HP Business Availability Center

for the Windows and Solaris operating systems

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Custom Reporting and Alerting

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Welcome to This Guide

This guide describes how to work with custom reports and how to manage Configuration Item Status, SLA, and event-based alerts and how to send HP Business Availability Center alerts to the EMS console.

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How This Guide Is Organized

The guide contains the following parts:

Part I User Reports

Describes how to create, administer, and view user reports, which enable tracking of specific performance issues relevant to your organization or business unit's performance monitoring needs.

Part II Alerts

Describes the process of creating and maintaining Configuration Item Status alerts, SLA alerts, and event-based alerts, recipients, and alert dependencies.

Part III Send Alerts to Third-Party Applications

Describes how to integrate HP Business Availability Center with different EMS applications and how to send HP Business Availability Center alerts to the EMS console.

Who Should Read This Guide

This guide is intended for the following users of HP Business Availability Center:

- HP Business Availability Center administrators
- HP Business Availability Center application administrators
- HP Business Availability Center end users

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

Getting More Information

For a complete list of all online documentation included with HP Business Availability Center, additional online resources, information on acquiring documentation updates, and typographical conventions used in this guide, see the the *HP Business Availability Center Deployment Guide* PDF.

Part I

User Reports

1

Introducing User Reports

This chapter introduces user reports, which enable you to track the specific performance issues that are relevant to your organization or business unit's performance monitoring needs.

This chapter describes:	On page:
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About User Reports

HP Business Availability Center enables you to create and save user reports—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. For an overview of creating user reports, see "Creating User Reports" on page 19.

Once saved, the reports are available for viewing by all system users with appropriate permissions. For an overview of viewing user reports, see "Viewing User Reports" on page 20.

You configure and view user reports from the User Reports tab, accessed from the Service Level Management, End User Management, and System Availability Management applications. For an overview of permissions required to create and view user reports, see "Permissions in User Reports" on page 21.

For tips on working with user reports, see "Usage Tips" on page 22.

For details on working with reports (choosing the time range, selecting the profile, saving and sharing reports, and so on), see "Working in Reports" in *Reference Information*.

Creating User Reports

You can create user reports using the following tools, available from the User Reports tab:

- **Custom Report Manager.** Enables creating custom reports, which are made up of components that you select and define. Components are specific reports from the various HP Business Availability Center applications. You select the components that enable you to focus on the data you are most interested in tracking. For details, see Chapter 2, "Custom Report Manager."
- **Trend Report Manager.** Enables creating trend reports, which are made up of different measurements that you select and define, collected by HP Business Availability Center or third-party data collectors. Trend reports enable you to compare multiple measurements from several sources on the same graph. For details, see Chapter 4, "Trend Report Manager."
- **Custom Query Builder.** Enables creating reports based on queries that extract data from the profile database. 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. For details, see Chapter 5, "Custom Query Builder."
- **Custom Link Manager.** Enables creating custom link reports, which enable you to define a URL that is called via HP Business Availability Center and whose returned results are displayed in the browser, within the HP Business Availability Center interface. For details, see Chapter 6, "Custom Link Manager."
- **Excel Reports.** Enable utilization of Microsoft Excel's charting abilities to display various types of data collected by HP Business Availability Center data collectors. The data is extracted from the database using the HP Business Availability Center Open API. For details, see Chapter 7, "Integrating Microsoft Excel Reports in HP Business Availability Center."

Once defined, user reports can be further tailored with custom headers and footers. For details, see Chapter 8, "Default Header/Footer."

Viewing User Reports

You view user reports from the following contexts, accessed from the User Reports tab in Service Level Management, End User Management, and System Availability Management:

- **Reports List page.** Displays all the defined custom reports, trend reports, and custom links that have been defined in the system, that the current user has permissions to view. The name of the owner of each report (that is, the user that created the report) is also displayed.

  From the Custom Reports and Trend Reports tables, you can generate, edit (if such permissions are granted), and schedule reports.

  From the Custom Links table, you can display a Web page in the same browser window.

  For details on using the Reports List page, see Chapter 9, "Report Lists."

- **Excel Reports page.** Displays links to Excel reports that have been uploaded to HP Business Availability Center. You view Excel reports in Microsoft Excel or any spreadsheet program capable of reading files of **.xls** format.

  For details on creating Excel reports, see Chapter 7, "Integrating Microsoft Excel Reports in HP Business Availability Center."

- **Report Repository page.** Displays reports saved to the report repository. You can search for and view reports that have been saved in the report repository. You can view saved reports in Dashboard, Service Level Management, and End User Management. For details, see Chapter 10, "Report Repository."

Permissions in User Reports

The following permission guidelines apply to creating and viewing user reports:

- All users have permissions to create custom reports, trend reports, and custom links for themselves.
- The Custom Query component in custom reports can only be edited by users with Administrator or Superuser permissions (in HP Managed Software Solutions, Customer Administrator or Customer Superuser permissions).
- For users other than the report creator to view custom reports, trend reports, and custom links on the Reports List page (or have other permissions on the reports), such permissions must be granted by an administrator. Permissions can be granted on the report level.
- Permissions must be granted for viewing, adding, editing, or deleting Excel reports on the Excel Reports list. Permissions can only be granted on the list level.
- To access the Custom Query Builder page, a user must have Administrator or Superuser permissions. The Custom Query Builder page is not available to HP Managed Software Solutions customers.
- Permissions must be granted for defining a default header/footer.
- Permissions to view a report saved to the report repository depend on whether, while saving the report to the repository, the user selected the **Public** or **Private** flag. Reports flagged as public can be viewed by all users. Reports flagged as private can be viewed by the user who saved the report to the repository and by users with Superuser permissions.

Note to HP Managed Software Solutions customers: If a report is flagged as **Private**, only the user, superuser, operator, customer superuser, and customer administrator can view, edit, or delete the report from the repository.

Usage Tips

- When naming entities in user reports, follow the guidelines for allowed names. For details, see "Naming Conventions" in *Reference Information*.
- You can instruct HP Business Availability Center to e-mail, on a periodic basis, certain types of user reports to recipients defined in HP Business Availability Center. For details, see "Scheduled Reports" in *Platform Administration*.

2

Custom Report Manager

This chapter explains how to create custom reports that include components—individual application reports that enable you to focus on the data you are most interested in tracking.

This chapter describes:	On page:
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Overview of Custom Reports

The Custom Report Manager is accessed from the User Reports tab in the Service Level Management, End User Management, or System Availability Management applications.

Each custom report can consist of components from different HP Business Availability Center applications. You select components from the relevant applications, and then 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.

You generate custom reports from the Custom Reports table on the Reports List page, accessed from the User Reports tab in the Service Level Management, End User Management, or System Availability Management applications. Reports are listed in alphabetical order.

Limitations

- Within any one specific component, HP Business Availability Center can display only those profiles that have the same settings for outlier values. In the Custom Report Manager, you should select a set of profiles that have the same setting for outlier values. For details on modifying outlier value settings for a profile, see "Transaction Threshold Settings" 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.

Workflow for Creating Custom Reports

Use the following workflow to create a custom report:

1. Create the custom report and give it a name. For details, see "Defining Custom Report Properties" on page 25.
2. Choose the application components to add to the report. For details, see "Adding a Component to a Report" on page 27.

Note: Steps 3 and 4 are optional.

---

3. Filter a report component to display specific objects only. For details, see "Filtering Report Components" on page 49.
4. Add a header and footer to the report. For details, see "Defining a Header and Footer for a Custom Report" on page 51.
5. Click the **Preview** button to preview the custom report you have chosen.
6. Save the report.
7. View the report in the Reports List. For details, see "Report Lists" on page 113.

   You can create a copy of the custom report by clicking the **Clone** button in the Reports List and following steps 1 through 6 above.

Defining Custom Report Properties

To define a custom report, you specify report properties.

To specify custom report properties:

1. From the User Reports tab in **Applications > Service Level Management**, **End User Management**, or **System Availability Management**, select **Custom Report Manager**.
2. In the Custom Report Manager, click **New** to open the Custom Report Properties window.

3 In the **Report title** box, enter a descriptive name for the report.

4 Click the **Report name** box. To specify a name that is different from the report title, replace the default name. This is the name that then appears in the Custom Reports section, on the Reports List page.

5 In the **Time Period** area, select a method for time range display for the report. Choose one of the following options:

- **Use global settings for all components.** One time range is applied to all report components.
- **Enable time period per component.** Different time ranges are applied to each report component.

6 In the **Report Auto-Refresh Settings** section, select a refresh rate for the report, or specify that the page should not refresh automatically.

7 Select **Insert a page break after each component when printing the report** to print a report in which each component's information starts on a new page.

Note: This feature is available only when running HP Business Availability Center on Microsoft Internet Explorer.

---

8 Click **OK** to register the custom report properties. The custom report properties are not saved until after you add at least one component and click **Save**.

The next stage in the procedure is to add a component to the report. Continue to the next section.

Adding a Component to a Report

The procedure for adding a component differs depending on the component type.

This section explains how to add a component, and includes the following topics:

- "Reports Component" on page 27
- "Real User Monitor Component" on page 31
- "Real User Monitor (Old) Component" on page 33
- "Service Oriented Architecture Component" on page 33
- "Service Level Management Component" on page 35
- "Business Dashboard Component" on page 37
- "URL Component" on page 39
- "Service Report Builder Component" on page 41
- "Triage Report Component" on page 42
- "General Component" on page 43
- "SiteScope Monitor Performance Component" on page 44
- "SiteScope Cross-Performance Component" on page 46

Reports Component

Adds the Reports component to the custom report you are creating.

To add a Reports component:

1. Select **Reports** from the **Component type** list.
2. Click **Add Component** to open the Add Component dialog box.

3 From the **Category** list, select a report category.

Category	Available Reports
Alert Reports (available for all profiles)	"Alert Count over Time Report" in *Custom Reporting and Alerting*
	"Alert Count by Severity Report" in *Custom Reporting and Alerting*
	"Alert Log Report" in *Custom Reporting and Alerting*
Performance Update Reports (available for Business Process profile)	Performance Update Summary Performance of Locations Performance of Transactions Transaction Availability For details, see "The Performance Update Report" in *Platform Administration*.
SiteScope Reports (available for SiteScope profiles)	"Overall Performance Report" in *Using System Availability Management*
	"SiteScope Data Over Time" in *Using System Availability Management*
	SiteScope Profile Summary. For details, see "Group Performance Report" in *Using System Availability Management*

Category	Available Reports
User Experience Reports (available for Business Process profile)	"Availability Over Time Report" in *Using End User Management*
	"Breakdown Over Time Report" in *Using End User Management*
	"Breakdown Summary Report" in *Using End User Management*
	"Min./Max. Response Time Report" in *Using End User Management*
	Overall Performance by Profiles. For details, see "Multi-Profile Summary Report" in *Using End User Management*.
	Overall Performance of 3 Worst Locations (multi-profile). For details, see "Performance of Locations" in *Using End User Management*
	Overall Performance of 3 Worst Profiles (multi-profile). For details, see "Multi-Profile Summary Report" in *Using End User Management*
	"Performance Matrix Report" in *Using End User Management*
	"Profile Summary Report" on page 56
	"Response Time – 90th Percentile Report" on page 57
	"Response Time Over Time Report" in *Using End User Management*
	"Response Time by Percentile Report" in *Using End User Management*

4 From the **Type** list, select a report that you want to appear in the custom report. The available reports differ, depending on the selected category.

5 From the **View as** list, select **Graph** or **Table**, depending on the format in which you want HP Business Availability Center 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.

6 From the **Profile** list, select the profile on which you want the custom report data to be based. For certain reports you can select multiple profiles.

HP Business Availability Center displays different types of profiles (Business Process Monitor, Real User Monitor, or SiteScope), depending on the report category you select.

7 In the **Title** box, type the descriptive title that you want to appear above the component in the custom report, or accept the default name.

It is recommended that you use a title that describes the specific elements upon which the component will focus (for example, a particular transaction from a particular location).

8 If you selected **Enable time period per component** when defining the report properties, select the time period for which HP Business Availability Center initially generates the report in the **Interval** list. For details, see "Defining Custom Report Properties" on page 25.

In the **Start** list, select a starting time for the component.

9 In the **Size** section, select the size for the component. Select **Wide** to display the report across the whole page. Select **Narrow** to display the report across half the page.

10 In the **Position** list, select the position for the component within the custom report, relative to the other components. Selecting **1** instructs HP Business Availability Center to place the component at the top (for the first component, you must select **1**).

For a component to appear in the Narrow format, you must have two Narrow components positioned consecutively.

11 Click **OK** to save the component settings.

12 Click **Preview** to preview the custom report.

13 Click **Save** to save the custom report.

The next stage in the procedure is to add another component ("Adding a Component to a Report" on page 27) or to filter report components ("Filtering Report Components" on page 49).

Real User Monitor Component

Enables you to choose Real User Monitor reports to add to the Custom Report.

To add a Real User Monitor component:

1 Select **Real User Monitor** from the **Component type** list.

2 Click **Add Component** to open the Add Component dialog box.

3 From the **Report** list, select a report.

Category	Available Reports
Data Over Time	"Transaction Over Time Report" in End User Management
End User Summary	"End User Summary Report" in End User Management
End Users by Page	"End Users by Page Report"in End User Management
End Users by Transaction	"End Users by Transaction Report" in End User Management
Event Analysis	"Event Analysis Report" in End User Management.
Event Count Over Time	"Event Count Over Time Report" in End User Management.
Event Summary	"Event Summary Report" in End User Management.
Page Summary	"Page Summary Report" in End User Management.
Server Summary	"Server Summary Report" in End User Management.
Server Over Time	"Server Over Time Report" in End User Management.
Transaction Summary	"Transaction Summary Report" in End User Management

4 In the **Title** box, type the descriptive title that you want to appear above the component in the custom report, or accept the default name.

It is recommended that you use a title that describes the specific elements upon which the component will focus (for example, a particular transaction from a particular location).

5. If you selected **Enable time period per component** when defining the report properties, select the start time for which HP Business Availability Center initially generates the report in the **Interval** list. For details, see "Defining Custom Report Properties" on page 25.

   The Interval list is not available for all reports.

   In the **Start** list, select a starting time for the component.

6. From the **View as** list, select **Graph** or **Table**, depending on the format in which you want HP Business Availability Center to display the report. These options are not available for all reports.

7. In the **Size** section, select the size for the component. Select **Wide** to display the report across the whole page. Select **Narrow** to display the report across half the page.

8. In the **Position** list, select the position for the component within the custom report, relative to the other components. Selecting **1** instructs HP Business Availability Center to place the component at the top of the page (for the first component, there is no choice).

9. Click **OK** to save the component settings.

10. If necessary, click the **Component Filter** button to specify the component active filters. For details, see "Active Filters Dialog Box" in *Using End User Management*.

11. Click **Preview** to preview the custom report.

12. Click **Save** to save the custom report.

    The next stage in the procedure is to add another component ("Adding a Component to a Report" on page 27) or to filter report components ("Filtering Report Components" on page 49).

Real User Monitor (Old) Component

Adds the Global Statistics Real User Monitor reports to the custom report.

Category	Available Reports
Broken Links	"Broken Links" in Real User Monitor Reports User Interface
Most Active End Users	"Most Active End Users" in Real User Monitor Reports User Interface
Most Popular Pages	"Most Popular Pages" in Real User Monitor Reports User Interface
Pages with Most Errors	"Pages with Most Errors" in Real User Monitor Reports User Interface.
Pages with Slowest Server Time	"Pages with Slowest Server Time" in Real User Monitor Reports User Interface.
Slowest End Users	"Slowest End Users" in Real User Monitor Reports User Interface.

Service Oriented Architecture Component

Adds the Service Oriented Architecture Component to the custom report you are creating.

To add a Service Oriented Architecture component:

1. Select **Service Oriented Architecture** from the **Component type** list.
2. Click **Add Component** to open the Add Component dialog box.
3. From the **Report** list, select a report.

Category	Available Reports
Consumer Summary Report	"Consumer Summary Report" in *Solutions and Integrations*
Health Report	"Health Report" in *Solutions and Integrations*
Metrics Over Time Report	"Metrics Over Time Report" in *Solutions and Integrations*

Category	Available Reports
Server Summary Report	"Server Summary Report" in *Solutions and Integrations*
Top Metrics Report	"Top Metrics Report" in *Solutions and Integrations*

4 In the **Title** box, type the descriptive title to appear above the component in the custom report, or accept the default name.

