all requests from the end user
sum_squares _frstbffr_time	Sum Squares of Request Time to first Buffer	DOUBLE	Square milliseconds	Sum of the squares of the request-response time to first buffer for all requests on this application

Fields	Display Name	Data Type	Units	Description
sum_squares _jitter	Sum of squares Jitter	DOUBLE	Square milliseconds	Sum of the squares of the jitter time
sum_squares _network_time	Sum Squares of Request Network Time	DOUBLE	Square milliseconds	Sum of the squares of the request-response network time for all requests from the end user
sum_squares _server_time	Sum Squares of Request Server Time	DOUBLE	Square Milliseconds	Sum of the squares of the request-response server time for all requests on this application
time_stamp	End Time	DOUBLE		Time stamp in seconds since Jan 1 1970
tot_app_plain _bytes_in	Total plain application bytes in	DOUBLE	bytes	Total amount of plain application traffic, not including TCP overhead, to this server
tot_app_plain _bytes_out	Total plain application bytes out	DOUBLE	bytes	Total amount of plain application traffic, not including TCP overhead, from this server
tot_app_ssl _bytes_in	Total SSL application bytes in	DOUBLE	bytes	Total amount of encrypted application traffic, not including TCP overhead, to this server
tot_app_ssl _bytes_out	Total SSL application bytes out	DOUBLE	bytes	Total amount of encrypted application traffic, not including TCP overhead, from this server
tot_bitrate _bytes	Total bitrate bytes	DOUBLE	bytes	Total amount of traffic for active VoIP
tot_bitrate _time	Total bitrate time	Double		Total amount of bitrate time
tot_bytes_in	Total number of TCP bytes in	DOUBLE	bytes	Total amount of traffic to this server

Fields	Display Name	Data Type	Units	Description
tot_bytes_out	Total number of TCP bytes out	DOUBLE	bytes	Total amount of traffic from this server
tot_client_bad_ packets	Total number of bad client packets	DOUBLE	packets	Total problematic packets from the end user
tot_client_bad_ packets_color		DOUBLE		The color representing the status of the problematic packets from the end user, according to the configured threshold
tot_client _connection _resets	Connection Reset by client	DOUBLE		The total number of connections that failed on reset during the connection initialization
tot_client_time	Total Request Client Time	DOUBLE	milliseconds	Total request-response client time for all requests on this application
tot_client _window_stuck	Total client packets with window stuck	DOUBLE	packets	Total packets which indicate client window stuck, transmitted from the end user
tot_client _window_zero	Total client packets with window size zero	DOUBLE	packets	Total packets with window size 0, transmitted from the end user
tot_conn	Total Connections Attempts	INT	connections	Total attempts to open connections from the end user Total attempts to open connections to this server
tot_conn _refused	Number of connection failures due to timeout	INT		The total number of connections during initialization that failed due to no server response.

Fields	Display Name	Data Type	Units	Description
tot_conn_success_color	Total Connection Success Color	DOUBLE	number representing color	The color representing the status of the successful connections to the application, according to the configured threshold—a positive number indicates good (green) status and a negative number indicates bad (red) status
tot_conn_timeout	Number of connection failures due to timeout	INT	connections	Total attempts to open a connection to this server that failed due to timeout
tot_connect_time	Total Connection Negotiation Time	DOUBLE	milliseconds	Total TCP handshake time for all connections to the application
tot_dl_time	Total Request Download Time	DOUBLE	milliseconds	Total request-response time for all requests on this application
tot_dl_time_color	Total Download Time Color	DOUBLE		The color representing the status of the request-response time for all requests to this server, according to the configured threshold
tot_duplicate_acks	Total duplicate ack packets	DOUBLE	packets	Total retransmitted acks from and to the end user
tot_duplicate_packets	Total number of duplicate packets	DOUBLE	packets	Total retransmitted packets from and to the end user
tot_duplicate_packets_color		DOUBLE		The color representing the status of the retransmitted packets from and to the end user, according to the configured threshold

Fields	Display Name	Data Type	Units	Description
tot_eug _latency_color		DOUBLE	number representing color	The color representing the status of the end-user group latency for the application (latency is the roundtrip of packets from client to server and back)—a negative number indicates good (green) status) and a positive number indicates bad (red) status
tot_frstbffr _time	Total Request Time to first Buffer	DOUBLE	milliseconds	Total request-response time to first buffer for all requests to this server
tot_jitter	Total jitter	DOUBLE	milliseconds	Total jitter
tot_jitter _packets	Total packets for jitter calculations	DOUBLE	packets	Total packets for jitter calculations
tot_latency	Connection Reset by client	DOUBLE	milliseconds	Total round trip time for all packets sent by the end user
tot_loc_latency _color		DOUBLE	number representing color	The color representing the status of the location latency for the application—a negative number indicates good (green) status and a positive number indicates bad (red) status
tot_network _time	Total Request Network Time	DOUBLE	milliseconds	Total request-response network time for all requests from the end user
tot_packets	Total number of packets	DOUBLE	packets	Total amount of packets to and from this server
tot_packets	Total number of packets	DOUBLE	packets	Total packets from and to the end user
tot_requests	Total number of requests	INT	requests	Total number of requests to this server

Fields	Display Name	Data Type	Units	Description
tot_requests_o_dl_th	Total hits over download time threshold	INT	requests	Total number of requests on the application with total time exceeding the total time threshold Total number of requests on this application with server time exceeding the server time threshold
tot_requests_o_s_th	Total hits over server time threshold	INT	requests	Total number of requests on this application with total time exceeding the total time threshold
tot_retransmission_bytes	Total Number of retransmitted bytes	DOUBLE	bytes	Total amount of retransmitted bytes from and to the end user
tot_retransmission_time	Total Retransmission Time	DOUBLE	milliseconds	Total time spent on retransmissions during the page download
tot_retransmissions	Total retransmitted packets	DOUBLE	packets	Total retransmitted data packets from and to end user
tot_server_bad_packets	Total Server bad packets	DOUBLE	packets	Total problematic packets transmitted from this server
tot_server_bad_packets_color	Total Server bad packets color	DOUBLE		The color representing the status of the total problematic packets transmitted from this server, according to the configured threshold
tot_server_connection_resets	Connection Reset by server	DOUBLE		The total number of connections that were reset during connection initialization
tot_server_time	Total Request Server Time	DOUBLE	milliseconds	Total request-response server time for all requests to this server

Fields	Display Name	Data Type	Units	Description
tot_server_time _color	Server Time color	DOUBLE		The color representing the status of the request-response server time, according to the configured threshold
tot_server _window_stuck	Total server packets with window stuck	DOUBLE	packets	Total packets which indicate server window stuck, transmitted from this server
tot_server _window_zero	Total server packets with window size zero	DOUBLE	packets	Total packets with window size 0, transmitted from this server
tot_ssl_time	SSL Negotiation Time	DOUBLE	milliseconds	Total SSL handshake time for all connections that were opened for transferring the action data
TUID	Unique ID	STRING		Internal ID from the profile database

Sample: RUM Top Actions (rum_top_action_t)

The RUM Top Actions (rum_top_action_t) sample contains the following fields.