Tip: It is recommended that you use a title that describes the specific elements upon which the component will focus (for example, a particular transaction from a particular location).

---

5 From the **View as** list, select **Graph** or **Table**, depending on the format in which you want HP Business Availability Center to display the report.

6 If you selected **Enable time period per component** when defining the report properties, select the default time period for which HP Business Availability Center initially generates the report in the **Interval** list. For details, see "Defining Custom Report Properties" on page 25.

7 In the **Size** section, select the size for the component. Select **Wide** to display the report across the whole page. Select **Narrow** to display the report across half the page.

8 From the **Position** list, select the position for the component within the custom report, relative to the other components. Selecting **1** instructs HP Business Availability Center to place the component at the top (for the first component, there is no choice).

For a component to appear in the Narrow format, you must have two Narrow components positioned consecutively.

9 Click **OK** to save the component settings.

10 Click **Preview** to preview the custom report.

11 Click **Save** to save the Custom Report.

The next stage in the procedure is to add another component to the report ("Adding a Component to a Report" on page 27) or to filter report components ("Filtering Report Components" on page 49).

Service Level Management Component

Adds the Service Level Management component to the custom report you are creating. For details on Service Level Management reports, see "About Service Level Management Reports" in *Using Service Level Management*.

Note: When the custom report is set to **Use global settings for all components**, and 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, then the following message is displayed upon report generation: "No associated tracking periods exist."

To add a Service Level Management report component:

1. Select **Service Level Management** from the **Component type** list.
2. Click **Add Component** to open the Add Component dialog box.
3. From the **Report** list, select the specific report that you want to appear in the custom report.

Category	Available Reports
CI Impact	"CI Impact Report" in *Using Service Level Management*
CIs Over Time vs. Target	"CI Over Time vs. Target Report" in *Using Service Level Management*
CI Status	"CI Status Report" in *Using Service Level Management*
CI Summary	"CI Summary Report" in *Using Service Level Management*
CIs Over Time	"CIs Over Time Report" in *Using Service Level Management*

Category	Available Reports
Outage Breakdown	"Outage Breakdown Report" in *Using Service Level Management*
Outage Distribution	"Outage Distribution Report" in *Using Service Level Management*
Outage Summary	"Outage Summary Report" in *Using Service Level Management*
SLA Alerts	"Working with Service Level Management Reports: Examples" in *Using Service Level Management*
SLA Status	"SLA Status Report" in *Using Service Level Management*
SLAs Summary	"SLAs Summary Report" in *Using Service Level Management*
Time Range Comparison	"Time Range Comparison Report" in *Using Service Level Management*

4. In the **Title** box, type the descriptive title that you want to appear above the component in the custom report, or accept the default name.
5. From the **View as** list, select **Graph** or **Table**, depending on the format in which you want HP Business Availability Center to display the report. These options are not available for all reports.
6. In the **Size** section, select the size for the component. Select **Wide** to display the report across the whole page. Select **Narrow** to display the report across half the page.
7. From the **Position** list, select the position for the component within the custom report, relative to the other components. Selecting **1** instructs HP Business Availability Center to place the component at the top (for the first component, there is no choice).

   For a component to appear in the Narrow format, you must have two Narrow components positioned consecutively.
8. Click **OK** to save the component settings.
9. Click **Preview** to preview the custom report.
10. Click **Save** to save the custom report.

The next stage in the procedure is to add another component ("Adding a Component to a Report" on page 27) or to filter report components ("Filtering Report Components" on page 49).

Note: For a Time Range Comparison component, 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**, then the available time ranges include **Global Time**. The global time range is determined by the time range selected when the report is generated, or by the time range set by the report schedule (see "Viewing Custom Reports" on page 114).

Business Dashboard Component

Adds the Business Dashboard component to the custom report you are creating.

Note: To see data in the report, after adding Business Dashboard components, you must select CIs and KPIs in the filter.

To add a Business Dashboard component:

1. Select **Business Dashboard** from the **Component type** list.
2. Click **Add Component** to open the Add Component dialog box.
3. From the **Report** list, select a report.

Category	Available Reports
KPIs Distribution Over Time	"KPIs Distribution Over Time Report" in *Using Dashboard*

Category	Available Reports
KPIs Summary	"KPIs Over Time Report" in *Using Dashboard*
KPIs Trend	"KPIs Trend Report" in *Using Dashboard*

4 In the **Title** box, type the descriptive title that you want to appear above the component in the custom report, or accept the default name.

It is recommended that you use a title that describes the specific elements upon which the component will focus (for example, a particular transaction from a particular location).

5 Select the required **Size** option:

- **Wide** to display the report across the whole page
- **Narrow** to display the report across half the page

6 In the **Position** list, select the position for the component within the custom report, relative to the other components. Selecting **1** instructs HP Business Availability Center to place the component at the top (for the first component, you must select **1**).

7 Click **OK** to save the component settings.

8 Click **Preview** to preview the custom report.

The next stage in the procedure is to add another component ("Adding a Component to a Report" on page 27) or to filter report components ("Filtering Report Components" on page 49).

URL Component

Select the URL component to create a report that calls a specified URL. 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.

HP Business Availability Center 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.

The following example shows a URL that uses parameters to return the chart type and start time of a report:

```
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 will display an "access denied" error. To avoid this issue, set the browser to ignore JavaScript errors.

To add a URL component:

1. Select **URL** from the **Component type** list.
2. Click **Add Component** to open the Add Component dialog box.
3. In the **Title** box, type the descriptive title that you want to appear above the component in the custom report.
4. In the **URL** box, type the URL of the Web page you want HP Business Availability Center to display in the report. If the URL includes parameters, specify them as required.

5 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**.

6 If you selected **Enable time period per component** when defining the report properties, select the default time period for which HP Business Availability Center initially generates the report in the **Interval** list. For details, see "Defining Custom Report Properties" on page 25.

In the **Start** list, select a starting time for the component.

7 In the **Width** and **Height** boxes, select the frame size for the component. When doing so, keep in mind the required frame size for correctly viewing the Web page content being accessed.

8 In the **Size** section, select the size for the component. Select **Wide** to display the report across the whole page. Select **Narrow** to display the report across half the page.

When selecting the component size, keep in mind the frame size you specified in step 7 on page 40.

9 From the **Position** list, select the position for the component within the custom report, relative to the other components. Selecting **1** instructs HP Business Availability Center to place the component at the top (for the first component, there is no choice).

For a component to appear in the Narrow format, you must have two Narrow components positioned consecutively.

10 Click **OK** to save the component settings.

11 Click **Preview** to preview the custom report.

12 Click **Save** to save the custom report.

The next stage in the procedure is to add another component ("Adding a Component to a Report" on page 27) or to filter report components ("Filtering Report Components" on page 49).

Service Report Builder Component

Adds the Service Report Builder Component to the custom report you are creating. The Service Report Builder enables you to construct customized reports for Service Level Management and Dashboard.

To add a Service Report Builder Component:

1 Select **Service Report Builder** from the **Component type** list.

2 Click **Add Component** to open the Add Component dialog box.

3 In the **Title** box, type the descriptive title that you want to appear above the component in the custom report.

4 In the **URL** box, type the URL of the Web page you want HP Business Availability Center to display in the report. If the URL includes parameters, specify them as required.

5 In the **Size** section, select the size for the component. Select **Wide** to display the report across the whole page. Select **Narrow** to display the report across half the page.

When selecting the component size, keep in mind the frame size you specified in step 7 on page 40.

6 From the **Position** list, select the position for the component within the custom report, relative to the other components. Selecting **1** instructs HP Business Availability Center to place the component at the top (for the first component, there is no choice).

For a component to appear in the Narrow format, you must have two Narrow components positioned consecutively.

7 Click **OK** to save the component settings.

8 Click the **Component Filters** button to configure parameters for the Service Report Builder Component. For details, see “Service Report Builder Wizard” on page 154 in My BAC.

9 Click **Preview** to preview the custom report.

10 Click **Save** to save the custom report.

The next stage in the procedure is to add another component ("Adding a Component to a Report" on page 27) or to filter report components ("Filtering Report Components" on page 49).

Note: The **export to CSV** capability for this report component is not supported.

Triage Report Component

Adds the Triage Report component to the custom report you are creating. The Triage Report displays transaction data for Business Process Monitor and Real User Monitor profiles for the past day.

To add a Triage Report component:

1 Select **Triage Report** from the **Component type** list.

2 Click **Add Component** to open the Add Component dialog box.

3 In the **Title** box, type the descriptive title to appear above the component in the custom report, or accept the default name.

4 If you selected **Enable time period per component** when defining the report properties, the start time will be defined in the reports filter. If you selected the default **Use global settings for all components** option, the start time is defined according to the global settings.

5 In the **Size** section, select the size for the component. Select **Wide** to display the report across the whole page. Select **Narrow** to display the report across half the page.

6 From the **Position** list, select the position for the component within the custom report, relative to the other components. Selecting **1** instructs HP Business Availability Center to place the component at the top (for the first component, there is no choice).

For a component to appear in the Narrow format, you must have two Narrow components positioned consecutively.

7 To save the component settings, click **OK**.

8 Click **Preview** to preview the custom report.

9 Click **Save** to save the custom report.

The next stage in the procedure is to add another component to the report ("Adding a Component to a Report" on page 27) or to filter report components ("Filtering Report Components" on page 49).

General Component

Adds the General Component to the custom report you are creating. The General Component includes the KPIs over time report and the Configuration Items Status Alerts report.

To add a General Report component:

1 Select **General Report** from the **Component type** list.

2 Click **Add Component** to open the Add Component dialog box.

3 In the **Report** list, select the specific report that you want to appear in the Custom Report.

Category	Available Reports
Configuration Item Status Alerts	"CI Status Alerts User Interface" in *Custom Reporting and Alerting*
KPIs Over Time	"KPIs Over Time Report" in *Using Dashboard*

4 In the **Title** box, type the descriptive title to appear above the component in the custom report, or accept the default name.

5 If you selected **Enable time period per component** when defining the report properties, the start time is defined in the reports filter. If you selected the default **Use global settings for all components** option, the start time is defined according to the global settings.

6 In the **Size** section, select the size for the component. Select **Wide** to display the report across the whole page. Select **Narrow** to display the report across half the page.

7 From the **Position** list, select the position for the component within the custom report, relative to the other components. Selecting **1** instructs HP Business Availability Center to place the component at the top (for the first component, there is no choice).

For a component to appear in the Narrow format, you must have two Narrow components positioned consecutively.

8 To save the component settings, click **OK**.

9 Click **Preview** to preview the custom report.

10 Click **Save** to save the custom report.

The next stage in the procedure is to add another component to the report ("Adding a Component to a Report" on page 27) or to filter report components ("Filtering Report Components" on page 49).

SiteScope Monitor Performance Component

Select the SiteScope Monitor Performance component to add the Monitor Performance report to the custom report you are creating. The Monitor Performance report enables you to view the best- or worst-performing SiteScope monitors across various SiteScope categories, such as monitor type, monitored server, or monitor title.

For details on the Monitor Performance report, see "Monitor Performance Report" in *Using System Availability Management*.

To add a SiteScope Monitor Performance component:

1 Select **SiteScope Monitor Performance** from the **Component type** list.

2 Click **Add Component** to open the Add Component dialog box.

3 From the **Profile** list, select the SiteScope profile(s) on which you want the custom report data to be based.

4 From the **Monitor type** list, select the monitor on which you want the custom report data to be based. To base the report on all monitors, choose **All types**.

5 In the **Monitor title** and **Server name** boxes, specify the monitors (by their title, as defined in SiteScope) and/or servers on which you want the custom report data to be based.

Leave a box empty to instruct HP Business Availability Center to base the report on all values.

You can use the asterisk symbol (*) as a wildcard to instruct HP Business Availability Center 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 instruct HP Business Availability Center 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 HP Business Availability Center is unable to use the Index tables when querying the database, thus slowing report generation times.

---

6 In the **Display** list, select whether you want HP Business Availability Center to display the best- or worst-performing monitors, and choose the number of monitors to be displayed in the report in the **Monitors** list.

7 In the **Title** box, type the descriptive title to appear above the component in the custom report, or accept the default name.

8 If you selected **Enable time period per component** when defining the report properties, select the default time period for which HP Business Availability Center initially generates the report in the **Interval** list. For details, see "Defining Custom Report Properties" on page 25.

In the **Start** list, select a starting time for the component.

9 In the **Size** section, select the size for the component. Select **Wide** to display the report across the whole page. Select **Narrow** to display the report across half the page.

10 From the **Position** list, select the position for the component within the custom report, relative to the other components. Selecting **1** instructs HP Business Availability Center to place the component at the top (for the first component, there is no choice).

For a component to appear in the Narrow format, you must have two Narrow components positioned consecutively.

11 Click **OK** to save the component settings.

12 Click **Preview** to preview the custom report.

13 Click **Save** to save the custom report.

The next stage in the procedure is to add another component ("Adding a Component to a Report" on page 27) or to filter report components ("Filtering Report Components" on page 49).

SiteScope Cross-Performance Component

Select the SiteScope Cross-Performance component to add SiteScope Cross-Performance reports to the custom report that you are creating. The SiteScope Cross-Performance reports display the behavior of the same measurement in different monitored servers, or the behavior of different measurements from different types of monitors on the same monitored server.

They also display a table view for each monitor type. The table view displays the measurement name, date and time, and value of the monitor being measured, in table format.

For details on the Cross-Performance report, see "Cross-Performance Report" in *Using System Availability Management*.

To add a SiteScope Cross-Performance component:

1 Select **SiteScope Cross-Performance** from the **Component type** list.

2 Click **Add Component** to open the Add Component dialog box.

3 In the **Title** box, type the descriptive title to appear above the component in the custom report, or accept the default name.

4 Select whether to view the report in graph or table format from the **View as** list.

5 If you selected **Enable time period per component** when defining the report properties, the start time is defined in the reports filter. If you selected the default **Use global settings for all components** option, the start time is defined according to the global settings.

6 In the **Size** section, select the size for the component. Select **Wide** to display the report across the whole page. Select **Narrow** to display the report across half the page.

7 From the **Server** list, select the SiteScope server(s) on which you want the custom report data to be based.

8 Depending on whether you chose **Filter by Monitor Type** or **Filter by Monitor**, the **Monitor Types/Monitor Titles** list displays monitor types or monitor names, associated with the selected profiles and servers, in alphabetical order. Select one or more monitors.

9 From the **Measurement** list, select the measurement(s) on which you want the custom report data to be based.

Note: If a box is empty, you cannot generate the report.

Enter a string in one of the **Contains** boxes and click on the filter button , to list all the elements whose name includes the string.

---

10 Select **Consolidate data per measurement** if you want the report to group data per measurement, for all the selected servers. If you clear **Consolidate data per measurement**, the report groups data per server. For details, see "Graph Per Measurement" and "One Graph for All Measurements" in *Using System Availability Management*.

11 Select **Show status summary tables** if you want the report to display uptime, warning, and error summary tables.

12 From the **Position** list, select the position for the component within the custom report, relative to the other components. Selecting **1** instructs HP Business Availability Center to place the component at the top (this is the default for the first component).

For a component to appear in the Narrow format, you must have two Narrow components positioned consecutively.

13 Click **OK** to save the component settings.

14 Click **Preview** to preview the custom report.

15 Click **Save** to save the custom report.

The next stage in the procedure is to add another component ("Adding a Component to a Report" on page 27) or to filter report components ("Filtering Report Components" on page 49).

Adding a Custom Query Component to a Report

Select the Custom Query component to build an API query that returns a tabular or graphical representation of the data retrieved from the database. The Custom Query component user interface is similar to that of the Custom Query Builder. For details on the Custom Query Builder, see "Custom Query Builder" on page 77.

To add an Custom Query component:

1 Select **Custom Query** from the **Component type** list.

2 Click **Add Component** to open the Add Component dialog box.

3 In the **Title** box, type the descriptive title to appear above the component in the custom report, or accept the default name.

4 If you selected **Enable time period per component** when defining the report properties, select the default start time from which HP Business Availability Center initially calculates the report. For details, see "Defining Custom Report Properties" on page 25.

5 In the **Size** section, select the size for the component. Select **Wide** to display the report across the whole page. Select **Narrow** to display the report across half the page.

6 From the **Position** list, select the position for the component within the custom report, relative to the other components. Selecting **1** instructs HP Business Availability Center to place the component at the top (for the first component, there is no choice).

For a component to appear in the Narrow format, you must have two Narrow components positioned consecutively.

7 Click **OK** to save the component settings.

To define the Custom Query call to the database:

Click the **Component Filter** button to define the query parameters using the Custom Query Builder interface. For detailed information on creating queries with the Custom Query Builder interface, see "Custom Query Builder" on page 77.

Filtering Report Components

You can filter reports so that they display certain objects only (for example, certain transactions, locations, or groups).

To set a component's active filter settings:

1 In the Custom Report Manager page, click the **Component Filters** button. HP Business Availability Center opens the Component Filters window or the Active Filters window, depending on the type of report.

Active filters are only available for certain component types. Note, too, that you can filter a Service Level Management report so that it includes transactions for specific locations and groups.

If a component is one of the Global Statistics reports in the Real User Monitor (Old) component, the **Component Filter** button does not appear in the report.

For details on filtering Custom Query components, see "Custom Query Builder" on page 77.

2 If available, select the profile whose active filters you want to modify.

The Component Filters window does not display:

- transactions, locations, or groups that are excluded in the Report Filters or Global Report Filters pages for the current user
- measurements in SiteScope groups that the current user does not have permissions to view

For details on setting report filters, see "Configuring Report Filters Globally" in *Platform Administration*, "Report Filters" in *Using End User Management*, and "Active Filters Dialog Box" in *Using End User Management*.

Note: For a Time Range Comparison (Service Level Management) component, 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**, then the available time ranges include **Global Time**. The global time range is determined by the time range selected when the report is generated, or by the time range set by the report schedule (see "Viewing Custom Reports" on page 114).

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3 If available, select a default view from the **View by** list.

For the Triage report, select the day for which you want to display data.

4 Select or clear the active filter check boxes as required.

To include all items, select **Include all**. When **Include all** is selected, you cannot select or clear individual items.

5 Click **OK** to save the settings.

6 Click **Save** to save 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.

Notes

- If the current user does 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, the user cannot edit component filters.
- After creating a custom report, 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.

The next stage in the procedure is to optionally define a header and footer. To do so, continue to the next section.

Defining a Header and Footer for a Custom Report

You can add a custom header or footer to custom reports that you create. A custom header or footer overrides any default header or footer defined on the Default Header/Footer page. For details, see Chapter 8, "Default Header/Footer."

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.

HP Business Availability Center adds the HTML header to the report below the report title. HP Business Availability Center adds the HTML footer at the end of the report, immediately before closing the **body** tag.

Note: Use caution when marking up the header and footer fields, as some HTML code may affect the behavior of HP Business Availability Center. 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 HP Business Availability Center does not perform any validity checks on the header and footer content.

To define a custom header or footer:

1. In the Custom Report Manager, select **Header/Footer** to open the Report Header and Footer window.
2. To define a custom header, type the required text and HTML code into the **Header HTML** box.
3. To define a custom footer, type the required text and HTML code into the **Footer HTML** box.
4. Click **OK** to save the header and/or footer.
5. Click **Save** to save the settings.

To remove a custom header or footer:

1. In the Custom Report Manager, select **Header/Footer** to open the Report Header and Footer window.
2. To remove a custom header, delete the contents of the **Header HTML** box.
3. To remove a custom footer, delete the contents of the **Footer HTML** box.
4. Click **OK**.
5. Click **Save** to save the settings.

Modifying a Custom Report

You can modify components for which you have relevant permissions, using the Custom Report Manager.

Note: Permissions are granted by system administrators and can be enabled or revoked at any time. Thus, permissions to modify a custom report that you create could be removed by the administrator at a later time.

To edit a component:

1. Click the **Edit Component** button to open the Edit Component window. Modify the settings as required, and click **OK**. For details on the Edit Component window, see "Adding a Component to a Report" on page 27.
2. Click **Save** to save the settings.

To delete a component:

1. Click the **Delete Component** button and confirm that you want to delete the component.
2. Click **Save** to save the settings.

To modify a report:

1. From the **Report** list, select the report to edit.
2. Click the **Edit** button beside the report name to open the Custom Report Properties window.
3. Modify the **Report title**, **Menu name**, **Time Period**, or **Report Auto-Refresh Settings** as required.
4. Select **Insert a page break after each component when printing the report** when you want to print reports where each component information starts on a new page.

Note: This feature is available only on Internet Explorer.

To delete a report:

1. In the Custom Report Manager, select the report to delete from the **Report name** list.
2. Click the **Delete** button beside the report name and confirm that you want to delete the report.

3

Additional Custom Reports

This chapter describes reports that cannot be accessed directly from any application but that can be added to custom reports to provide additional information.

This chapter describes:	On page:
Overview of Additional Custom Reports	56
Profile Summary Report	56
Response Time – 90th Percentile Report	57

Overview of Additional Custom Reports

The additional custom reports display information about transaction response times and availability for Business Process Monitor profiles.

For details on working with reports (choosing the time range, selecting the profile, saving and sharing reports, and so on), see "Working in Reports" in *Reference Information*.

The following reports are available:

Category	Description	For Details, See...
Profile Summary Report	Displays an overview of the transaction response time and availability for each Business Process Monitor profile in the report.	page 56
Response Time – 90th Percentile Report	Displays, for each indicated point in time, the response time value that 90% of all measured response time values are equal to or below.	page 57

Profile Summary Report

The Profile Summary displays an overview of the transaction response time and availability for each Business Process or Client Monitor profile that you add to the report. For details, see "Workflow for Creating Custom Reports" on page 25.

If you apply active filters, only the selected transactions, locations, and groups are included.

Click the profile name to generate a Transaction Analysis report for the profile. For details, see "Transaction Analysis Report" in *Using End User Management*.

The Profile Summary uses the following color coding:

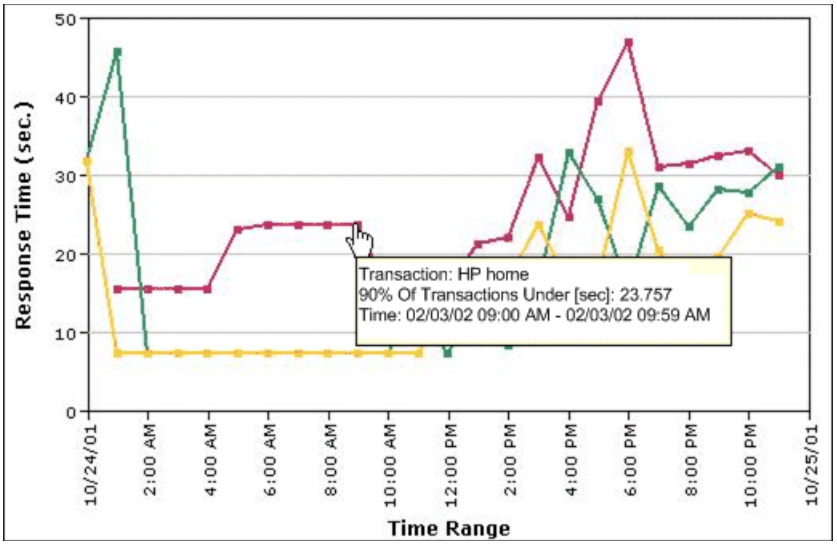
Color	Performance	Transaction Availability
Green	Each transaction's average response time fell within the OK threshold level.	No transactions failed.
Yellow	At least one transaction's average response time fell within the Minor threshold level, but no transaction's average response time fell within the Critical threshold level.	Not applicable.
Red	At least one transaction's average response time fell within the Critical threshold level.	At least one transaction failed.
Gray	No transaction data is defined.	Not applicable.

Response Time – 90th Percentile Report

The Response Time – 90th Percentile report does not appear in any application and can be added only to custom reports to provide additional information. For details, see "Workflow for Creating Custom Reports" on page 25.

The Response Time – 90th Percentile displays, for each indicated point in time, the specific response time value that 90 percent of all measured response time values are equal to or below. You can view the data in either chart or table format.

When calculating each point along the chart (or value in the table), HP Business Availability Center considers all transaction instances between the given point in time and the following point. For example, when displaying the report in the "Day" resolution, HP Business Availability Center divides the x-axis (or table) per hour. The value at each point along the chart (or in each cell in the table) represents the 90th percentile for the following hour.



In the above chart, 90% of the transactions that ran between 9:00 AM and 9:59 AM had response times equal to or below 23.757.

You add the Response Time – 90th Percentile report to custom reports using the Custom Report Manager. For details, see "Workflow for Creating Custom Reports" on page 25.

The Response Time – 90th Percentile data helps you identify response time problems and pinpoint their source. Because the data excludes response times above the 90th percentile (the highest 10 percent of response times), non-representative or non-typical transaction instances (for example, transactions that run during a server reboot) are eliminated. Thus, the data provides a more accurate picture of transaction performance over the defined time period.