Field	Display Name	Data Type	Units	Description
action_descriptor	Action Descriptor	STRING		The action descriptor or page URL
action_id	Action ID	DOUBLE		The internal ID of the action.
action_name	Action Name	STRING		The name of the action
application_id	Application ID	BINARY		BSM RTSM application ID number
application_name	Application Name	STRING		BSM RTSM application Name
application_tier _id	Application Tier ID	INT		BSM internal application ID number

Field	Display Name	Data Type	Units	Description
application_tier _name	Application Tier Name	STRING		The configured name of the application tier.
customer_id	Customer ID	INT		The Customer ID
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
downtime_state	Downtime State	INT		The downtime state when the data was reported
time_stamp	End Time	DOUBLE		Time stamp in seconds since Jan 1 1970
tot_action_hits	Total Hits	INT		The total number of hits for the action
TUID	Unique ID	STRING		Internal ID from the profile database

Sample: RUM Top Locations (rum_top_location_t)

The RUM Top Locations (rum_top_location_t) sample contains the following fields.

Field	Display Name	Data Type	Units	Description
application_id	Application ID	BINARY		BSM RTSM application ID number
application_tier _id	Application Tier ID	INT		The ID of the application Tier
customer_id	Customer ID	INT		BSM internal application Customer ID number
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)

Field	**Display Name**	**Data Type**	**Units**	**Description**
downtime_state	Downtime State	INT		The downtime state when the data was reported
location_id	Location ID	BINARY		The RTSM end-user location ID
location_name	Location Name	STRING		Data collector location name
tot_app_plain _bytes_in	Total plain application bytes in	DOUBLE	bytes	Total amount of plain application traffic, not including TCP overhead, from client to server for the application
Tot_app_plain _bytes_out	Total plain application bytes out	DOUBLE	bytes	Total amount of plain application traffic, not including TCP overhead, to the end user Total amount of plain application traffic, not including TCP overhead, from this server
tot_app_ssl_bytes _in	Total SSL application bytes in	DOUBLE	bytes	Total amount of encrypted application traffic, not including TCP overhead, to this server
Tot_app_ssl_bytes _out	Total SSL application bytes out	DOUBLE	bytes	Total amount of encrypted application traffic, not including TCP overhead, to the end user Total amount of encrypted application traffic, not including TCP overhead, from this server
tot_conn	Total Connection Open by this EU	INT		Currently not used

Field	**Display Name**	**Data Type**	**Units**	**Description**
tot_latency	Latency	DOUBLE	milliseconds	total latency of all packets sent by end-user
tot_latency_color	Total Latency Color	DOUBLE	number representing color	The color representing the status of the total latency—a negative number indicates good (green) status and a positive number indicates bad (red) status
tot_packets	Total number of packets	DOUBLE	packets	Total amount of packets to and from this server
tot_requests	Total Requests from this EU	INT	requests	The total number of hits from this location
TUID	Unique ID	STRING		Internal ID from the profile database

Sample: RUM Transactions (rum_trans_t)

The RUM Transactions sample (rum_trans_t) contains data performance and availability measurements of end-user transactions that match one of the transaction definitions in End User Management Administration.

Field	Display Name	Data Type	Units	Description
application_id	Application ID	BINARY		BSM RTSM application ID number
application_name	Application Name	STRING		BSM RTSM application Name
availability	Availability	INT		The number of transactions that were available
baseline _availability _mean	Baseline Availability Mean			Not currently used

Field	Display Name	Data Type	Units	Description
baseline _availability_std"	Baseline Availability STD			Not currently used
baseline_gdl_time _loc_mean	Baseline GDL Time Loc Mean			Not currently used
baseline_gdl_time _loc_std	Baseline GDL Time Loc STD			Not currently used
baseline_gdl_time _mean	Baseline GDL Time Mean			Not currently used
baseline_gdl_time _std	Baseline GDL Time STD			Not currently used
baseline_hits _mean	Baseline Hits Mean			Not currently used
baseline_hits_std	Baseline Hits STD			Not currently used
baseline_ndl _time_loc_mean	Baseline NDL Time Loc Mean			Not currently used
baseline_ndl _time_loc_std	Baseline NDL Time Loc STD			Not currently used
baseline_ndl _time_mean	Baseline NDL Time Mean			Not currently used
baseline_ndl _time_std	Baseline NDL Time STD			Not currently used
baseline_network _time_mean	Baseline Network Time Mean			Not currently used
baseline_network _time_std	Baseline Network Time STD			Not currently used

Field	Display Name	Data Type	Units	Description
baseline_server _time_mean	Baseline Server Time Mean			Not currently used
baseline_server _time_std	Baseline Server Time STD			Not currently used
btf_id	Business transaction flow ID	BINARY		The RTSM ID of the business transaction flow
btf_name	Business transaction flow name	STRING		Business transaction flow name
customer_name	Customer name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
eug_id	End User Group ID	BINARY		The RTSM end-user group ID
eug_name	End User Group Name	STRING		End-user name as configured in End User Management Administration
location_id	Location ID	BINARY		The RTSM end-user location ID
location_latitude	Location Latitude	DOUBLE		The latitude of the RTSM location.
location _longitude	Location Longitude	DOUBLE		The longitude of the RTSM location.
location_name	Location Name	STRING		Data collector location name
max_client_time	Maximum Client Time	DOUBLE		Maximum client time of a transaction

Field	Display Name	Data Type	Units	Description
max_dl_time	Maximum Download Time	DOUBLE		Maximum download time of a transaction
max_gdl_time	Max Gross Time	DOUBLE		Maximum gross download time of a transaction
max_network _time	Maximum Network Time	DOUBLE		Maximum network time of a transaction
max_server_time	Maximum Server Time	DOUBLE		Maximum server time of a transaction
min_client_time	Minimum Client Time	DOUBLE		Minimum client time of a transaction
min_dl_time	Minimum Download Time	DOUBLE		Minimum download time of a transaction
min_gdl_time	Min Gross Time	DOUBLE		Minimum gross download time of a transaction
min_network _time	Minimum Network Time	DOUBLE		Minimum network time of a transaction
min_server_time	Minimum Server Time	DOUBLE		Minimum server time of a transaction
server_id	Software Element Server ID	BINARY		The RTSM software element server ID
server_ips	Software Element Server IPs	STRING		The software element server IPs
server_name	Software Element Server Name	STRING		Name of the software element server

Field	Display Name	Data Type	Units	Description
sessions_by_tx	Number of sessions which include a given transaction	INT	Number of sessions	Number of sessions which include a given transaction
softw_elem_id	Software Element ID	BINARY		The software element RTSM ID
softw_elem_name	Software Element Name	STRING		The software element name
squares_sum _client_time	Squares Sum Client Time	DOUBLE		The sum of the client squares of the transaction
squares_sum_dl _time	Squares Sum Download Time	DOUBLE		The sum of the download time squares of the transaction
squares_sum_gdl _time	Squares Sum of gross download time	DOUBLE		The sum of the gross download time squares of the transaction
squares_sum _network_time	Squares Sum Network Time	DOUBLE		The sum of the network time squares of the transaction
squares_sum _server_time	Squares Sum Server Time	DOUBLE		The sum of the server time squares of the transaction
subnet_end_ip	Subnet End IP	INT		The subnet end IP
subnet_name	Subnet Name	STRING		Subnet name as configured in End User Management Administration
subnet_start_ip	Subnet Start IP	INT		The subnet start IP