By breaking down the data by transaction, location, or group across different time frames, you can identify exactly where and when transaction response times are too slow. For example, you might determine that response times in the 90th percentile for transactions from a specific location are consistently high over the course of several hours. This might indicate a problem somewhere along the network between that location and the monitored Web site.

You can further analyze the Response Time – 90th Percentile data as described below:

- place your cursor over any small square along the chart to view a tooltip containing details about the specific response time value that 90 percent of all response time values were equal to or below.
- modify the report time frame and click **Generate** to generate the modified report.
- drill down in the chart view. Click any time point in the chart to increase the time resolution for the selected transaction, location, or group. Click any drill down link to the right of the report, to focus on that transaction, location, or group.
- drill down in the table view. Click any link in a column or row header to focus on a specific time frame, transaction, location or group.
- select the table view in the Custom Report Manager to display the report in table format.

  The table displays, for each point in time, the specific response time value that 90 percent of all response time values were equal to or below. You can view the table broken down by transaction, location, or group.
- apply component filters in the Custom Report Manager. Click the **Component Filters** button, and select or clear check boxes to view the report filtered by specific transactions, locations, or groups.

4

Trend Report Manager

This chapter explains how to create trend reports. Trend reports enable you to compare multiple measurements from several profiles.

This chapter describes:	On page:
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Modifying Trend Report Measurements	70
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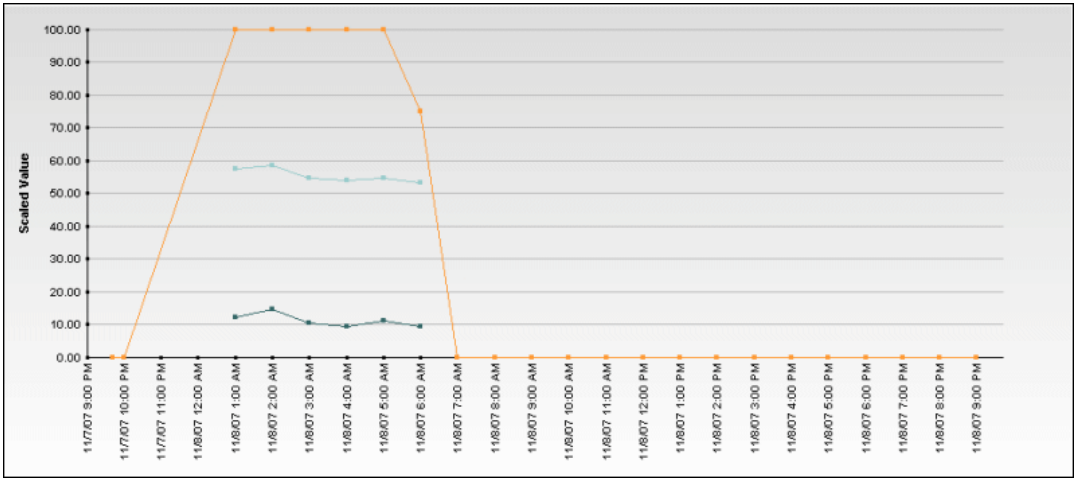
Overview of Trend Reports

Trend reports enable you to compare multiple measurements from several profiles collected by Business Process Monitor and SiteScope, including transaction response time and availability data and SiteScope data. In addition, you can add custom monitor data—including Real User Monitor data—to trend reports.

By combining measurements for several monitors on the same chart, you can analyze the relationship between transaction response time and availability, network and server health, and infrastructure machine performance over a selected time range.



The Trend Report Manager also enables you to compare the same set of measurements over two time periods (for example, you can compare measurements for the past hour and the hour before that).

You can also display data using different data aggregation methods and according to different groupings, and adjust the scale used when displaying a measurement. In addition, you can add a custom header and footer to the trend report, and you can view raw data when choosing a time range of two days or less.

You access the Trend Report Manager from the User Reports tab in the Service Level Management, End User Management, or System Availability Management applications.

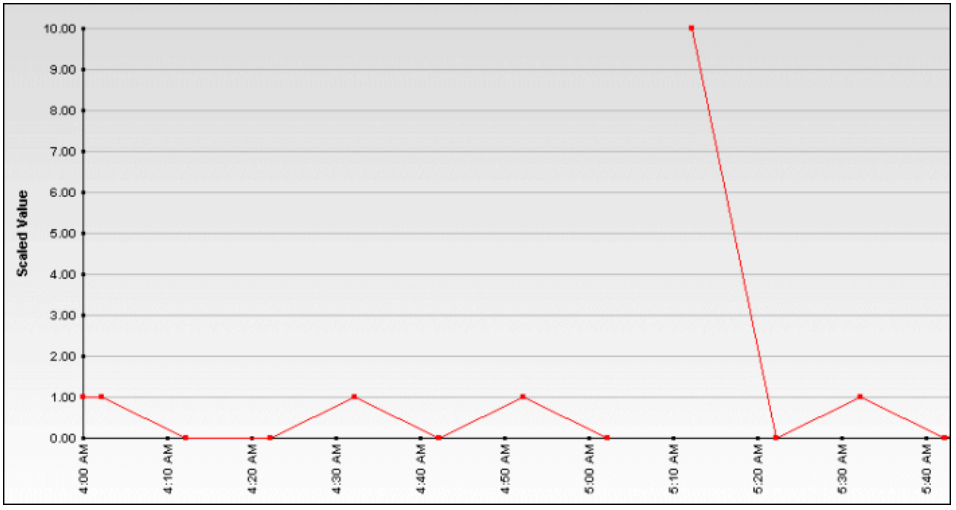
You generate trend reports from the Trend Reports table on the Reports List page, accessed from the User Reports tab in the Service Level Management, End User Management, or System Availability Management applications. For details, see "Viewing Trend Reports" on page 119.

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.

You can choose to view raw data on the given report by selecting the **Raw Data** option on the time period and granularity bar. There are several factors to keep in mind when choosing this option:

- 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.



When HP Business Availability Center generates the trend report, it displays data in time segments that differ depending on the time granularity you select in the time range bar. For details on using the time range bar, see "Choosing the Time Range and Granularity" in *Reference Information*.

Reports are listed in alphabetical order.

Workflow for Creating Trend Reports

Use the following procedure to create a trend report:

1. Create the trend report and give it a name. For details, see "Defining Trend Report Properties" on page 65.
2. Select measurements to add to the report. For details, see "Selecting Trend Report Measurements" on page 66.
3. This stage is optional. You can modify a measurement's name, color or scale. For details, see "Modifying Trend Report Measurements" on page 70.
4. Save the report. For details, see "Saving the Trend Report" on page 71.

Defining Trend Report Properties

You select multiple measurements to display in the trend report. You can add up to 20 measurements to a trend report.

Administrators can modify the maximum number of measurements displayed in a report. To modify this setting, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**. Select the **Applications** context and choose **End User Management/System Availability Management** from the list. Locate the **End User Management/System Availability Management - Data** table. Make the change to the value in the **Max Trend Report Measurements** setting.

To define a trend report:

1. From the User Reports tab in **Applications** > **Service Level Management**, **End User Management**, or **System Availability Management**, select **Trend Report Manager**.
2. Click **New** to open the Trend Report Properties window.
3. In the **Report title** box, type a descriptive name for the report.
4. Click the **Menu name** box. By default, the report title appears in this box too. To specify a menu name that is different from the report title, enter it in the Menu name box. This is the menu name that appears in the Trend Reports list.
5. To modify the title of the y-axis, specify the required value in the **Y-axis title** box. The text in this box is used for the Y-axis in report charts.

   By default, the trend report chart's y-axis uses a normalized scale to combine the different types of measurements. You can manually adjust the scale for individual measurements. For details, see "Adjusting the Trend Report Scale" on page 75.
6. Click **OK** to register the trend report properties. The trend report properties are not saved until after you add at least one measurement to the report and click **Save**.

   The next stage in the procedure is to select measurements. Continue to the next section.

Selecting Trend Report Measurements

When you create a trend report, you use a set of filters to select the measurements to display in the merged chart. These filters differ per monitor category.

To select measurements:

1 Click **Add Measurements** to add measurements to the trend report. HP Business Availability Center opens the Measurement Selection page.

2 Select a monitor type from the **Monitor type** list:

- **Business Process Monitor.** Transaction-related data collected by the Business Process Monitor.
- **WebTrace.** WebTrace or traceroute data collected by the Business Process Monitor.
- **SiteScope.** Infrastructure machine-related data collected by SiteScope.
- **Real User Monitor.** Network and server performance and availability data in real time collected by the Real User Monitor.

  Note that the data types listed under Real User Monitor (Pages, Transactions, End Users) are the same as the RUM Pages, RUM Transactions, and RUM End Users 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.

Depending on the monitor type you choose, HP Business Availability Center displays the filters listed in the table below to determine which measurements are to appear in the trend report. You must select an entry from each list.

To reduce the number of objects that are displayed in any list, enter a search string in the **Contains** box, and click the **Filter** button. HP Business Availability Center displays only those entries that contain the string.

Monitor Category	Filters
Business Process Monitor	➤ **Profile.** Business Process Monitor profiles. ➤ **Transaction.** Defined transactions in scripts assigned to profiles. ➤ **Location.** Defined host locations (machines on which HP Business Availability Center Business Process Monitor Agent is running). ➤ **Group.** Defined groups to which hosts were assigned during profile creation. ➤ **Counter.** Transaction response time, transaction breakdown, and transaction availability data collected by Business Process Monitor.
WebTrace	➤ **Profile.** Business Process Monitor profiles. ➤ **Location.** Defined host locations (machines on which HP Business Availability Center Business Process Monitor Agent is running). ➤ **Counter.** WebTrace/traceroute data collected by Business Process Monitor.
SiteScope	➤ **Profile.** SiteScope profiles (one per SiteScope). ➤ **Top Groups.** Defined top-level SiteScope groups for the profile. ➤ **Group Tree.** Defined SiteScope groups and subgroups for the profile ➤ **Measurement.** SiteScope monitor and measurement information, displayed using the following syntax: monitor title | monitored server | counter.

Monitor Category	Filters
Real User Monitor	➤ **Data Type.** The type of data: ➤ **Pages.** The pages that have been configured for monitoring by Real User Monitor. ➤ **Transactions.** The transactions that have been configured for monitoring by Real User Monitor. ➤ **End Users.** The end users that have been configured for monitoring by Real User Monitor. ➤ **Groups.** Groups of pages/transactions/end users as defined in System Availability Management. For details, see "Configure Real User Monitor Engine Settings" in *Using End User Management*. ➤ **Items.** The pages/transactions/end users of the selected groups; this is the actual filter that is to be used. ➤ **Measurements.** All measurements defined for the selected data type. Real User Monitor trend reports analyze the trend of performance and availability data for the servers, pages, transactions, and end users that you configure for monitoring.

Monitor Category	Filters
Custom	➤ **Filter Category.** Defined groups, created in the Measurement Filters page in Platform Administration, that help organize measurement filters into manageable groupings. ➤ **Data Type.** The type of data for which the measurement filter is created. ➤ **Filter Name.** The name of the measurement filter, created in the Measurement Filters page in Platform Administration, used to filter incoming custom data. ➤ **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. ➤ **Measurement.** The available measurements for the selected data type.

3 For each monitor category, HP Business Availability Center displays the counters (measurements) that are relevant to the selected groups or data types. Select the relevant counter (measurement).

4 Select a data aggregation method from the **Data aggregation method** list.

HP Business Availability Center 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.

5 If you chose the Business Process Monitor monitor type, select a **Group by** setting. You can choose to group results by:

- **Transaction.** Results are shown per transaction.
- **Location.** Results are shown per host machine location.
- **Group.** Results are shown per group, as defined in the host properties.

6 Click **Add Measurements**. HP Business Availability Center closes the Measurement Selection page and adds your selection(s) to the Selected Measurements table.

7 Repeat the procedure to add measurements to the trend report.

Note: 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.

The next stage in the procedure is to save the report. Continue to the next section.

Modifying Trend Report Measurements

You can change the name of the measurement, the measurement's color, and its scale. You can also delete measurements from a report.

To change the measurement name:

1 Select the name in the Name box, and replace it with a more significant name.

2 Click **Preview** to preview your new settings in the trend report.

3 Click **Save** to save the trend report.

After a trend report is saved, you access it from the Trend Reports table in the Reports List page. For details, see "Viewing Trend Reports" on page 119.

To change a measurement's color:

By default, HP Business Availability Center assigns a unique color to each measurement you add to the trend report. HP Business Availability Center uses these colors when displaying the measurements in the trend report chart. If required, you can customize the color of any measurement.

1. Click the color swatch beside the measurement whose color you want to customize. HP Business Availability Center opens the Color Picker window.
2. Select a color from the palette, or specify a color according to its hexadecimal value.
3. Click **OK**. HP Business Availability Center updates the color swatch for the measurement.
4. Click **Save** to save the trend report.

To change a measurement's scale:

For details on adjusting scales, see "Adjusting the Trend Report Scale" on page 75.

1. In the Scale list, select the required scale setting.
2. Click **Save** to save the trend report.

To delete a measurement:

1. Locate the measurement you want to delete and click the **Delete** button.
2. Click **Save** to save the trend report.

Saving the Trend Report

The next stage in the procedure is to save the trend report.

To save the report:

1. Verify that all the measurements you want to include are correct.
2. Click **Save** to save the trend report.

Editing a Trend Report

Use the following procedure to edit a trend report.

To modify report properties:

1 From the **Report name** list, select the report to modify.

2 Click the **Edit** button beside the report name to open the Trend Report Properties window.

3 Modify the report title, menu name, or y-axis title settings as required.

4 Click **OK**.

5 Click **Save** to save the trend report.

Deleting a Trend Report

Use the following procedure to delete a trend report.

To delete a trend report:

1 In the Trend Report Manager, select the report to delete from the **Report name** list.

2 Click the **Delete** button beside the report name and confirm that you want to delete the report.

Previewing the Trend Report

You can preview the trend report chart directly from the Trend Report Manager (either before or after saving the report).

To preview a trend report:

1 In the Trend Report Manager, click **Preview**. HP Business Availability Center generates the trend report and displays it in a new window.

Chart generation can take several minutes.

2 You can change the report time range in the preview window. For details, see "Choosing the Time Range and Granularity" in *Reference Information*.

Setting Up Time Comparisons

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 generate 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.

To generate comparison data:

1. In the Trend Report Manager, click **Set Time Comparison**. HP Business Availability Center opens a calendar.
2. Select the starting date and time for the comparison data, and click **OK**.

   HP Business Availability Center displays the specified comparison time at the top of the Selected Measurements table.
3. Click **Save** to save the settings.

   When you view the trend report with a time comparison activated, HP Business Availability Center displays the original data and the comparison data on two charts.

To adjust the comparison time:

1. Click **Set Time Comparison** and select a different start date and time in the calendar.
2. Click **Save** to save the settings.

To remove comparison data:

1. Click **Remove Time Comparison**. HP Business Availability Center removes the time comparison information from the Selected Measurements table.
2. Click **Save** to save the settings.

Defining a Header and Footer for a Trend Report

You can add a header or footer to a trend report. This header or footer overrides any default header or footer defined for all reports. For details on adding a header and footer to all reports, see Chapter 8, "Default Header/Footer."

For additional details on customizing headers and footers, see "Configuring a Report Header and Footer" in *Platform Administration*.

To define a header or footer:

1. Select **Header/Footer** to open the Report Header and Footer window.
2. To define a header, type the required text and HTML code into the **Header HTML** box.

   To define a footer, type the required text and HTML code into the **Footer HTML** box.
3. Click **OK** to save the header and/or footer.
4. Click **Save** to save the trend report.

   To view the defined header and footer in the report, click **Preview**, or select the report from the reports list.

To remove a header or footer:

1. In the Trend Report Manager, select **Header/Footer** to open the Report Header and Footer window.
2. To remove a header, delete the contents of the **Header HTML** box.

   To remove a footer, delete the contents of the **Footer HTML** box.
3. Click **OK**.
4. Click **Save** to save the trend report.

Adjusting the Trend Report Scale

Measurement values in the trend report are displayed along the y-axis using a normalized scale. By default, HP Business Availability Center automatically sets the scale factor for each measurement. If required, you can manually modify the scale factor for any measurement in the Selected Measurements table, for example, to better view multiple measurements whose data values span a wide range. For details, see "Modifying Trend Report Measurements" on page 70.

When you manually modify the scale factor, HP Business Availability Center scales measurement values 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.

For 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 values ranges from 0-100.

Limitations

- Permissions are granted by system administrators and can be enabled or revoked at any time. Thus, permissions to modify a trend report that you create could be removed by the administrator at a later time.
- 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 profile to which the transactions belong.

5

Custom Query Builder

This chapter explains how to use the Custom Query Builder to create custom reports based on a wide selection of sample data.

This chapter describes:	On page:
Introducing the Custom Query Builder	77
Building Queries	79
Field Properties	84
Configuring Presentation Settings	91

Introducing the Custom Query Builder

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

Accessing the Custom Query Builder

The Custom Query Builder is located in the User Reports tab of the following HP Business Availability Center applications:

- Service Level Management
- End User Management
- System Availability Management
- Business Availability Center for SOA

To access the Custom Query Builder, in any of the above applications, select the User Reports tab and click **Custom Query Builder**.

The Custom Query Builder is also accessible from the Custom Report Manager, after adding an Custom Query component to a custom report, and as a portlet (in General category) in My BAC.

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, click "Data Samples" in *Reference Information*.

Configuration

You can set the maximum number of data rows returned at **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings** > **Foundations** > **Generic Data Engine Open API**. Edit the **Maximum Rows** setting as required.

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

Supported Syntax and Limitations

For a list of supported SQL syntax and query limitations, see "Supported SQL Syntax" and "Query Limitations" in *Solutions and Integrations*.

Building Queries

The steps below describe how to use the Custom Query Builder to create custom reports and URL queries. You create queries in the Query Filter pane.

Note:

- If you leave the Custom Query Builder page while building a query, the query is lost. To avoid losing the query, click the Generate button to generate a report based on the query. After generating 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.
- Once you log out of your current Web session, the query is lost.
- When accessing the Custom Query Builder window from the Custom Report Manager, the query is lost as soon as you close the window, unless you click **OK** to save it.

---

1 Select the time range of the data to be extracted from the database. (Not relevant if accessing Custom Query Builder from Custom Report Manager.)

Using the time range selector bar, specify the time range for which you want to extract data. For details, see "Choosing the Time Range and Granularity" in *Reference Information*.

2 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), select **Return data per specified granularity** 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 "Configuring Presentation Settings" on page 91.
- If you select **Return data per specified granularity**, 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 Availability Center automatically adds a time dimension to the report.

---

3 Select the type of data you want to extract from the database.

From the **Sample type** list, select a data sample type. For a description of the available sample types, see "Data Samples" in *Reference Information*.

4 Select the data fields of the chosen sample type that you want to extract from the database and the functions to perform on the data. For detailed descriptions of the available data fields per sample type, see "Data Samples" in *Reference Information*.

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.

---

a From the **Field name** list, select a data field.

b Where applicable, from the **Function** list select the function that you want applied to the data. For example, to return average response time, select **Response Time** from the **Field name** list and **AVG** from the **Function** list.

For a description of the supported functions, see "Supported SQL Syntax" in *Solutions and Integrations*.

c If required, modify the alias name for the field in the **Alias name** box to suit the function applied to the field. For example, if you chose **AVG** from the **Function** list, modify the alias name to say Avg Response Time.

d Click **Add** to add the data field to the query.

e Optionally, once a data field is added to the query, you can edit the field alias and field formula values directly in the **Fields to Return** table. For example, to display returned response time in seconds rather than milliseconds, edit the field formula for Response Time, **dResponseTime**, as follows: dResponseTime / 1000.

f If required, modify the field properties. For details, see "Field Properties" on page 84.

g Repeat the above steps for each data field you want to add to the query.

h If required, click the **Delete Field** button to delete a data field from the query.

5 Apply filters to the extracted data.

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').

---

a Click **Filter Builder** to apply filters to the data that the query will extract.

b From the **Field** list, select a field to which you want to apply a filter. For example, select **Profile Name** to filter the query to only return data 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).

c In the **Operator** list, select the required operator. For a description of the supported operators, see "Supported SQL Syntax" in *Solutions and Integrations*.

Note: The LIKE operator does not work for the Profile Name field.

---

d In the **Value** box, 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**).

When available, use the **Add Values** button 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).

e Click **And** to add additional **And** filters. Click **Add 'Or' Expression** to add additional **Or** filters.

f Click **OK** when all filters are defined.

g If required, click **Clear Filter** on the main Custom Query Builder page to clear the filter string.

6 Configure presentation settings to instruct HP Business Availability Center how to present the data in the report. For details, see "Configuring Presentation Settings" on page 91. If you do not configure presentation settings, the data is returned in standard table format. The order of the columns in the standard table is determined by the order of the fields in the Fields to Return list.

7 (Only relevant if accessing Custom Query Builder from My BAC portlet.) In the Advanced Settings table, select a refresh rate for the report (either every 1 hour or every 2 hours) or specify no refresh.

8 Generate the report or save the query:

- If accessing the Custom Query Builder directly from the User Reports tab, click **Generate** to generate a 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 report remains beneath it.
- If accessing the Custom Query Builder from the Custom Report Manager, click **OK** to save the settings and then click **Save** in the Custom Report Manager to save the settings. A report based on the query can be generated from the Reports List. For details, see "Report Lists" on page 113.
- If accessing the Custom Query Builder from My BAC, click **Save** to save the settings for the portlet.

9 To share or store the report, including creating a URL query string that can be used by third-party applications to extract the data from the database, select the required option from the report options bar.

Tip: To create a URL query string, select **Export** > **Publish Report**, specify the requested settings, and click the **Generate URL** button.

For details on these options, see "About Sharing and Storing Reports" in *Reference Information*.

Note: This step is not relevant if you are accessing Custom Query Builder from Custom Report Manager.

Field Properties

Each field has default properties defined by the field metadata. The Field Properties dialog box enables you to modify the default field properties and define custom properties for the field.

Modifying Field Properties

To modify field properties:

1 Click the **Field Properties** button beside the field whose properties you want to edit. The Field Properties dialog box opens.