Field	Display Name	Data Type	Units	Description
time_stamp	Sample Time	INT	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
tot_avail_color	Total Availability Color	DOUBLE	number representing color	Color representing status of page in Service Health
tot_client_time	Client Time	DOUBLE	milliseconds	Amount of time of total processing time between components
tot_completed	Number of Completed Transactions	INT	number of transactions	Always 1
tot_components	Number of Action Components	INT	number	Total number of components in the action
tot_connection _time	Connection Time	DOUBLE	milliseconds	Total TCP handshake time for all connections that were opened for transferring the action data
tot_event_app _error	Application Errors Events	INT	number of error events	Total number of application error events in transaction
tot_event_info	Non Error Events	INT	number of error events	Total number of information events in transaction
tot_event _performance	Performance Events	INT	number of error events	Total number of performance events in transaction
tot_frstbffr_b _fbth	Total time of time to first buffer below the threshold	DOUBLE		The amount of time to first buffer less than the threshold configured in End User Management Administration
tot_frstbffr_o _fbth	Total time of time to first buffer over the threshold	DOUBLE		The amount of time to first buffer more than the threshold configured in End User Management Administration

Field	Display Name	Data Type	Units	Description
tot_frstbffr_time	Sum of total time to first buffer	DOUBLE		The total time to first buffer for the transaction
tot_gdl_b_gth	Gross Download Time Below Gross Warning Threshold	DOUBLE	milliseconds	Total download time of transaction less than the threshold configured in End User Management Administration
tot_gdl_o_gth	Gross Download Time Over Gross Threshold	DOUBLE	milliseconds	Total download time of transaction more than the threshold configured in End User Management Administration
tot_gdl_time	Gross Download Time	DOUBLE	milliseconds	Total download time of transaction
tot_gross_color	Total Gross Color	DOUBLE	number representing color	Color representing status of transaction in Service Health
tot_hits_b_fbth	Total hits below the time to first buffer threshold	DOUBLE	number of hits	The total number of hits with a time to first buffer less than the threshold configured in End User Management Administration
tot_hits_b_gth	Hits Below Gross Warning Threshold	INT	number of hits	Number of hits whose time was less than the gross threshold configured in End User Management Administration. Always 0 or 1
tot_hits_b_nth	Hits Below Net Warning Threshold	DOUBLE	number of hits	Number of hits whose time was less than the net threshold configured in End User Management Administration. Always 0 or 1

Field	Display Name	Data Type	Units	Description
tot_hits_b_sth	Hits Below Server Warning Threshold	INT	number of hits	Number of hits whose time was less than the server threshold configured in End User Management Administration
tot_hits_o_fbth	Total hits over the time to first buffer threshold	DOUBLE	number of hits	The total number of hits with a time to first buffer more than the threshold configured in End User Management Administration
tot_hits_o_gth	Hits Over Gross Threshold	INT	number of hits	Number of hits whose time was more than the gross threshold configured in End User Management Administration. Always 0 or 1
tot_hits_o_nth	Hits Over Net Threshold	INT	number of hits	Number of hits whose time was more than the net threshold configured in End User Management Administration. Always 0 or 1
tot_hits_o_sth	Hits Over Server Threshold	INT	number of hits	Number of hits whose time was more than the server threshold configured in End User Management Administration
tot_ndl_b_nth	Net Download Time Below Net Warning Threshold	DOUBLE	milliseconds	Total time of actions in the transaction whose time was less than the net threshold configured in End User Management Administration
tot_ndl_o_nth	Net Download Time Over Net Threshold	DOUBLE	milliseconds	Total time of actions in the transaction whose time was more than the net threshold configured in End User Management Administration

Field	Display Name	Data Type	Units	Description
tot_ndl_time	Net Download Time	DOUBLE	milliseconds	Total net download time
tot_network_color	Total Net Color	DOUBLE	number representing color	Color representing status of transaction in Service Health
tot_network_time	Network Time	DOUBLE	milliseconds	Total network time
tot_retransmission_time	Total Retransmission Time	DOUBLE	milliseconds	Total time spent on retransmissions during the action download
tot_server_b_sth	Server Time Below Server Warning Threshold	DOUBLE	number of hits	Total number of hits whose time was below the threshold configured in End User Management Administration
tot_server_color	Total Server Color	DOUBLE	number representing color	Color representing status of server in Service Health
tot_server_o_sth	Server Time Over Server Threshold	DOUBLE	milliseconds	Total server time more than the threshold configured in End User Management Administration
tot_server_time	Server Time	DOUBLE	milliseconds	Total server time
tot_ssl_time	SSL Negotiation Time	DOUBLE	milliseconds	Total SSL handshake time for all connections that were opened for transferring the action data
tot_trans_size	Transaction Size	DOUBLE	bytes	Total size of transaction
total_hits	Transaction Hits	INT	number of hits	Total number of hits in transaction
transaction_id	Transaction ID	BINARY		BSM RTSM transaction ID

Field	Display Name	Data Type	Units	Description
transaction_name	Transaction Name	STRING	alpha-numeric	Transaction name as configured in End User Management Administration
TUID	Unique ID	STRING		Internal ID from the profile database

Data Samples for Alerts

This section describes the samples and sample fields for alerts generated by the new alert engine (CI Status Alerts) and the legacy alert engine (Business Process Monitor and Real User Monitor alerts).

- "Sample: Alert Log (alert_log)" on page 507
- "Sample: Alerts (alarm_t) and Alerts Legacy (alarm_t_legacy)" on page 509

Sample: Alert Log (alert_log)

The Alert Log sample (alert_log) contains data generated by CI Status Alerts used when generating the Configuration Item Status Alerts report.

This sample uses the Universal Data Exchange (UDX) framework.

Field	**Display Name**	**Data Type**	**Units**	**Description**
action	Action	STRING		The actions performed by the alert
alert_id	alert_id	INT		Alert instance ID
alert_description	Alert Description	STRING		Free text inserted to describe the alert
condition_type	Condition Type	INT		Contains the type of condition

Field	**Display Name**	**Data Type**	**Units**	**Description**
condition_parameters	Condition Parameters	STRING		String that includes the parameters of the condition. Maximum number of parameters permitted is 3.
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
entity_id	CMDB Entity id	BINARY		Configuration ID of CI
kpi_name	KPI name	STRING		The type of the KPI
name	Alert Name	STRING		The name of the alert
next_severity	Next Severity	INT		The severity status of the KPI after the change that caused the alert to be sent, expresses as the ID defined in the **From** field in the Parameter Details window (**Admin** > **Service Health** > **Repositories** > **KPIs**)
obj_name	Objective name	STRING		For future use
prev_severity	Previous Severity	INT		The severity status of the KPI before the change that caused the alert to be sent, expresses as the ID defined in the **From** field in the Parameter Details window (**Admin** > **Service Health** > **Repositories** > **KPIs**)
sampletype		STRING		The name of the sample
send_time	Send time	DOUBLE	seconds since Jan 1 1970	The date and time that the alert was sent, expressed in seconds since Jan 1 1970
trigger_interval	Trigger Interval	INT	milli-seconds	An integer indicating the time that the status breached the condition.

Field	Display Name	Data Type	Units	Description
TUID	Unique ID	STRING		Internal ID from the profile database
view	View	STRING		The local impact view name if the view is a local impact view or empty for a regular view

Sample: Alerts (alarm_t) and Alerts Legacy (alarm_t_legacy)

The Alerts sample (alarm_t) contains data generated by Business Process Monitor and Real User Monitor alerts. The fields of the Alerts Legacy sample (alarm_t_legacy) are a subset of the fields of the Alerts sample (alarm_t) described below.

Field	Display Name	Data Type	Units	Description
alarm_id	alarm Id	INT		ID of the alert (definition)
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
dEventTimeStamp	triggered time	DOUBLE	seconds	Time of the event that triggered the alert
entity_id	Entity_id	long		The ID of the related entity.
alert_type	Alert type	String		The type of the alert.
iIsLoggedOnly	Is logged Only	INT		Determines whether the alert is logged only (1 is true or 0 is false)
iIsPositive	Is Positive	INT		Determines whether the alert is a follow-up (1 is true or 0 is false)
iSessionId	Profile ID	INT		Profile ID as stored in the SESSIONS table in the management database
iSeverityId	Severity ID	INT		Severity of the alert

Field	**Display Name**	**Data Type**	**Units**	**Description**
szActionDesc	Action Description	STRING		Action that is taken as a result of the alert
szAlarmDesc	Alarm Description	STRING		Description of the alert
szAlarmName	Alarm Name	STRING		Alert name
time_stamp	Time Stamp	DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970

Data Sample for TransactionVision

The Transaction Management sample (tv_trans_t) contains data integrated into BSM from TransactionVision or RUM monitoring of the business transaction. This sample uses the Universal Data Exchange (UDX) framework, and is thus available for filtering in the Measurement Filters.

Note:

- For the fields that give a value, Transaction Management provides actual transaction values, for example, the dollar value of a purchase in a transaction.
- The Real Transaction Monitor (bristol_t3) is obsolete.

Field	Display Name	Data Type	Units	Description
tx_name	Transaction name	STRING		The transaction name as it appears in Transaction Management
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
tran_id	TV id	INT		The ID for the transaction in TransactionVision
time_stamp	Time Stamp	LONG	seconds	Timestamp in seconds since Jan 1 1970 The end time for the aggregated data (all transaction hits are aggregated and one aggregated data sample is sent in each reporting interval)

Field	Display Name	Data Type	Units	Description
sum_response_time	Sum transaction response time	DOUBLE	milli-seconds	The total response time of transactions instances in the reporting interval (not including failed transaction instances)
tx_count	Total transaction count	INT		Total number of transaction instances in the reporting interval
failed_tx_count	Total failed transaction count	INT		Number of failed transactions instances in the reporting interval
tot_failed_tx_value	Total failed transaction value	DOUBLE		Total value of the failed transaction instances in the reporting interval
late_tx_count	Total late transaction count	INT		Number of transactions instances that have exceeded the defined threshold for the transaction in the reporting interval
exp_tx_count	Exception transaction count	INT		Number of transactions instances that are exceptions in the reporting interval
tot_late_tx_value	Total late transaction value	DOUBLE		Total value of transaction instances that have exceeded the defined threshold for the transaction in the reporting interval
max_response_time	Maximum transaction response time	DOUBLE	milli-seconds	The maximum response time of transactions instances in the reporting interval (not including failed transaction instances) in the reporting interval

Field	**Display Name**	**Data Type**	**Units**	**Description**
min_response_time	Minimum transaction response time	DOUBLE	milli-seconds	The minimum response time of transactions instances in the reporting interval (not including failed transaction instances) in the reporting interval
tot_tx_value	Total transaction value	DOUBLE		Total value of all transaction instances in the reporting interval
tot_exp_tx_value	Total Exception transaction value	DOUBLE		Total value of transaction instances that are exceptions in the reporting interval
curr_tx_count	Total transaction count	INT		Total number of in-process transactions instances at the end of the reporting interval
curr_failed_tx_count	Total failed transaction count	INT		Number of failed in-process transactions instances at the end of the reporting interval
curr_tot_failed_tx_value	Total failed transaction value	DOUBLE		Total value of the failed in-process transaction instances at the end of the reporting interval
curr_late_tx_count	Total late transaction count	INT		Number of in-process transactions instances that have exceeded the defined threshold for the transaction, at the end of the reporting interval
curr_exp_tx_count	Exception transaction count	INT		Number of in-process transactions instances that are exceptions, at the end of the reporting interval

Field	Display Name	Data Type	Units	Description
curr_tot_late_tx_value	Total late transaction value	DOUBLE		Total value of the in-process transaction instances that have exceeded the defined threshold for the transaction, at the end of the reporting interval
curr_tot_tx_value	Total transaction value	DOUBLE		Total value of all in-process transaction instances at the end of the reporting interval
curr_tot_exp_tx_value	Total Exception transaction value	DOUBLE		Total value of the in-process transaction instances that are exceptions, at the end of the reporting interval
min_eu_response_time	Minimum End User Response Time	DOUBLE	milli-seconds	Minimum end user response time among all transaction instances considered for the sample in the reporting interval
max_eu_response_time	Maximum End User Response Time	DOUBLE	milli-seconds	Maximum end user response time among all transaction instances considered for the sample in the reporting interval
sum_eu_response_time	Sum of End User Response Time	DOUBLE	milli-seconds	Sum of transaction instances response time from end user perspective alone (RUM data) in the reporting interval
min_tv_response_time	Minimum TransactionVision Response Time	DOUBLE	milli-seconds	Minimum Transaction Management response time among all transaction instances considered for the sample in the reporting interval

Field	Display Name	Data Type	Units	Description
max_tv_response_time	Maximum TransactionVision Response Time	DOUBLE	milli-seconds	Maximum Transaction Management response time among all transaction instances considered for the sample in the reporting interval
sum_tv_response_time	Total TransactionVision Response Time	DOUBLE	milli-seconds	Sum of Transaction Management instances response time from TransactionVision perspective in the reporting interval
max_resp_time_txn_id	max_resp_time_txn_id			A field containing 3 values: Maximum Response Time, Tran_id of the transaction with the Maximum Response Time, and Analyzer ID of the Analyzer that analyzed this transaction.

Data Samples for SOA

This section describes the samples and sample fields for SOA data (that is, data used in the Application Management for SOA application). These samples use the Universal Data Exchange (UDX) framework.

- "Sample: SOA Event (ws_event_aggr_t)" on page 516
- "Sample: WS Performance (ws_perf_aggr_t)" on page 519

Sample: SOA Event (ws_event_aggr_t)

The SOA Event sample (ws_event_aggr_t) contains data used in SOA event reports. Data collectors can collect data for the following types of events:

- **HTTP errors.** Can be used to detect client and server side errors, such as: Not found 404 and Internal Error 500.
- **SOAP errors.** There are several standard SOAP faults that can indicate on the reason for a problem. For example: "version mismatch". In addition there can be customized SOAP faults per WS implementation.

- Content based events (error, warning or informational): used to detect business events (For example, "Deposit greater than 5000$") or applicative error of a WS (For example, "Failed to execute operation").

Field	**Display Name**	**Data Type**	**Units**	**Description**
consumer_id	Consumer	STRING		Business Process Monitor and SiteScope send their client IP. HP Diagnostics sends the following valid values: ➤ **1** – Consumer ID taken from payload. ➤ **2** – Consumer group name ➤ **3** – Consumer IP ➤ **4** – Unregistered consumer (value="-") ➤ **<http header>** ➤ The IP address of current SiS agent (for example 192.168.22.6)
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise default client)
dc_source	DC Source	STRING		The data collector source—Diagnostics, Business Process Monitor, or SiteScope
end_point	End Point	STRING		The name of the monitored end point or the port name from WSDL monitored by SiteScope or Business Process Monitor, or the application server alias for Diagnostics
event_count	Event Count	INT		The number of occurrences of the event in the time period of the aggregation
event_name	Event Name	STRING		The name of the event

Field	Display Name	Data Type	Units	Description
is_synthetic	Is Synthetic	STRING		It can be: ➤ 0 for real user monitoring ➤ 1 for synthetic monitoring
name	Name	STRING		The name of the Web service. It appears in the WSDL as the service name. There might be more than one in a WSDL
namespace	Namespace	STRING		The URI of the definition resource of the Web service (it appears in the WSDL as the targetNamespace)
operation	Operation Name	STRING		The operation name of the Web service
sampletype		STRING		The name of the sample (ws_event_aggr_t).
server	Server IP	INT		The IP address of the monitored server
time_stamp		DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970 (this sample has aggregated values of 5 minutes)
TUID	Unique ID	STRING		Internal ID from the profile database

Sample: WS Performance (ws_perf_aggr_t)

The WS Performance sample (ws_perf_aggr_t) contains data used in SOA performance reports. Data collectors can collect data for end to end performance of Web service operation, including availability and response time.

Field	Display Name	Data Type	Units	Description
calls_count	Calls Count	INT		The number of calls in the last 5 minutes
consumer_id	Consumer	STRING		Business Process Monitor and SiteScope send their client IP. HP Diagnostics sends the following valid values: ➤ **1** – Consumer ID taken from payload. ➤ **2** – Consumer group name ➤ **3** – Consumer IP ➤ **4** – Unregistered consumer (value="-") ➤ **<http header>** ➤ The IP address of current SiS agent (for example 192.168.22.6)
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
dc_source	DC Source	STRING		Specifies the data collector source—Diagnostics, Business Process Monitor, or SiteScope
end_point	End Point	STRING		The name of the monitored end point or the port name from WSDL monitored by SiteScope or Business Process Monitor, or the application server alias for Diagnostics

Field	Display Name	Data Type	Units	Description
error_count	Error Count	INT		The numbers of errors that occurred in the last 5 minutes
faults_count	Faults Count	INT		The numbers of SOAP faults in the last 5 minutes
is_synthetic	Is Synthetic	STRING		Specify 0 for real user monitor data source and 1 for synthetic monitor data source
max_st	Max Server Time	INT	milli-seconds	The maximum server response time
max_rtt	Max Total Response Time	INT	milli-seconds	The maximum round trip response time
min_st	Min Server Time	INT	milli-seconds	The minimum server response time
min_rtt	Min Total Response Time	INT	milli-seconds	The minimum round trip response time
name	Name	STRING		The name of the Web service. It appears in the WSDL as the service name. There might be more than one Web service in a WSDL
namespace	Namespace	STRING		The URI of the definition resource of the Web service (it appears in the WSDL as the targetNamespace)
operation	Operation	STRING		The operation name of the Web service
over_threshold_rtt	Over Threshold Client Time	INT		The number of instances of round trip response time being over threshold
over_threshold_st	Over Threshold Server Time	INT		The number of instances of server time being over threshold

Field	Display Name	Data Type	Units	Description
sampletype		STRING		The name of the sample (ws_perf_aggr_t)
server	Server IP	INT		The IP address of the monitored server
sum_st	Sum Server Time	INT	milli-seconds	The sum of server response time
sum_rtt	Sum Total Response Time	INT	milli-seconds	The sum of round trip response time
time_stamp		DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970 (this sample has aggregated values of 5 minutes)
TUID	Unique ID	STRING		Internal ID from the profile database

Data Samples for Business Process Insight (BPI)

This section describes the samples and sample fields for Business Process Insight data.

- "Sample: BPI Duration (bpi_duration_t)" on page 522
- "Sample: BPI Process Monitors (bpi_process_t)" on page 524
- "Sample: BPI Process Step Monitors (bpi_step_t)" on page 525
- "Sample: BPI Value Monitor (bpi_value_t)" on page 527

Sample: BPI Duration (bpi_duration_t)

The BPI sample (bpi_duration_t) contains data from the HP Business Process Insight application. The sample includes the following fields (in alphabetical order):

Field	Display Name	Data Type	Units	Description
backlog_count	backlog_count	INT		The number of active business process instances in process in the most recent collection interval
backlog_value	backlog_value	DOUBLE		The total value of active business process instances in process in the most recent collection interval
monitor_cmdb_id		BINARY		The CMDB ID number of the Business Process Insight business process
completed_count	completed_count	INT		The number of business process instances that completed in the most recent collection interval
critical_violations	critical_violations	INT		The number of critical instance violations in the most recent collection interval
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)

Field	Display Name	Data Type	Units	Description
major_ violations	major_ violations	INT		The number of major instance violations in the most recent collection interval
max_ duration	max_ duration	DOUBLE	Seconds	The maximum duration of monitor instances that completed in the most recent collection interval
min_duration	min_duration	DOUBLE	Seconds	The minimum duration of monitor instances that completed in the most recent collection interval
minor_ violations	minor_ violations	INT		The number of minor instance violations in the most recent collection interval
time_stamp		DOUBLE		
total_ duration	total_ duration	DOUBLE	Seconds	The sum of duration for all monitor instances that completed in the most recent collection interval
total_value	total_value	DOUBLE		The sum of values of all monitor instances in the most recent collection interval
total_ weighted_ duration	total_ weighted_ duration	DOUBLE	Seconds	The sum of weighted duration of all monitor instances that completed in the most recent collection interval
warning_ violations	warning_ violations	INT		The number of warning instance violations in the most recent collection interval

Sample: BPI Process Monitors (bpi_process_t)

The BPI sample (bpi_process_t) contains data from the HP Business Process Insight application. The sample includes the following fields (in alphabetical order):

Field	Display Name	Data Type	Units	Description
at_risk_ count	at_risk_ count	INT		The total number of At Risk business process instances in the most recent collection interval
at_risk_ value	at_risk_ value	DOUBLE	Defined on monitor CI	The total value of At Risk business process instances in the most recent collection interval
backlog_count	backlog_ count	INT		The total number of the active business process instances in the most recent collection interval
backlog_ value	backlog_ value	DOUBLE	Defined on monitor CI	The total value of the active business process instances in the most recent collection interval
blocked_ count	blocked_ count	INT		The total number of Blocked business process instances in the most recent collection interval
blocked_ value	blocked_ value	DOUBLE	Defined on monitor CI	The total value of the Blocked business process instances in the most recent collection interval
bp_cmdb_id		BINARY		The CMDB ID number of the Business Process Insight business process
completed_ count	completed_ count	INT		The total number of completed business process instances that completed during the period of time represented by the sample

Field	Display Name	Data Type	Units	Description
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
healthy_ count	healthy_ count	INT		The total number of Healthy business process instances in the most recent collection interval
healthy_ value	healthy_ value	DOUBLE		The total value of Healthy business process instances in the most recent collection interval
time_stamp		DOUBLE		Start time of the aggregated sample
total_ value	total_ value	DOUBLE		The total value of the business process instances that completed during the period of time represented by the sample

Sample: BPI Process Step Monitors (bpi_step_t)

The BPI sample (bpi_step_t) contains data from the HP Business Process Insight application. The sample includes the following fields (in alphabetical order):

Field	Display Name	Data Type	Units	Description
backlog_ count	backlog_ count	INT		The total number of active business process instances in the most recent collection interval
backlog_ value	backlog_ value	DOUBLE	Unit is defined in the monitor CI	The total value of active business process instances in the most recent collection interval
bp_step_ cmdb_id		BINARY		The CMDB ID number of the Business Process Insight business process step

Field	Display Name	Data Type	Units	Description
completed_ count	completed_ count	INT		The total number of the business process instances that completed during the period of time represented by the sample
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
time_stamp		DOUBLE		Start time of the aggregated sample
total_ value	total_ value	DOUBLE	Unit is defined in the monitor CI	The total value of the business process instances that completed during the period of time represented by the sample

Sample: BPI Value Monitor (bpi_value_t)

The BPI sample (bpi_value_t) contains data from the HP Business Process Insight application. The sample includes the following fields (in alphabetical order):

Field	Display Name	Data Type	Units	Description
backlog_ count	backlog_ count	INT		The total number of active business process instances in the most recent collection interval
backlog_ value	backlog_ value	DOUBLE	An attribute on the Monitor CI	The total value of active business process instances that did not complete in the most recent collection interval
monitor_cmdb_id		BINARY		The CMDB ID number of the Business Process Insight business process
completed_ count	completed_ count	INT		The total number of completed business process instances in the most recent collection interval
critical_ violations	critical_ violations	INT		The number of critical instance violations in the most recent collection interval
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise default client)
major_ violations	major_ violations	INT		The number of major instance violations in the most recent collection interval
max_ value	max_ value	DOUBLE		The maximum value of instances that completed in the most recent collection interval

Field	Display Name	Data Type	Units	Description
min_ value	min_ value	DOUBLE		The minimum value of instances that completed in the most recent collection interval
minor_ violations	minor_ violations	INT		The number of minor instance violations in the most recent collection interval
time_stamp		DOUBLE		Start time of the sample aggregation
total_ monitor_ value	total_ monitor_ value	DOUBLE		The sum of the values of all monitor instances that completed in the most recent collection interval
total_value	total_value	DOUBLE		The total value of completed business process instances in the most recent collection interval
total_ weighted_ monitor_ value	total_ weighted_ monitor_ value	DOUBLE		The sum of weighted values of all monitor instances that completed in the most recent collection interval
warning_ violations	warning_ violations	INT		The number of warning instance violations in the most recent collection interval

Data Samples for HP Diagnostics

This section describes the samples and sample fields for HP Diagnostics data:

- "Sample: Business Transaction Data (dg_trans_t)" on page 529
- "Sample: Virtual User Data (appmon_vu_t)" on page 529
- "Sample: WS Performance (ws_perf_aggr_t)" on page 532
- "Sample: WS Performance (ws_event_aggr_t)" on page 535

Sample: Business Transaction Data (dg_trans_t)

Business Transaction data from Diagnostics. The sample includes the following fields (in alphabetical order):

Field	Display Name	Data Type	Units	Description
txn_name	Transaction Name	STRING		Name of the Transaction
total_txn_time	End to End Response Time	INT		Total time of in-process and completed transactions
max_txn_time	Max Response Time	INT		Maximum time of in-process and completed transactions
min_txn_time	Min Response Time	INT		Minimum time of in-process and completed transactions
count	Transaction Count	INT		Number of transactions
exceptions	Exceptions	INT		Number of exceptions for the transaction
soap_faults	SOAP Faults	INT		Number of SOAP faults for the transaction

Sample: Virtual User Data (appmon_vu_t)

BPM transactions that flow through Diagnostics probes. A BPM transaction is associated with Diagnostics fragments (Server Requests, URLs). Dashboard only.

The HP Diagnostics sample (appmon_vu_t) contains data from the HP Diagnostics application. The sample includes the following fields (in alphabetical order):

Field	Display Name	Data Type	Units	Description
app_server_host	App Server Host	STRING		Unused
availability	Availability	INT		Unused
call_count	Call Count	BINARY		The number of fragments in the transaction
class_name	Class Name	STRING		Unused
concurrent_time	Concurrent Time	BINARY	Seconds	Always 0.0
cpu_time_excl	CPU Time Excl	BINARY	Seconds	Always 0.0
cpu_time_total	CPU Time Total	BINARY	Seconds	Always 0.0
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
duration	Duration	BINARY	Seconds	Always 0.0
error_count	Error Count	BINARY		The total number of transactions with exception
exclusive_time	Exclusive Time	BINARY	Seconds	Always 0.0
layer_name	Layer Name	STRING		Unused
max_exclusive_time	Max Exclusive Time	BINARY	Seconds	Always 0.0
max_total_time	Max Total Time	BINARY	Seconds	The time of the longest method call in the transaction
method_arguments	Method Arguments	STRING		Unused
method_name	Method Name	STRING		Unused

Field	Display Name	Data Type	Units	Description
node_name	Node Name	STRING		Unused
parent_node_name	Parent Node Name	STRING		Unused
platform	Platform	STRING		Unused
probe_instance	Probe Instance	STRING		Unused
profile_name	Profile Name	STRING		The name of the profile with the J2EE_For + customer name format
quality	Quality	INT		The value is based on the status of the transaction latency threshold in HP Diagnostics. It can be: ➤ Q_CRITICAL=0 ➤ Q_MAJOR=5 ➤ Q_MINOR=10 ➤ Q_WARNING=15 ➤ Q_OK=20
time_stamp	Time	DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
timeout_count	Timeout Count	BINARY		The total number of timeouts for the transaction
total_time	Total Time	BINARY	Seconds	The time of the longest method call in the transaction
ttx_desc_name	Thread Transaction Descriptive Name	STRING		A description of the quality reason. The quality is the status of the transaction: critical, major, minor, warning, or OK
ttx_name	Ttx Name	STRING		Unused
vu_call_count	Vu Call Count	BINARY		The number of fragments in the transaction
vu_host_name	Vu Host Name	STRING		Unused

Field	Display Name	Data Type	Units	Description
vu_location	Vu Location	STRING		Unused
vu_profile_name	Vu Profile Name	STRING		The name of the Business Process Monitor profile
vu_trans_name	Vu Trans Name	STRING		The name of the transaction

Sample: WS Performance (ws_perf_aggr_t)

The WS Performance sample (ws_perf_aggr_t) contains aggregate data used in SOA performance reports. Diagnostics provides this sample data; Business Process Monitor and SiteScope provide these samples as well. The sample includes the following fields (in alphabetical order):

Field	Display Name	Data Type	Units	Description
calls_count	Calls Count	INT		The number of calls in the last 5 minutes
consumer_id	Consumer	STRING		HP Diagnostics sends the following valid values: ➤ 1 - Consumer ID taken from payload. ➤ 2 - Consumer group name ➤ 3 - Consumer IP ➤ 4 - Unregistered consumer (value="-") ➤ <http header> ➤ The IP address of current SiS agent (for example 192.168.22.6) (Business Process Monitor and SiteScope send their client IP.)
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)

Field	Display Name	Data Type	Units	Description
dc_source	DC Source	STRING		Specifies the data collector source-Diagnostics, Business Process Monitor, or SiteScope
end_point	End Point	STRING		The name of the monitored end point or the port name from WSDL monitored by SiteScope or Business Process Monitor, or the application server alias for Diagnostics
error_count	Error Count	INT		The numbers of errors that occurred in the last 5 minutes
faults_count	Faults Count	INT		The numbers of SOAP faults in the last 5 minutes
is_synthetic	Is Synthetic	STRING		Specify 0 for real user monitor data source and 1 for synthetic monitor data source
max_st	Max Server Time	INT	milliseconds	The maximum server response time
max_rtt	Max Total Response Time	INT	milliseconds	The maximum round trip response time
min_st	Min Server Time	INT	milliseconds	The minimum server response time
min_rtt	Min Total Response Time	INT	milliseconds	The minimum round trip response time
name	Name	STRING		The name of the Web service. It appears in the WSDL as the service name. There might be more than one Web service in a WSDL
namespace	Namespace	STRING		The URI of the definition resource of the Web service (it appears in the WSDL as the targetNamespace)

Field	Display Name	Data Type	Units	Description
operation	Operation	STRING		The operation name of the Web service
over_threshold_rtt	Over Threshold Client Time	INT		The number of instances of round trip response time being over threshold
over_threshold_st	Over Threshold Server Time	INT		The number of instances of server time being over threshold
sampletype		STRING		The name of the sample (ws_perf_aggr_t)
server	Server IP	INT		The IP address of the monitored server
sum_st	Sum Server	INT	milliseconds	The sum of the server response time
sum_rtt	Sum Total Response Time	INT	milliseconds	The sum of round trip response time
time_stamp		DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970 (this sample has aggregated values of 5 minutes)
TUID		STRING		Internal ID

Sample: WS Performance (ws_event_aggr_t)

The WS event sample (ws_event_aggr_t) contains aggregate data used in SOA event reports. Diagnostics provides this sample data; Business Process Monitor and SiteScope provide these samples as well. The sample includes the following fields (in alphabetical order):

Field	Display Name	Data Type	Units	Description
consumer_id	Consumer	STRING		HP Diagnostics sends the following valid values: ➤ 1 - Consumer ID taken from payload. ➤ 2 - Consumer group name ➤ 3 - Consumer IP ➤ 4 - Unregistered consumer (value="-") ➤ <http header> ➤ The IP address of current SiS agent (for example 192.168.22.6) (Business Process Monitor and SiteScope send their client IP.)
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
dc_source	DC Source	STRING		Specifies the data collector source-Diagnostics, Business Process Monitor, or SiteScope
end_point	End Point	STRING		The name of the monitored end point or the port name from WSDL monitored by SiteScope or Business Process Monitor, or the application server alias for Diagnostics
event_count	Event Count	INT		The numbers of occurrences of the event in the time period of the aggregation

Field	**Display Name**	**Data Type**	**Units**	**Description**
event_name	Event Name	STRING		The name of the event
is_synthetic	Is Synthetic	STRING		It can be: ➤ 0 for real user monitor data source ➤ 1 for synthetic monitor data source
name	Name	STRING		The name of the Web service. It appears in the WSDL as the service name. There might be more than one Web service in a WSDL
namespace	Namespace	STRING		The URI of the definition resource of the Web service (it appears in the WSDL as the targetNamespace)
operation	Operation Name	STRING		The operation name of the Web service
sampletype		STRING		The name of the sample (ws_event_aggr_t)
server	Server IP	INT		The IP address of the monitored server
time_stamp		DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970 (this sample has aggregated values of 5 minutes)
TUID		STRING		Internal ID

Data Samples for RTSM

This section describes the samples and sample fields for RTSM data:

Sample: CMDB Repository (cmdb_rep)

The CMDB sample (cmdb_rep) data from the CMDB application. The sample includes the following fields (in alphabetical order):

Field	Display Name	Data Type	Units	Description
complex_value		BLOB		
customer_name	Customer Name	STRING		Customer name to which the sample belongs (for HP Software-as-a-Service, otherwise Default client)
entity_id	CMDB Entity id	BINARY		Configuration ID of CI
property_name		STRING		
property_type		STRING		
sampletype		STRING		The name of the sample
simple_value		STRING		
time_stamp		DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
TUID		STRING		Internal ID

Data Samples for the Custom Query Builder

This section describes the samples and sample fields for Custom Query Builder data.

Sample: Ticket (ticket)

The Custom Query Builder sample (M_TK01F1_F) data from the Custom Query Builder application. The sample includes the following fields (in alphabetical order):

Field	Display Name	Data Type	Units	Description
customer_name		STRING		
data_source	data source	STRING		
elapsed_time	elapsed time	DOUBLE		
sample_type		STRING		
severity	severity	INT		
target_name	target name	STRING		
ticket_id	ticket id	STRING		
ticket_state	ticket state	STRING		
ticket_type	ticket type	STRING		
time_stamp		DOUBLE	seconds since Jan 1 1970	Time stamp in seconds since Jan 1 1970
TUID		STRING		Internal ID

Index

A

activities
    report log 403
Add Component dialog box 89
Adobe Flash Player
    viewing reports with 312
aggregated functions 181
aggregation
    report data 413
annotated report
    create 371
annotating reports 309, 370
annotation 309, 370, 371
annotation tool
    reports 369
AnnotationTool dialog box 374
API 289
    byTime function 297
    configuration 248, 291
    data returned 292
    example queries 298
    Generic Reporting Engine 290
    metadata for samples 248, 291
    permissions 290
    query limitations 295
    querying with browser 293
    SQL syntax supported 294
    supported functions 294
    time formats 296
    Web browser response body 292
    Web Service 293
automatically generated report 399
automatically run reports 399

B

BPI Data source
    measurements and dimensions 204

C

calculated measurement
    create with Status function 166
Calendar dialog box 331
change history of a CI
    viewing 284, 285
change history of a relationship
    viewing 286
Change report
    configure 279
    overview 278
Choose Columns to Display dialog box 332
CI Change report 277
CI Change Report page 282
CI History page 286
common report elements 322
component reports
    time range for SLM 70
Create Measurement dialog box 179
Create New Schedule dialog box 52
Custom Link
    reports 231
Custom Link report
    configure 233
    overview 232
Custom Query 247
    create 250
    overview 248
Custom Query Builder 247

custom query builder
  field formats 260
  main page 254
Custom Query Builder page 254
Custom Report 75
  access with URL 141
  configure 74
  output 82
Custom Report Wizard 85
custom report wizard
  header/footer page 73, 112
Custom Reports 29
  accessing using a URL 142
  overview 68
  reports with downtime 387
custom reports 67
customized measurement
  create 173

D

Dashboard KPIs
  data source map 202
data aggregation 413, 415
  customize 417
  how reports use 416
  modify policy 418
  overview 414
data API 289
data sample
  alarm_t 509
  Alert Log 507
  alert_log 507
  Alerts 507, 509
  appmon_vu_t 529, 532
  BPI Duration 522
  BPI Process Monitors 524
  BPI Process Step Monitors 525
  BPI Value Monitor 527
  bpi_duration_t 522
  bpi_step_t 525
  bpi_t 524
  bpi_value_t 527
  Business Process Insight 522
  Business Process Monitor 439
  CMDB Repository 537
  cmdb_rep 537
  Custom Query Builder 538
  Diagnostics 528
  Event 432
  Health Indicator Status Change 426
  KPI Statuses 423
  KPI values 424
  Real User Monitor 457
  RTSM 537
  RUM Active End Users 458, 465, 467
  RUM Broken Links 470
  RUM Events 471
  RUM Session Statistics 475
  RUM Slowest End Users 481, 483, 495, 496
  RUM TCP Applications 485
  RUM Transactions 498
  rum_bro_links_t 470
  rum_event_t 471
  rum_session_stats_t 475
  rum_slow_eu_t 481, 483, 495, 496
  rum_tcp_application_t 485
  rum_trans_t 498
  SiteScope 428
  SiteScope Heartbeat 431
  SiteScope Measurement 435
  SiteScope Measurement Aggregation 437
  SiteScope Monitor 429
  SOA 516
  SOA Event 516
  ss_monitor_t 429
  Ticket 538
  ticket 538
  Transaction Management 511
  Virtual User Data 529, 532
  Webtrace 439, 446, 450, 453, 455
  WS Performance 519
  ws_event_aggr_t 516
  ws_perf_aggr_t 519
data samples 421
  Service Health 423
  Service Level Management 425
data source
  BPI Data 204
  Dashboard KPIs data 202

  - Over Time Additional Data 209
  - Service Level Management - SLA KPI Data 196
  - Service Level Management - SLA Status Data 200
- dates and time
  - report times 312
- Default Footer dialog box 40
- Default Header dialog box 40
- dimensions
  - overview 159
  - Service Report 159
- downtime
  - Custom Reports 387
  - export reports 386
  - reports 381
  - standalone component in reports 390
- downtime component for reports 390
- downtime in reports
  - enable viewing 388
- downtime overview
  - reports 382

E

- Edit Chart Properties dialog box 185
- Edit Component Properties dialog box 104
- Email dialog box 62
- emailed reports 59
- Excel Report
  - create from Excel file 239
  - create with BSM data 239
- Excel Report overview 238
- Excel Reports 237
- Excel reports
  - creating a web query file 241
  - web query 241

F

- field formats, custom query builder 260
- Field Properties dialog box 258
- fields
  - special in samples 422
- Filter dialog box 266
- Filters dialog box 105
- font
  - enabling when exporting to a PDF 321
- footer
  - configure 395
- formats, custom query builder 260
- functions
  - aggregated 181
  - parameters 183

G

- Generic Reporting Engine API
  - overview 290

H

- header
  - configure 395
- Header/Footer page 88, 138
- header/footer page
  - custom report wizard 73, 112
- HP Software Support Web site 16
- HP Software Web site 17

I

- Interactive Charts
  - area in reports 364
- interactive charts
  - configure 363
  - overview 362
  - reports 361
- IP addresses 422

K

- Knowledge Base 16

L

- language codes 153
- level
  - Reports Log 407
- limitations
  - Service Report 228
- log
  - report activities 403

M

Mail Details dialog box 335
measurement filters
    event examples 434
Measurement Selection page 131
measurements
    overview 159
    Service Report 159

N

New Custom Link page 234
New Excel Report page 244

O

online resources 16
Over Time Additional Data source
    map 209

P

Presentation Settings Wizard 267
Preview Page 89
Preview Report page 139
Publish Report dialog box 337

Q

queries
    limitations 295

R

report
    using API 289
Report Components page 86
Report Manager
    main page 41
report manager 29
    create and manage 33
    limitations 57, 65
    troubleshooting 57, 65
Report Properties page 85
reports
    annotation 309, 370
    annotation tool 369
    automatically generated 399
    automatically run 399
    common features 303
    common report elements 322
    configure generation 320
    custom 67
    Custom Link 231
    custom query builder main page 254
    Custom Query Builder,overview 248
    customize 397
    customize overview 394
    customizing 393
    downtime component 390
    downtime information 381
    downtime overview 382
    email 59, 61
    enable viewing downtime 388
    Excel, web query 241
    export with downtime 386
    generate 306
    header and footer configure 395
    how to run 315
    impact of dimensions/measurements selection 160
    impact of selection type 161
    infrastructure settings 397
    interactive charts 363
    interactive charts feature 361
    logs 403
    overview 22
    publish 308
    report manager 29
    report schedules 48
    run 306
    saving a s PDF 32
    schedule 49
    scheduled 47
    Service Report 157
    time comparison feature 347
    time range and granularity bar 326
    times 312
    user messages 309
    viewing reports with Adobe Flash Player 312
    working in reports 304

- working in reports overview 304
- working with 303

Reports Log
- log structure 408
- overview 404
- set level 407

reports log
- level 405
- logging activities 405
- logging errors 404

reports scheduling a report 48

rum_page_t sample
- example 299

rum_server_t sample
- example 299

S

samples
- data 421

Save as PDF to Report Manager dialog box 343

Save Favorite dialog box. 324

scenario 75

Schedule Management dialog box 55

scheduled reports 47

Select a Data Source page 194

Select CI dialog box 287

Select Columns dialog box 45, 332

Select Dimensions page 211

Select Measurements page 129, 222

Select Report Type page 192

Select the Dimension Filters page 225

selection type
- single or multi 161

Service Level Management
- data source for Service Report 196, 200
- time range for component reports 70

Service Report 157, 189
- configure in Report Manager 171
- dimensions and measurements overview 159
- Flash 171
- formats 162
- overview 158
- tips and tricks 167
- troubleshooting and limitations 228

Service Report Builder wizard 190

Service Report Properties page 191

SLA KPI Data source 196

SLA Status Data source
- map 200

ss_t sample
- example 298

Status
- function 166

Summary page 227

T

time comparison
- configure 349
- overview 348
- reports 347

Time Comparison dialog box 353

time in reports, calculation of 312

time range breakdown 312

time stamps 422

time zones 148

trans_t sample
- example 299

Trend Properties page 128

Trend Report
- access with URL 141
- configure 114
- output 119
- scenario 115

Trend Report Wizard 127

Trend Reports
- accessing using a URL 142

Trend reports 109
- overview 110

trend reports
- adjusting scales 111
- wizard 127

troubleshooting
- Service Report 228

Troubleshooting and Knowledge Base 16

troubleshooting and limitations
- Annotation Tool 379
- Custom Link report 235

  - Custom Query 275
  - Custom Query Builder 275
  - Custom Reports 106
  - data aggregation 419
  - Excel Reports 245
  - Trend Report 139
  - working with reports 343

U

- Unicode font 321
- URL
  - access Custom/Trend Report 141
  - create to access Custom/Trend reports 143
- user reports
  - trend reports, adjusting scales 111

V

- View dialog box 287

W

- Web query
  - example 243
- Web Service
  - API 293
  - API, data returned 292