2 Modify the properties as required:

- **Type.** The default type for the field is initially displayed. This can be modified if required.

  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.

- **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.

- **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 85.

➤ **OK/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 OK, Warning, and Critical thresholds 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/Critical Threshold settings, see "OK/Critical Thresholds" on page 88.

3 To revert all properties to their default settings, click **Reset**.

4 Click **OK** to save the settings.

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

Symbol	Meaning	Type	Examples
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
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:

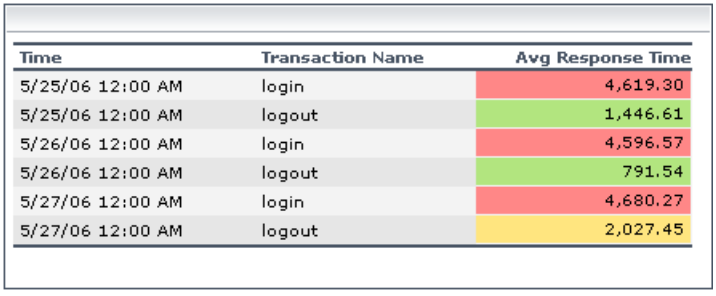
- **Date and Time Patterns.**
  http://java.sun.com/j2se/1.4.2/docs/api/java/text/SimpleDateFormat.html
- **Decimal Format Patterns.**
  http://java.sun.com/j2se/1.4.2/docs/api/java/text/DecimalFormat.html

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:

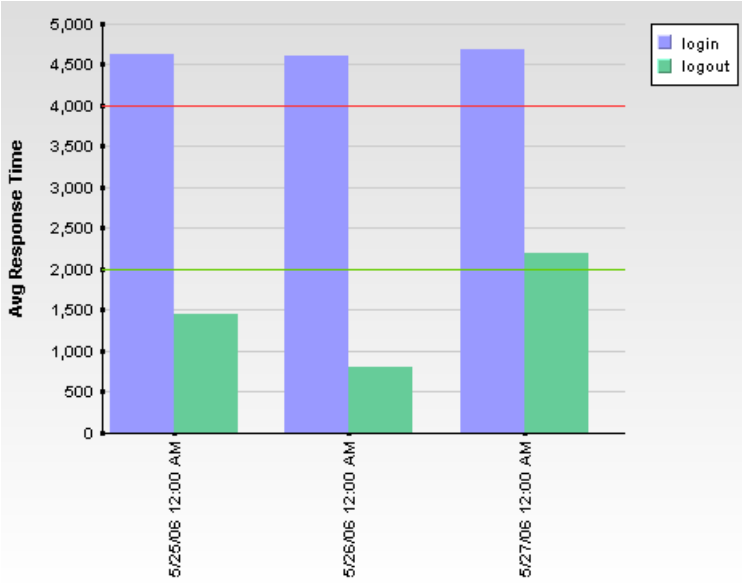
- **Green.** For values corresponding to the specified OK Threshold value.
- **Red.** For values corresponding to the specified Critical Threshold value.
- **Yellow.** For values in between the specified OK Threshold and Critical Threshold values.

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.



Two 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 will 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 "Configuring Presentation Settings" on page 91.

- **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 will color code only data tables (cells whose values are within a specific threshold range are colored accordingly). Graphs will not be 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 Availability Center 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 Availability Center 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.

Configuring Presentation Settings

You can configure whether the data returned by the query is displayed as a table or graph. You can further configure table type (regular or pivot) or graph type (bar or line).

Note: If you modify the **Return data per specified granularity** setting after configuring presentation settings, the presentation settings will be lost.

To configure presentation settings:

1. Click the **Edit Presentation** button to open the Presentation Settings dialog box.
2. On the Choose Presentation View page, select either **Table** or **Graph** and click **Next**.

   If you selected **Table**, continue to step 3. If you selected **Graph**, skip to step 7.
3. On the Choose Table Type page, select **Regular** or **Pivot** and click **Next**.
   - **Regular.** Displays a standard table with a column for each field in the query.
   - **Pivot.** Displays a table that can include multiple fields in a spreadsheet type of matrix.
4. If you selected a regular table, follow the below steps. If you selected a pivot table, jump to step 5.
   a. On the Select Field Order page, use the arrows to specify the order in the table (from left to right) that the columns appear. Click **Next**.

b On the Sort Field Order page, use the left/right arrows to specify the fields by which you want to sort the table. Select one or more of the fields you move to the Sorted Fields box, and click the left-hand set of up/down arrows to specify an ascending or descending sort. Use the right-hand set of up/down arrows to specify the sort hierarchy (fields are first sorted by the topmost field, then by the next, and so on.

Data is sorted, by default, as follows:

- **String.** Ascending, alphabetically.
- **Date.** Ascending, oldest to newest.
- **Double/Integer.** Ascending, numerically.

c Click **OK** to save the settings and close the Presentation Settings wizard.

5 If you select a pivot table, follow the below steps on the Table Definition page.

Note: If **Return data per specified granularity** is selected for the query, HP Business Availability Center adds **Time** to the list of available fields in the pivot table definition page.

---

a Select a field from the Across Column list. You can select only one field for the across column. Each unique value returned for that field will be displayed in a separate column in the table. Examples of useful fields to select for the across column include time, location, or any other field that returns a relatively small number of data points that are useful to compare one to another.

b Select a field from the Value Field list. You can select only one 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.

c Select one or more fields from the Available Key Columns list and move them to the Selected Key Columns list. Each selected field will be displayed in the table, to the left of the field selected for the Across Column. Consider selecting fields for the key columns 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 column, 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.

---

d Use the up and down arrows below the Selected Key Columns list to specify the order in the table (from left to right) that the columns appear.

6 Click **OK** to save the settings and close the Presentation Settings wizard.

7 If you selected **Graph**, on the Choose Graph Type page, select **Bar** or **Line** and click **Next**.

8 On the Define Graph page, specify graph settings as follows:

a 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.

b 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, HP Business Availability Center defines the x-axis as **Time**. This cannot be modified.

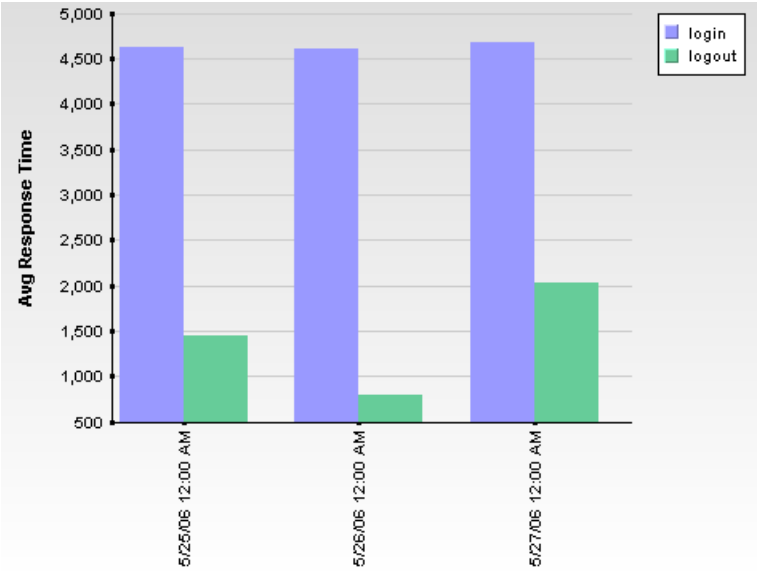
---

c Optionally, in the Min. Scale and Max. Scale boxes, specify both a minimum and maximum value for the y-axis scale.

d Optionally, select one or more dimensions for the graph. The data for a field selected as a dimension is displayed on the graph separately, differentiated using a color coding. If no dimensions are selected, the y-axis value is used as the single dimension.

Note: The fields that remained in the Available Dimensions box are not sent as part of the query and do not appear in the report.

For example, if you configure a graph with time along the x-axis and average response time along the y-axis, and select transaction name as a dimension, each returned transaction appears as one dimension of the graph, color coded as per the legend.



Click **OK** to save the settings and close the Presentation Settings Wizard.

6

Custom Link Manager

You can add custom links to the Reports List page using the Custom Link Manager. Custom links enable you to open a Web page in the same browser window.

This chapter describes:	On page:
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Viewing the Linked Site	99
Deleting a Custom Link	99

Defining a Custom Link

Use the following procedure to define a custom link.

To define a custom link:

1 From the User Reports tab in **Applications** > **Service Level Management**, **End User Management**, or **System Availability Management**, select **Custom Link Manager**.

In the **Menu name** box, type a descriptive name for the link. After saving the link, HP Business Availability Center displays this name in the Custom Links table.

2 In the **Target URL** box, specify the URL of the site to which you want to link.

Note: When entering the **Target URL**, do not enter a URL that is redirected. If the link is accessed, a redirection may cause a runtime error or the application to log out. Enter only URLs that are accessed directly upon linking.

---

3 Click the **Save** button. HP Business Availability Center adds the saved link to the Custom Links table on the Custom Link Manager page and to the Custom Links table on the Reports List page.

Links are sorted alphabetically in the Custom Links table, according to the defined menu name.

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.

Viewing the Linked Site

Use the following procedure to view the linked site.

To view the linked site:

Select one of the following:

- in the Custom Link Manager, click the link to open the defined Web page in a new browser window
- from the Custom Links table on the Reports List page, click the link to open the defined Web page in the same window

Deleting a Custom Link

Use the following procedure to delete a custom link.

To delete a custom link:

In the Custom Link Manager, click the **Delete** button beside the link you want to delete, and confirm that you want to delete the link.

Note: You cannot modify a custom link. To modify a custom link name or URL, recreate it with the modified information and delete the old link.

7

Integrating Microsoft Excel Reports in HP Business Availability Center

You can build and view customized reports in HP Business Availability Center that take advantage of the charting abilities of Microsoft Excel, to display various types of data collected by HP Business Availability Center data collectors. The reports can be viewed with Microsoft Excel or any spreadsheet program capable of reading files with the **.xls** format.

Note to HP Managed Software Solutions customers: Contact HP Managed Software Solutions Support for details on implementing Microsoft Excel reports in HP Managed Software Solutions.

This chapter describes:	On page:
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Create a Microsoft Excel Web Query File	102
Create a Report with Microsoft Excel	104
Upload the Microsoft Excel Report to HP Business Availability Center	105
View the Microsoft Excel Report in the Excel Report Page	105
Managing Excel Reports	106
Example of Web Query	107
Excel Report Limitations	108

Workflow for Creating Microsoft Excel Reports

Use the following procedure to create Microsoft Excel reports that include HP Business Availability Center data:

1. Write a query that retrieves data from the HP Business Availability Center profile database. For details, see "Working with the Generic Reporting Engine API" in *Solutions and Integrations*.
2. Save the query in a Web Query file. For details, see "Create a Microsoft Excel Web Query File" on page 102.
3. Create a Microsoft Excel report. For details, see "Create a Report with Microsoft Excel" on page 104.
4. Upload the report to HP Business Availability Center. For details, see "Upload the Microsoft Excel Report to HP Business Availability Center" on page 105.
5. View Microsoft Excel reports in HP Business Availability Center. For details, see "View the Microsoft Excel Report in the Excel Report Page" on page 105.

Create a Microsoft Excel Web Query File

You create a text file with an .iqy (IQY) extension that you then import 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 Web Query" on page 107.

The next stage of the procedure is to create a Microsoft Excel report. For details, see the next section.

Create a Report with Microsoft Excel

The next stage of the procedure is to create a Microsoft Excel report.

To create a Microsoft Excel report:

1. Open a new Microsoft Excel file.
2. Select cell **A1**.
3. In Microsoft Excel 2002 or 2003, select **Data** > **Import External Data** > **Import Data**. Microsoft Excel opens the Select Data Source dialog box. Select the **.iqy** file you created ("Create a Microsoft Excel Web Query File" on page 102) 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.

    The next stage of the procedure is to upload the Microsoft Excel file to HP Business Availability Center. For details, see the next section.

Upload the Microsoft Excel Report to HP Business Availability Center

The next stage of the procedure is to upload the Microsoft Excel file to HP Business Availability Center.

To upload a Microsoft Excel report:

1. From the User Reports tab in **Applications** > **Service Level Management**, **End User Management**, or **System Availability Management**, select **Excel Reports**.
2. Click **New Excel Report** to open the Excel Report Properties window.
3. In the **Report name** box, type the name for the report as you want it to appear in the Reports table on the Excel Reports page.
4. In the **Description** box, type the description for the report as you want it to appear in the Reports table on the Excel Reports page.
5. In the **Excel file** box type the path to the saved Excel file you want to add, or use the Browse function to browse to the file.
6. Click **Save** to upload the file to HP Business Availability Center.

   The report is now ready to be viewed by you or your users. For details, see the next section.

View the Microsoft Excel Report in the Excel Report Page

You or your users can view Excel reports in Microsoft Excel or any spreadsheet program capable of reading files with an **.xls** format.

To view an Excel report:

1. From the User Reports tab in **Applications** > **Service Level Management**, **End User Management**, or **System Availability Management**, select **Excel Reports**.
2. Click the report you want to view. HP Business Availability Center opens the report in Microsoft Excel. You must have Microsoft Excel installed on the machine on which you are viewing HP Business Availability Center.

Managing Excel Reports

You can edit properties for, as well as delete, Excel reports listed in the Excel Reports page.

To edit Excel report properties:

1 From the User Reports tab in **Applications** > **Service Level Management**, **End User Management**, or **System Availability Management**, select **Excel Reports**.

2 Click the **Edit** button beside the Excel report you want to edit, to open the Excel Report Properties window.

3 Modify the name and description properties as required.

4 To upload an updated version of the Excel file (and overwrite the existing file on the HP Business Availability Center server), specify the file to upload.

5 Click **Save** to save the settings.

To delete an Excel report:

1 From the User Reports tab in **Applications** > **Service Level Management**, **End User Management**, or **System Availability Management**, select **Excel Reports**.

2 Click the **Delete** button beside the Excel report you want to delete, and confirm that you want to delete the Excel report.

Example of 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/topaz/gdeopenapi/GdeOpenApi?method=getData&user=admin&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.

Excel Report Limitations

- 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 if they are included in an Excel report.
- Microsoft Excel reports cannot return more than 10,000 records due to an Microsoft Excel limitation when using Web queries. Possible workarounds include:
  - split request to several consecutive queries
  - group data using larger time range chunks
  - use filter parameters to fetch specific data

8

Default Header/Footer

This chapter explains how to add a header and footer to user reports (custom and trend reports), for example, to add a corporate logo and address.

This chapter describes:	On page:
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Which Header or Footer is Displayed in Reports	110
Defining a Default Header and Footer	111
Removing a Default Header or Footer	112

Format of Default Headers and Footers

Headers and footers 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.

HP Business Availability Center adds the header to the report below the report title and the footer at the end of the report. (In the HTML file, the footer is inserted immediately before the </body> tag).

Which Header or Footer is Displayed in Reports

HP Business Availability Center displays the header and footer you define here in all custom and trend reports, on condition that these reports do not already include a header and footer. When a header and footer is defined for a specific report, HP Business Availability Center displays that header and footer, and not the header and footer defined here. For details, see "Defining a Header and Footer for a Custom Report" on page 51 and "Defining a Header and Footer for a Trend Report" on page 74.

You can also add a header and footer to all reports through the Infrastructure Settings Manager. To change the headers or footers, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, click **Foundations,** select **Reporting** and locate the **Display Header** and **Display Footer** in the **Reporting – Display** entry in the table. For details on editing infrastructure settings, see "Infrastructure Settings" in *Platform Administration*.

Defining a Default Header and Footer

Note: Use caution when marking up the header and footer fields, as some HTML code may affect the behavior of HP Business Availability Center. 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 HP Business Availability Center does not perform any validity checks on the header and footer content.

To define a header or footer:

1. From the User Reports tab in **Applications** > **Service Level Management**, **End User Management**, or **System Availability Management**, select **Default Header/Footer**.
2. To define a header, type the required text and HTML code in the **Header HTML** box.

   To define a footer, type the required text and HTML code in the **Footer HTML** box.

   The total number of characters entered into the header or footer definition cannot exceed 2000 (or 4000 when using ASCII VARCHAR data types in the HP Business Availability Center management database).
3. Click **Preview** to preview the header and footer. The preview renders the HTML code only, and does not run any JavaScript, if included.
4. Click **Save** to save the header and footer.

   To test the header and footer in a report, preview an existing custom or trend report that does not include a header or footer, or create a new custom or trend report.

Removing a Default Header or Footer

Use the following procedure to remove a header or footer.

To remove a header or footer:

1. From the User Reports tab in **Applications** > **Service Level Management**, **End User Management**, or **System Availability Management**, select **Default Header/Footer**.
2. To remove a header, delete the contents of the **Header HTML** box.

   To remove a footer, delete the contents of the **Footer HTML** box.
3. Click **Save**.

9

Report Lists

This chapter explains how to use the Reports List page to view user reports.

This chapter describes:	On page:
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Viewing Custom Reports	114
Viewing Trend Reports	119
Viewing Custom Links	120
Accessing User Reports Using a URL	121

Accessing User Reports on the Reports List Page

The Reports List page displays all the defined custom reports, trend reports, and custom links that have been defined in the system, that the current user has permissions to view. The name of the owner of each report (that is, the user that created the report) is also displayed.

For details on working with reports (choosing the time range, selecting the profile, saving and sharing reports, and so on), see "Working in Reports" in *Reference Information*.

Viewing Custom Reports

From the Custom Reports table in the **User Reports** > **Reports List** page, you can generate, edit, clone, and schedule custom reports. Custom reports include components—individual application reports that enable you to focus on the data you are most interested in tracking.

For details on creating custom reports, see "Custom Report Manager" on page 23.

Tip: You can build a URL that enables you to view a custom report without having to access the Reports List page. For details, see "Accessing User Reports Using a URL" on page 121.

To generate a custom report:

1 Click the **Generate** button beside the report you want to generate in the **Custom Reports** table. The report page is displayed for the selected custom report.

2 The custom report page may include the time range and granularity bar, depending on the selection made when you created the report in the Custom Report Manager:

- If the custom report was set to **Use global settings for all components**, the report page includes the time range and granularity bar. Modify the time range settings as required and click **Generate** to generate all report components for the defined time range. For details on modifying time range settings, see "Choosing the Time Range and Granularity" in *Reference Information*.
- If the custom report was set to **Enable time period per component**, the report page does not include the time range and granularity bar, and each individual report component is generated for the time range that was defined for that component in the Custom Report Manager. Click **Generate** to generate the report components.

  If you want to modify the time range for a component, edit the component in the Custom Report Manager. For details, see "Adding a Component to a Report" on page 27.

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 117.

To edit a custom report:

1. Click the **Edit** buttonbeside the report you want to edit to open the Custom Report Manager. For details, see "Custom Report Manager" on page 23.
2. Make the required changes and save the report.
3. Click the **User Reports** tab and select **Reports List** to return to the Reports List.

To clone a custom report:

1. Click the **Clone** button beside the report you want to clone. The Custom Report Manager screen opens, displaying a copy of the chosen custom report.
2. Edit the details of the report as needed, and click **Save** to save the new custom report.
3. Click the **User Reports** tab and select **Reports List** to return to the Reports List.

To schedule a custom report:

1. Click the **Schedule** button beside the report you want to schedule. HP Business Availability Center opens the Scheduled Report page.
2. Create a scheduled report. For details, see "Scheduling User Reports or the Performance Update Report" in *Platform Administration*.
3. Return to the Reports list by clicking the Reports List breadcrumb at the top of the page.

Note: For scheduled reports, a default time breakdown is used with each time range:

- **For a day.** Breakdown is by every hour.
- **For a week.** Breakdown is by every day.
- **For a month.** Breakdown is by every week.
- **For a quarter.** Breakdown is by every month.

Time Ranges in Service Level Management Component Reports

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

In this case, the time range 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 time range.

For over time reports (CIs Over Time, CI Over Time vs. Target), 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 range, with a maximum of 60 data points. For example, if you select a granularity of 1 day for a time range of a year, this would generate 365 data points, so the component report cannot be generated.

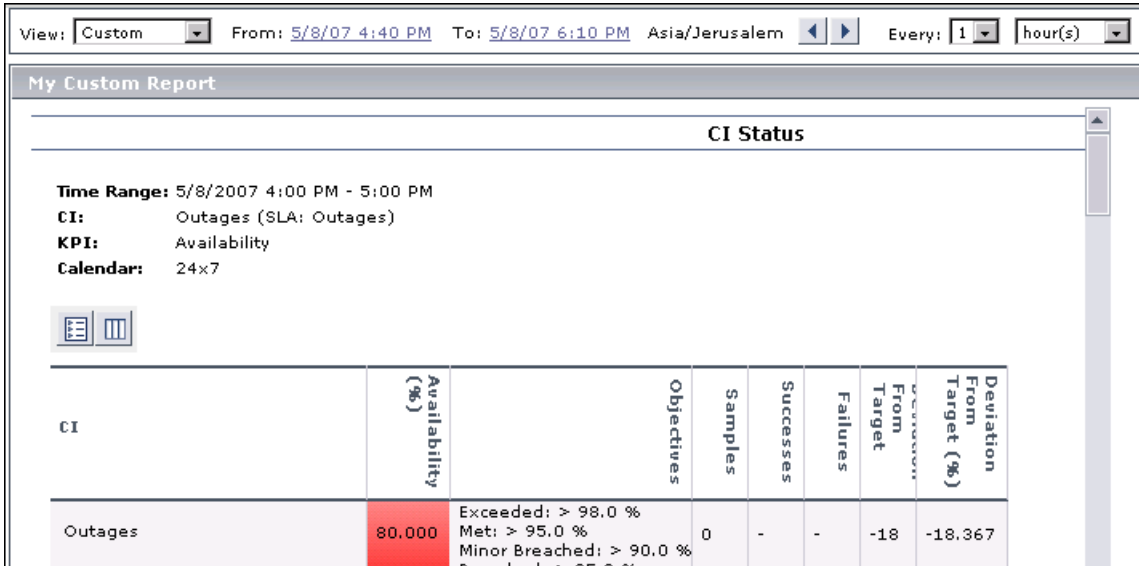
For all other Service Level Management reports, the adjustment is made as follows:

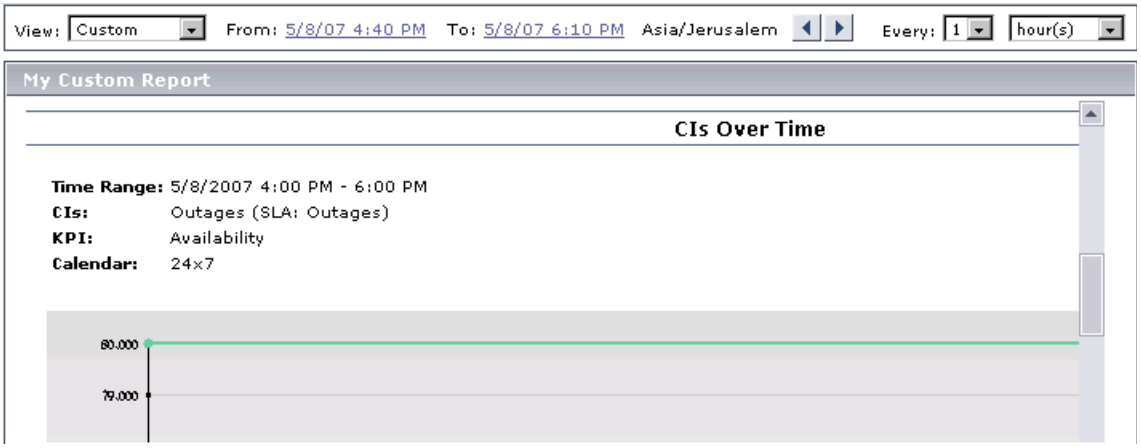
- If the difference between the **From** and **To** date is under 2 hours, the time is adjusted to show the hour that starts from the **From** date and time (rounded back to the nearest hour).
- If the difference between the **From** and **To** date is at least 2 hours, but under 2 days, the time is adjusted to show the day that starts from the **From** date (rounded back to the nearest midnight).
- If the difference between the **From** and **To** date is at least 2 days, but 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).

- If the difference between the **From** and **To** date is at least 2 weeks, but 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).
- If the difference between the **From** and **To** date is 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).
- If the difference between the **From** and **To** date is 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 range used for the Service Level Management component is displayed at the top of the component report. (The settings in the time range bar remain as defined.)

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





Viewing Trend Reports

From the Trend Reports table, you can generate and edit trend reports. Trend reports enable you to compare multiple measurements from several profiles. For details on creating trend reports, see "Trend Report Manager" on page 61.

Tip: You can build a URL that enables you to view a trend report without having to access the Reports List page. For details, see "Accessing User Reports Using a URL" on page 121.

To generate a trend report:

1. In the Trend Reports table, click the **Generate** button beside the report you want to generate. The report is generated for the default time range.
2. To regenerate the report for a different time range, modify the time range settings as required and click **Generate**.

Note: When viewing a trend report for a profile whose name was changed, if no data is displayed in the report, try logging in to HP Business Availability Center again.

To open a trend report for editing:

1 Click the **Edit** button beside the report you want to edit to open the Trend Report Manager. For details, see "Trend Report Manager" on page 61.

2 Make the required changes and save the report.

To schedule a trend report:

1 Click the **Schedule** button beside the report you want to schedule. HP Business Availability Center opens the Scheduled Report page.

2 Create a scheduled report. For details, see "Scheduled Reports" in *Platform Administration*.

3 Return to the Reports list by clicking the link at the top of the page.

Viewing Custom Links

From the Custom Links table, you can display a Web page in the same browser window. For details on creating custom links, see "Custom Link Manager" on page 97.

To open a custom link:

In the Custom Links table, click the link you want to open. The Web page opens in a new window.

Accessing User Reports Using a URL

You can build a URL that opens a defined user report directly in the browser, without being located in the HP Business Availability Center context.

Build the URL using the following syntax:

```
http://<ServerName>/topaz/OfflineReportsServlet?createSession=true
&filterProfileId=<filterProfileId>
&actionForward=report
&timeFrame=<timeFrame>
&stepUnit=<stepUnit>
&stepValue=<stepValue>
&requestType=offline
&userlogin=<login_name>
&userpassword=<login_password>
&session_id=<session_id>
&autoUpdatePastTime=true
&gmtOffset=<gmtOffset>
&useVIP=true
&startTime=<startTime>
&endTime=<endTime>
&skipNavBar=true
&reportName=Report_<report_ID>
```

The parameters whose values must be provided are described below:

- **<ServerName>.** The name of the HP Business Availability Center server (Gateway Server in a distributed architecture).
- **<filterProfileId>.** Any valid profile ID listed in the SESSION_ID column in the SESSIONS table of the management database.
- **<timeFrame>.** Any one of: Hour/Day/Week/Month/LastHour/LastDay/LastWeek/LastMonth.
- **<stepUnit>.** Any one of: Minute/Hour/Day/Month.
- **<stepValue>.** Value of stepUnit (for example, if timeframe of every 1 day is required, and stepUnit=Day, set stepValue=1).
- **<login_name>.** Valid user login name.
- **<login_password>.** Password for specified login name.
- **<session_id>.** Same as filterProfileId.

- **<gmtOffset>.** GMT offset in minutes.
- **<startTime>.** Start time for the report in format YYYYMMDDHHmm (not needed if using timeFrame=LastHour/LastDay/LastWeek/LastMonth). Note that months are numbered starting from 0, so January is 00 and December is 11.
- **<endTime>.** End time for the report (same details as start time).
- **<report_ID>.** The CR_CUSTOM_REPORT_ID value for the report, as specified in the CUSTOM_REPORTS table in the management database.

  For example:

```
http://myserver/topaz/OfflineReportsServlet?createSession=true
&filterProfileId=1
&actionForward=report
&timeFrame=Week
&stepUnit=Day
&stepValue=1
&requestType=offline
&userlogin=admin
&userpassword=admin
&session_id=1
&autoUpdatePastTime=true
&gmtOffset=120
&useVIP=true
&startTime=200600010100
&endTime=200601010100
&skipNavBar=true
&reportName=Report_1
```

10

Report Repository

This chapter explains how to search for and view reports in the report repository. You can view saved reports in Dashboard, Service Level Management, and End User Management (Triage report only). For details on saving reports to the report repository, see "Saving a Report to the Report Repository" in *Reference Information*.

This chapter describes:	On page:
The Report Repository Page	124
Searching for a Report in the Report Repository	126
Editing Report Details	127
Deleting a Report from the Repository	127
Editing Settings with the Infrastructure Settings Manager	128

The Report Repository Page

The Report Repository page displays all reports previously saved in Dashboard, Service Level Management, and End User Management (Triage report only). For details on searching for a report, see "Searching for a Report in the Report Repository" on page 126.

You add a report to the Report Repository when viewing the report itself. For details on exporting a report to the Report Repository, see "The Report Repository Page" in *Reference Information*.

To access the report repository:

- In Dashboard: **Applications** > **Dashboard** > **Reports** > **Report Repository**.
- In Service Level Management: **Applications** > **Service Level Management** > **User Reports** > **Report Repository**.
- In End User Management: **Applications** > **End User Management** > **User Reports** > **Report Repository**.

The Report Repository page:

The Report Repository page includes the following components:

- **Report Name.** The name given to the report when it was saved to the repository. For details on editing the name, see "Editing Report Details" on page 127.
  - To view the report in PDF format, click the report name.
  - To view the report's name and description in full, hold the cursor over the report name.
- **Report Type.** The name of the report type.

- **Private.**
  - **No**. the report is public and any user can view, edit, or delete the report from the repository.
  - **Yes**. only the user or Superuser-level administrator can view, edit, or delete the report from the repository.

Note to HP Managed Software Solutions customers: If the report's private status is **Yes,** only the user, superuser, operator, customer superuser, and customer administrator can view, edit, or delete the report from the repository.

- **Report Creation Time.** The time at which the report was saved to the repository.

- **Actions.** You can edit or delete a report by clicking the appropriate button. For details, see "Editing Report Details" on page 127 and "Deleting a Report from the Repository" on page 127. You can use the buttons at the bottom of the window for **Select All**, **Clear All**, and **Invert Selection**.

  You can sort the list by any column: An arrow next to a title shows by which column the reports are sorted, and also the direction in which the column has been sorted (that is, ascending or descending).

  - To view more reports, click the **Next page** or **Last page** buttons.
  - To view previous reports in the list, click the **Previous page** or **First page** buttons.

Searching for a Report in the Report Repository

Reports previously saved to the repository can be viewed in Dashboard, Service Level Management, or End User Management, no matter in which application they were created.

To search for a report:

1 Access the report repository:

- In Dashboard: **Applications** > **Dashboard** > **User Reports** > **Report Repository**.
- In Service Level Management: **Applications** > **Service Level Management** > **User Reports** > **Report Repository**.
- In End User Management: **Applications** > **End User Management** > **User Reports** > **Report Repository**.

2 Locate the report directly in the list, or search for the report, either by its report type or by its name.

- To search for a report by its report type, click the **Report Types** link. In the window that opens, select the report. To make your selection, you can also use the buttons at the bottom of the window for **Select All**, **Clear All**, and **Invert Selection**. Click **OK**, or click **Cancel** to close the window without choosing a report.
- To search for a report by its name, enter the name in the **Search by name** field, and click **Search Repository**. You can type an asterisk (*****) to replace characters.

All reports answering the search criteria are displayed in the list. For details, see "The Report Repository Page" on page 124.

3 To view the report in PDF format, click the report name.

Editing Report Details

You can change several properties of the report in the repository (for example, the report's name), but not the data itself.

To edit a report:

1. Locate the report in the report repository and click its **Edit** button to open the Report Repository window.
2. Make changes to the name and description. Choose whether the report is to be private or public (for details, see page 125). Click **OK**, or click **Cancel** to close the window without saving the changes.

Deleting a Report from the Repository

You can delete a saved version of a report, but not the data itself.

To delete a report:

1. Locate the report in the report repository and click its **Delete** button.
2. Click **OK** to the message, or click **Cancel** to close the message without deleting the report.

Editing Settings with the Infrastructure Settings Manager

Caution: Many of the settings in the Infrastructure Settings Manager should not be modified without first consulting Customer Support or your HP Professional Services representative. Modifying certain settings can adversely affect the performance of HP Business Availability Center.

Administrators with an advanced knowledge of HP Business Availability Center can customize certain report repository settings, such as the maximum number of reports that can be saved to the repository, the maximum number of rows that are retrieved from the database when the user clicks the **Search Repository** button, and the number of reports to display in one page.

To access the Infrastructure Settings Manager, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**. Select the Foundations context and choose **Reporting** from the list.

For details on editing infrastructure settings, see "Editing Infrastructure Settings" in *Platform Administration*.

Part II

Alerts

11

Introduction to Alerts

HP Business Availability Center alerts proactively inform you when predefined performance limits are breached. To instruct HP Business Availability Center under what conditions to send alerts, you configure different types of alerts and their settings.

This chapter describes:	On page:
About Creating Alerts	131
Tips for Creating Effective Alert Schemes	132
Set Up an Alert Delivery System	134
Alert Customizations	136

About Creating Alerts

You can configure alerts for:

- configuration items (CIs) in a view. For details, see "CI Status Alerts" on page 145.
- SLAs. SLA status alerts send notifications about changes to an SLA's KPI status. For details, see "SLA Alerts" on page 161.
- applications monitored by Business Process Monitor and Real User Monitor. For details, see "Event-Based Alerts" on page 165.
- IT infrastructure monitored by SiteScope. For details, see *Using System Availability Management*.

In each alert scheme, you define a unique set of alert properties. After you create an alert scheme, you view and edit it in the appropriate Alerts table. For detailed tips and guidelines, see "Tips for Creating Effective Alert Schemes" on page 132.

For a step-by-step process flow describing how to set up a system for delivering alerts to defined recipients, see "Set Up an Alert Delivery System" on page 134.

Guaranteed Delivery of Alerts

When the HP Business Availability Center online components are experiencing downtime, HP Business Availability Center guarantees that the data is stored in the Bus, and that the alert engine still generates alerts from data in the online components once they are back online.

Tips for Creating Effective Alert Schemes

Before creating alert schemes, you should consider how to most effectively alert personnel to performance issues. The information described below can assist you with effective alert planning.

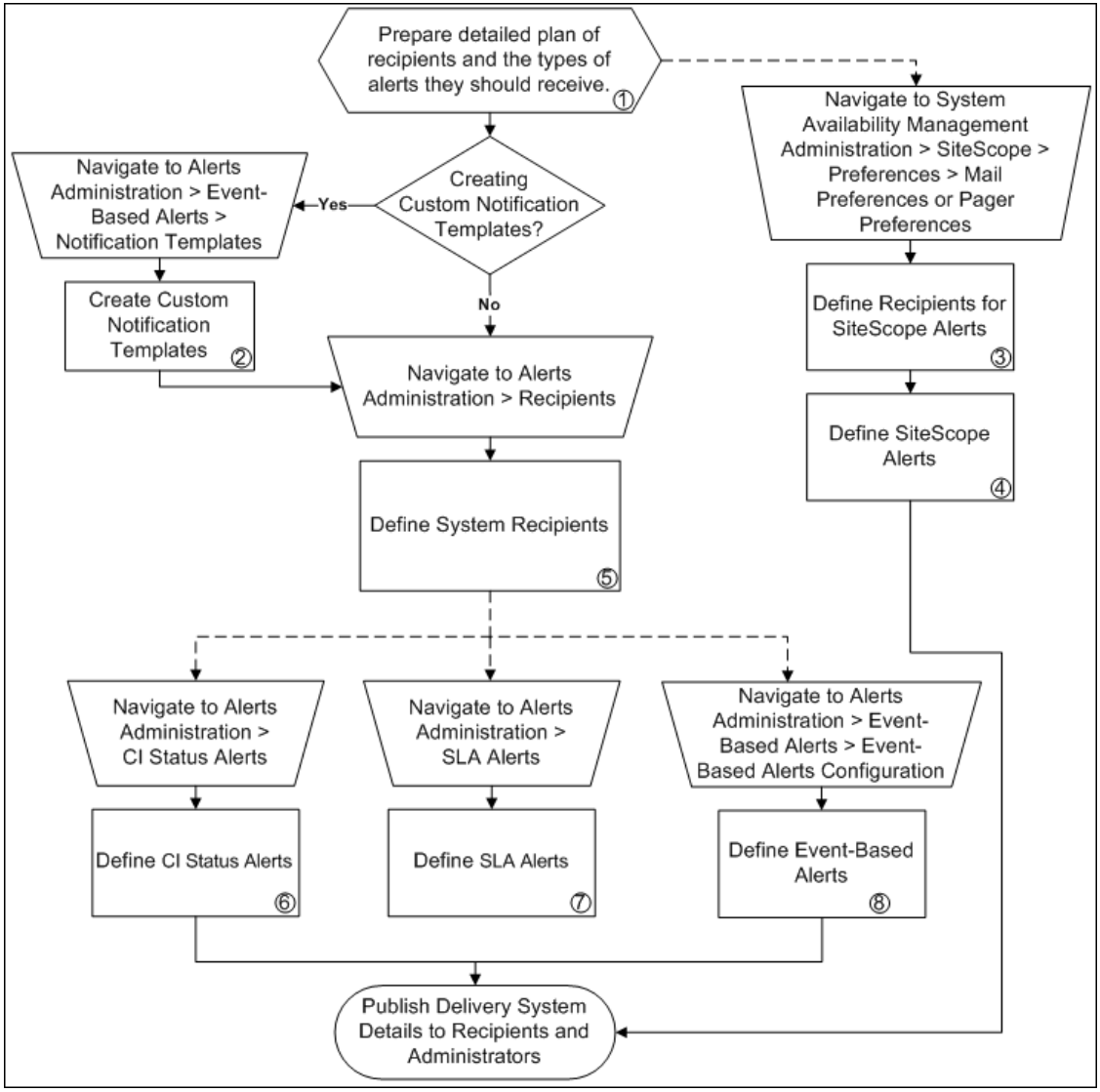
Note: HP Professional Services offers best practice consulting on this subject. For information on how to obtain this service, contact your HP representative.

➤ When creating alert schemes, categorize alerts by severity. Create critical alerts for events that require immediate corrective action, for example, transaction failure, or excessive response times for critical transactions. Create non-critical alerts for events that require early notification, for example, slow response times.

- Determine the personnel that will receive the different types of alerts, and consider the alert delivery method that best suits the alert type. For example, pager, as opposed to e-mail, delivery might be more effective for critical alerts. When determining delivery method, take the time of day into account as well. For example, e-mail alerts might not be effective during non-business hours.
- Set HP Business Availability Center to alert you to a recurring problem, not one-time events. Alerts that are recurring are the most accurate indicator of problems with your application. For example, one rule of thumb is that you should set the number of events in a row to the number of Business Process Monitor locations from which you are monitoring. For example, if you had three failures, but you were monitoring from 100 locations, it would not be as critical as if you had five failures in all five locations.

Set Up an Alert Delivery System

The flowchart below describes the process required to set up a system for delivering alerts to defined recipients. The numbered elements are referenced in the table on the following page, which provides additional details about the steps and a reference to more information.



Ref. No.	Comment
1	List required recipients of alerts, including contact information and required delivery method for alerts (e-mail, SMS, pager). Map out the types of alerts you plan to deliver: Alerts include CI Status alerts (alert you to status changes in KPIs associated with configuration items), SLA alerts (alert you to changes in current and forecasted status for service agreements), event-based alerts (alert you to performance issues related to data collected by Business Process Monitor and Real User Monitor), and SiteScope alerts (alert you to performance issues related to data collected by SiteScope).
2	If required, create custom notification templates for event-based alerts to customize the format and information included in alert e-mails. For more information, see "Notification Templates Page" on page 322.
3	In System Availability Management Administration, you define alert recipients for SiteScope alerts. You can specify recipients for e-mail or pager delivery. For more information, see "E-mail Preferences" and "Pager Preferences" in *Using System Availability Management*.
4	Define SiteScope alerts as required to alert recipients to SiteScope monitor status changes. For more information, see "SiteScope Alerts" in *Using System Availability Management*.
5	On the Recipients page, you define system recipients for alerts (except SiteScope alerts). You can specify e-mail, SMS, or pager delivery methods. If required, enter specific alert delivery schedules (for example, recipients who receive alerts during business hours versus evenings and weekends). For more information, see "Recipient Properties Wizard" on page 350.
6	Define CI Status alerts as required to alert recipients to KPI status changes for specific CIs and KPIs being monitored in Dashboard. For more information, see "Create New Alert Wizard" on page 211.
7	Define SLA alerts as required to alert recipients to changes in the current and forecasted status for service agreements. For more information, see "Create New Alert/Edit Alert Wizard" on page 239.
8	Define event-based alerts as required to alert recipients to performance variance of Real User Monitor entities or Business Process Monitor transactions. For more information, see "Alert Wizard" on page 272.

Alert Customizations

This section describes the customization you can perform for CI Status, SLM, and event-based alerts.

This section includes the following topics:

- "Modify the Delay After Which Alerts Are Discarded" on page 137
- "Modify the Calculation Persistency" on page 137
- "Set the Number of Messages in the Alert Queue for the Notification Queue Monitor" on page 138
- "Set the Number of Messages in the Alert Queue for the Alert Queue Monitor" on page 138
- "Add the Year to the Date in Email Notifications" on page 139
- "Modify the Default Sender and Default Sender Email Address Used in Emails" on page 139
- "Set Up the Primary and Alternate SMTP Servers" on page 139
- "Modify the Timeout of a Command Line Alert Action Execution" on page 140
- "Modify the Default SNMP Trap Host Address" on page 140
- "Reset the Alert Timer" on page 140
- "Enable Alert Dependencies Between Profiles" on page 141
- "Enable Logging Alerts and Notifications in the Profile Database" on page 141
- "Enable the Alert Engine to Perform Actions and Send Notifications" on page 141
- "Change the Default _FOLLOWUP String" on page 141
- "Specify the Number of Retries of a Notification" on page 142
- "Modify the Message's Character Set" on page 142
- "Remove Hardcoded Strings from Notification Messages" on page 143
- "Modify the Timeout of an SMTP Server Socket Connection" on page 143

➤ "Modify the Maximum Length of an SNMP Trap" on page 143

➤ "Set Up HP Business Availability Center to Use the Appropriate MIB" on page 143

➤ "Modify the Waiting Interval Between Retries" on page 144

Modify the Delay After Which Alerts Are Discarded

You can modify the default delay (60 minutes) after which alerts are discarded.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and enter new delay in the **Acceptable event delay (minutes)** parameter in the **Alerting - Event handling** area.

Modify the Calculation Persistency

When calculation persistency is enabled, the calculated data, which existed before the system goes down, is taken into consideration in data calculations after the system goes up.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and select **false** to disable calculation persistency and **true** to enable calculation persistency in the **Calculation persistency** parameter in the **Alerting - Event handling** area.

Set the Number of Messages in the Alert Queue for the Notification Queue Monitor

You can set the maximum number of messages waiting in the alert queue of the notification queue monitor after which the notification queue monitor status changes to error or to warning.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and in the **Alerting - System Health** area, enter:

- The maximum number of messages after which the notification queue monitor status changes to error in the **Error threshold for the notification queue monitor** parameter.
- The maximum number of messages after which the notification queue monitor status changes to warning in the **Warning threshold for the notification queue monitor** parameter.

Set the Number of Messages in the Alert Queue for the Alert Queue Monitor

You can set the maximum number of messages waiting in the alert queue of the alert queue monitor after which the alert queue monitor status changes to error or to warning.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and in the **Alerting - System Health** area, enter:

- The maximum number of messages after which the alert queue monitor status changes to error in the **Error threshold for the alert queue monitor** parameter.
- The maximum number of messages after which the alert queue monitor status changes to warning in the **Warning threshold for the alert queue monitor** parameter.

Add the Year to the Date in Email Notifications

You can add the year to the date in Email notifications.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and in in the **Add year to notification message** parameter in the **Alerting - Triggered alerts** area, select:

- **true** if you want to add the year to the date in Email notifications.
- **false** if you do not want to add the year to the date in Email notifications.

Modify the Default Sender and Default Sender Email Address Used in Emails

The value that appears in the **From** field when HP Business Availability Center sends alerts is set when you install the Gateway Server. By default the value is **HP_BAC_Alert_Manager**. You can change the value.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, choose **Foundation**, select **Alerting**, and locate the Alerting - Triggered alerts table. Modify the values of **Email sender** or **Alerts email sender address** (to include an email address in the From field).

Set Up the Primary and Alternate SMTP Servers

To set the primary and alternate SMTP servers select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, choose **Foundations**, select **Alerting**, and locate the entry in the Alerting-Triggered alerts table.

Both the primary and alternate SMTP server can be defined as either:

- **A designated server with a defined port number.** Enter a server name for sending SMTP e-mails as the value in the **SMTP server** or **Alternate SMTP server** field and enter a port number for the server in the **SMTP server port** or **Alternate SMTP server** field.
- **Microsoft's SMTP services.** Enter <SMTPSVC> as the value in the **SMTP server** or **Alternate SMTP server** field. There is no need to enter a port number when using Microsoft SMTP services.

Modify the Timeout of a Command Line Alert Action Execution

You can modify the default timeout (30 seconds) after which a command line alert action is not executed.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, in the **Alerting - Triggered alerts** area, and enter the value in the **Command line execution timeout (seconds)** parameter.

Modify the Default SNMP Trap Host Address

To modify default SNMP trap host address, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations** and **Alerting**, and in the **Alerting - Triggered alerts** area, and specify the default host address by entering the IP address or server name in the **Default SNMP Target Address** parameter, and the port number in the **Default SNMP Port** parameter.

Note to HP Managed Software Solutions customers: You can set the default host address per customer by selecting a customer when you log in. The updated host address is defined only for the specific customer. You can also define a global host address.

Reset the Alert Timer

By default, if an alert with a follow-up alert occur, and then occurs again before the time period specified in the **Acceptable events delay parameter** ends, the follow-up alert is not sent. You can change the default (**false**).

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and in the **Alerting - Triggered alerts** area, enter **true** in the **Enable alert timer reset** parameter to enable the sending of follow-up alerts.

Enable Alert Dependencies Between Profiles

By default (**false**), alert dependencies are not allowed between profiles. You can change the default.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and in the **Alerting - Triggered alerts** area, enter **true** in the **Enable cross profile alert dependencies** parameter to enable the cross-profile alert dependencies.

Enable Logging Alerts and Notifications in the Profile Database

By default (**true**), alerts and notifications are logged in the Profile database. You can change the default.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and in the **Alerting - Triggered alerts** area, enter **false** in the **Enable logging to DB** parameter to disable the logging of alerts and notifications to the Profile database.

Enable the Alert Engine to Perform Actions and Send Notifications

By default (**true**), actions are performed and notifications are send by the alert engine. You can change the default; in this case actions are not performed and notifications are not sent to the user.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and in the **Alerting - Triggered alerts** area, enter **false** in the **Enable notifications and actions** parameter.

Change the Default _FOLLOWUP String

You can change the default string by selecting **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings** > **Foundation: Alerting**. Edit the **Followup notifications suffix** value and make sure to use the same string when creating a follow up template. For details about follow up templates, see “Configure a Template for Follow-up Notifications” on page 180.

Specify the Number of Retries of a Notification

By default, a notification is sent once. You can change the default.

Note: The number of retries that is performed equals the number you specify plus one.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and in the **Alerting - Triggered alerts** area, specify the number of retries in the **Notification execution retries** parameter.

Modify the Message's Character Set

When an alert is triggered, recipients for the generated alert can be notified by e-mail, SMS, or pager messages. The default character set used by HP Business Availability Center for these communication methods is **UTF-8**. You can change the default to **ISO-2022-JP**.

To modify the message's character set, select **Admin** > **Platform**> **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations** and **Alerting**. In the **Alerting - Triggered alerts** area, select the appropriate character set: **UTF-8** (default) or **ISO-2022-JP** in:

- the **Email alerts charset** parameter to change the e-mail message character set
- the **SMS alert charset** parameter to change the SMS alert message set
- the **Pager alert charset** parameter to change the Pager alert message set

---

Note to HP Managed Software Solutions customers: The settings described in this section are per customer.

Remove Hardcoded Strings from Notification Messages

To remove hardcoded strings from notification messages, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and in the **Alerting - Triggered alerts** area, set the **Remove hardcoded strings from notifications** value to **true**. When set to **false**, notification messages include hardcoded strings.

Modify the Timeout of an SMTP Server Socket Connection

You can modify the default timeout (60 seconds) after which an SMTP server socket is disconnected. This is for Windows operating systems only.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and in the **Alerting - Triggered alerts** area, enter the value in the **SMTP server socket connection timeout (seconds) (Windows)** parameter.

Modify the Maximum Length of an SNMP Trap

You can modify the default maximum length of an SNMP trap (in bytes).

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings.** Choose **Foundations** and select **Alerting**, and in the **Alerting - Triggered alerts** area, enter the value in the **SMTP trap max length (bytes)** parameter.

Set Up HP Business Availability Center to Use the Appropriate MIB

Set HP Business Availability Center to use the appropriate MIB in the Alerting context of the Infrastructure Settings page by selecting **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, select **Foundations**, select **Alerting**, and in the in the **Alerting - Triggered alerts** area, change the **Use SNMP trap MIB of AM version** setting to use the appropriate MIB.

Modify the Waiting Interval Between Retries

You can modify the default waiting interval between notification retries.

Select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings.** Choose **Foundations** and select **Alerting**, and in the **Alerting - Triggered alerts** area, enter the value in the **Wait interval between retries (seconds)** parameter.

12

CI Status Alerts

The CI Status Alerts tab in Alerts Administration enables you to create alert schemes and attach them to CIs in a view, and to edit those alert schemes.

This chapter describes:	On page:
About CI Status Alerts	145
Create a CI Status Alert Scheme and Attach it to a CI	147
Specify a Notification URL	147
Create an Executable Notification File	148
Configure a Notification SNMP Trap	150
E-Mail, SMS, and Pager Message Templates for CI Status Alerts	150
View the Alerts	156
View the Configuration Item Status Alerts Report	157
View the CI Status Alert Notifications Report	158

About CI Status Alerts

Note: It is recommended to use the new CMDB-based alerting mechanism under **Admin** > **Alerts** > **CI Status Alerts**, which provides greater granularity and flexibility for configuring alerts. The existing event-based alerting mechanism under **Admin** > **Alerts** > **Event-based Alerts** will be gradually phased out in future HP Business Availability Center versions.

You create CI Status alert schemes, and attach those alert schemes to KPIs or CIs in the CI Status Alerts tab accessed by selecting **Admin** > **Alerts**. The decision to send an alert is handled by the rules attached to the CI's KPIs. The alert engine sends alert messages (notifications) to the recipients, and executes the actions and executable files defined for the alert. The Configuration Item Status alerts are triggered by the Business Logic Engine.

This section includes the following topics:

➤ "Alerts Mechanism" on page 146

➤ "The CI Status Alerts Tab" on page 146

Alerts Mechanism

Any changes you make to the alert schemes for a CI—adding new alert schemes, deleting alert schemes, or editing alert scheme properties— is propagated to any view that includes the CI.

When an alert is triggered, it sends a predefined notification (via e-mail, SMS, or Pager) to a predefined recipient or triggers a predefined action (exe file, URL, or SMNP trap). Whenever a notification is sent, information related to the notification is logged into the profile database. You can view the log in the Alert report. For details, see "View the Configuration Item Status Alerts Report" on page 157.

The CI Status Alerts Tab

You can use the CI Status Alerts tab in Alerts Administration to:

- create a CI Status alert scheme and attach it to a CI in a view. The rules attached to the CI's KPIs are used to trigger the alerts.
- define the CI Status alert to apply to a specific KPI or to all the KPIs attached to the CI, so that any change to the status of one KPI triggers the alert. For details, see "Related Configuration Items" on page 214.
- attach more than one CI Status alert to a CI.

- send the same CI Status alert notification to different recipients according to the CI status. For details, see "Recipients" on page 209.
- share the same CI Status alert scheme definition between several CIs. For details, see "Related Configuration Items" on page 214.

Create a CI Status Alert Scheme and Attach it to a CI

You can create new alert schemes and attach them to any CI. You can attach more than one alert scheme to a CI, and you can attach the same alert scheme to more than one CI.

An alert attached to a CI in a view is attached to the CI in any view where the CI is included.

Attach an alert scheme to a CI using the Alerts wizard where you specify:

- **the alert general information.** For details, see "General Page" on page 212.
- **the CIs and KPIs to which you want to attach to the alert scheme.** For details, see "Related Configuration Items" on page 214.
- **the alert recipients and templates.** For details, see "Templates and Recipients" on page 216.
- **the user-defined alert handlers (actions) that will be triggered by the alert.** For details, see "Actions" on page 218.

  The last step of the wizard displays a summary of the alert scheme definition. For details, see "Summary" on page 219.

Specify a Notification URL

You can create a notification URL to attach to an alert. This notification URL is used to pass alert information to external systems such as a customer Web application.

You can embed predefined alert parameters in the notification URL. The parameters are used as placeholders when the message is formatted.

For details, see "Create New URL/Edit URL Dialog Box" on page 223.

Example–Create a Notification URL

To include the name of the CI and the current status of the CI in the URL proceed as follows:

1 Enter the following string in the **Enter URL** box:

```
http://dogbert.com/myjsp?entityname=
```

2 Select **CI Name** in the **Field** box and press **Insert Field** to insert the <<**CI Name**>> variable.

The string in the **Enter URL** box is now:

```
http://dogbert.com/myjsp?entityname=<<CI Name>>
```

3 At the end of the string in the **Enter URL** box, enter severity=

4 Select **Current Status** in the **Field** box and press **Insert Field** to insert the <<**Current Status**>> variable.

The string in the **Enter URL** box is now:

```
http://dogbert.com/myjsp?entityname=<<CI Name>> severity=
<<Current Status>>
```

Create an Executable Notification File

Only users with administrative privileges can create an executable file to be run when the alert it is attached to is triggered. For details, see "Set Up the Appropriate Administrative Privileges" on page 149. The executable file writes information in special logs or inserts information into external databases.

Note to HP Managed Software Solutions customers: To create an executable file, contact HP Managed Software Solutions Support.

For details, see "Create New Executable File/Edit Executable File Dialog Box" on page 220.

Example–Creating An Executable File

To include the name of the CI in the command proceed as follows:

1 Enter the following string in the **Enter command** box:

```
\\servername\myfolder\run.exe -name
```

2 Select **CI Name** in the **Field** box and press **Insert Field** to insert the <<**CI Name**>> variable.

The string in the **Enter command** box is now:

```
\\servername\myfolder\run.exe -name <<CI Name>>
```

Set Up the Appropriate Administrative Privileges

You can set the appropriate administrative privileges to create a command that can be attached to an alert scheme.

To set the appropriate administrative privileges:

1 Select **Admin** > **Platform** > **Users and Permissions**.

2 Choose the **Monitors** context.

3 Click **Alerts - Run executable file**.

4 Select the **Operations** tab.

5 Set the permissions to **Change.** For details, see "Permissions Management" in *Platform Administration*.

Configure a Notification SNMP Trap

You can create an SNMP trap to attach to an alert. This SNMP trap is sent when the alert criteria is met. The alert notice can be viewed via any SNMP management console in the organization.

For details, see "Create New SNMP Trap/Edit SNMP Trap Dialog Box" on page 222.

The default host address of the SNMP trap appears automatically in the **Enter host destination** box in the Create New SNMP Trap or in the Edit SNMP Trap dialog box. If, when you create or edit an SNMP trap, you select the default host address and then modify it afterwards in the Infrastructure Settings, the address in the SNMP trap you created is updated to the new default. Any alert that is sent causes the SNMP trap to be sent to the new default address.

For details, see "Modify the Default SNMP Trap Host Address" on page 140.

E-Mail, SMS, and Pager Message Templates for CI Status Alerts

This section details the structure of each format of e-mail, SMS, and Pager message templates.

Note: You cannot edit the e-mail, SMS, and Pager message templates.

This section includes the following topics:

- "Examples of E-mail Messages" on page 151
- "Message Syntax" on page 153
- "Advanced Option–Add the Additional Parameters to a CIT" on page 155

Examples of E-mail Messages

The e-mail messages that the user receives depend on the format you select in the **E-mail message template** list.

➤ **Example of long text e-mail/SMS/Pager message**

10per50ava status has changed to Warning.
Status Change Time: GMT[+03:00] 4/12/07 11:59 AM
KPI Name: Performance
KPI value: N/A
Previous Status: Minor
Alert name: Alert 1 (Long text)
Alert Description:
The alert was triggered for the following CI:
CI Type: Business Process Step
Data Name: 10per50ava
Over Time Report
Service Impact Report
For more details log into HP Business Availability Center

➤ **Example of long HTML e-mail/SMS/Pager message**:

10per50ava status has changed to **Warning**.

Status Change Time:	GMT[+03:00] 4/12/07 11:59 AM
KPI Name:	Performance
KPI value:	N/A
Previous status:	Minor
Alert name:	Alert 1
Alert Description:	

The alert was triggered for the following CI:

CI Type	Business Process Step
Data Name	10per50ava

Over Time Report

Service Impact Report

For more details log into HP Business Availability Center

➤ **Example of short HTML e-mail/SMS/Pager message**

10per50ava status has changed to **Warning**.
For more details login into HP Business Availability Center

➤ **Example of short text e-mail/SMS/Pager message**

10per50ava status has changed to Warning.
For more details log into HP Business Availability Center

Message Syntax

The syntax used in the message is a subset of one of the following:

➤ long/short HTML template:

ci_name status has changed to *current_status*.

Status Change Time:	*trigger_time*
KPI Name:	*alert_name*
KPI value:	*alert_value*
Previous status:	*previous_status*
Alert name:	*alert_name*
Alert Description:	*alert_description*

The alert was triggered for the following CI:

CI Type	*ci_type*
data_name	*ci_name*
<additional_parms>	*additional_parms*

Over Time Report

Service Impact Report

For more details log into *url*

➤ long/short text template:

ci-name status has changed to *current-status*.

Trigger Time: *trigger-time*

KPI Name: *KPI-name*

KPI value: *KPI-value*

Previous status: *previous-status*

Alert name: *alert-name* (Long text)

Alert Description: *alert-description*

The alert was triggered for the following CI:

CI Type: *ci_type*

data_name: *ci_name* <additional_parms>: *additional_parms*

<link to Over Time Report>

<link to Service Impact Report>

For more details log into *url*

For details about the parameters, see "Configuration Item Status Alert Notifications Page/Report" on page 225.

Advanced Option–Add the Additional Parameters to a CIT

If you create a new CIT, you can add the CIT parameters to a CI Status Alert.

Note: It is recommended to save the original package under a different name before modifying it.

Note to HP Managed Software Solutions customers: This capability is not available for HP Managed Software Solutions customers.

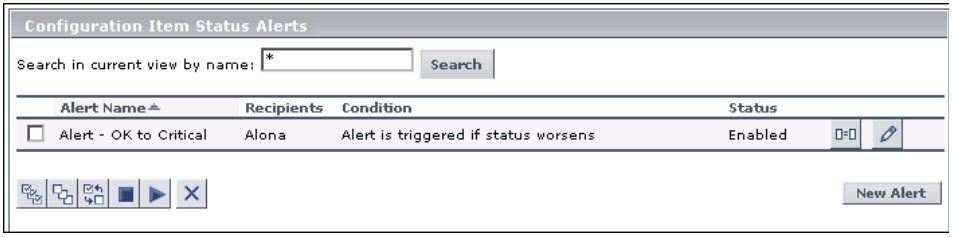
To add additional parameters to a CIT, open the **<CIT_package>.zip** file at the following location:
<uCMDB Processing Server root directory>\mamlib\packages
or in the location where the CIT package is located. Open the **<CIT>.xml** file, locate the parameter you want to display, and add the following line between the **<Attribute-Qualifiers>** tags:
<Attribute-Qualifier name="ALERT_NOTIFICATION_ATTRIBUTE"/>
Save and re-deploy the package.

For example, add the line as follows:

```
<Attribute name="database_dbversion" display-name="Version" description="The
database version" type="string" size="25">
 <Attribute>
      <Attribute-Qualifiers>
           <Attribute-Qualifier name="ALERT_NOTIFICATION_ATTRIBUTE"/>
      </Attribute-Qualifiers>
 </Attribute>
```

View the Alerts

After you complete defining an alert scheme, it is listed in the CI Status Alerts tab.



You can perform the following actions:

- Attach a new alert scheme to a CI.
- Clone and edit an existing alert scheme.
- Delete an existing alert scheme.
- Enable or disable an alert scheme.
- Search for an alert scheme.

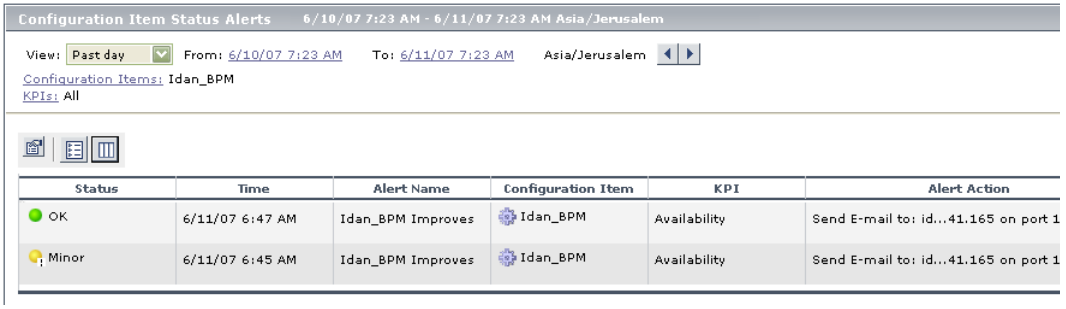
You administer existing alert schemes by cloning a scheme and customizing it, deleting a scheme that is no longer needed. You can also enable alert schemes so that they send notifications to the recipients when the appropriate KPI(s) status changes, or you can disable them. By default, alert schemes are enabled.

You can search for specific alert schemes assigned to a CI in the current view using the search feature. The search feature works only on alert scheme names.

For details, see “Configuration Item Status Alerts Page - Administration” on page 230.

View the Configuration Item Status Alerts Report

The CI Status Alerts tab in the Alerts application enables you to list all of the alerts that occurred in the specified period of time and to display detailed alert information.



For details, see “Configuration Item Status Alerts Page - Administration” on page 230.

HP Business Availability Center alerts proactively inform you when predefined performance limits are breached, by sending alerts to predefined users. The Configuration Item Status Alerts report is a log of alerts that were sent during a specified time period.

Users with the appropriate permissions must attach alerts to a configuration item (CI) in a view. For details, see “CI Status Alerts” on page 145. The alert is then attached to the CI in any view where the CI is included.

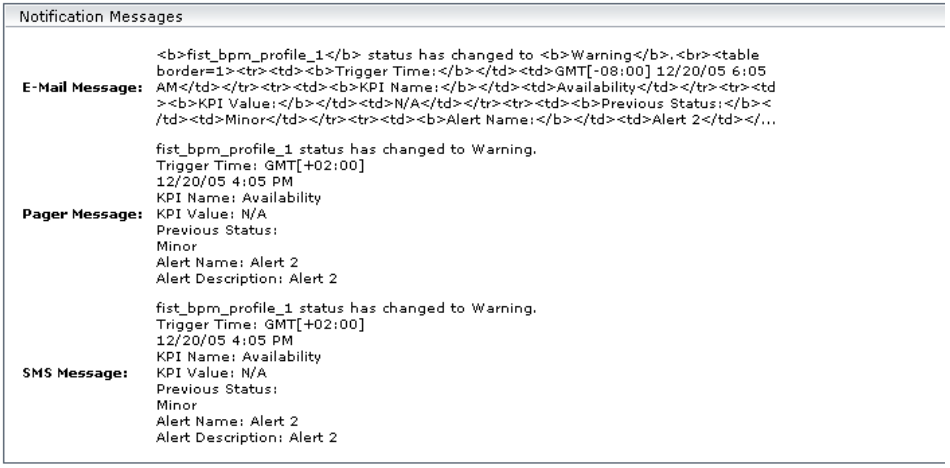
You can schedule this report. For details, see “Scheduling User Reports or the Performance Update Report” in *Platform Administration*.

View the CI Status Alert Notifications Report

To display detailed alert information, access the Configuration Item Status Alerts page, and click the **Details** button for the relevant alert to open the Configuration Item Status Alert Notifications report. For details, see "Configuration Item Status Alert Notifications Page/Report" on page 225.

The Configuration Item Status Alert Notifications report includes details about:

- the alert
- the notification
- the notification message
- the type of message followed by the text of the message.



The E-mail message text format depends on the e-mail format selected by the sender. The following format corresponds to a Long HTML format:

```
<b><<ci-name>> status</b> has changed to <b><<current-status>></b>.<br>
<table border=1>
<tr><td><b>Trigger Time:</b></td><td><<trigger-time>></td></tr>
<tr><td><b>KPI Name:</b></td><td><<KPI-name>></td></tr>
<tr><td><b>KPI value: </b></td><td><<KPI-value>></td></tr>
<tr><td><b>Previous status:</b></td><td><<previous-status>></td></tr>
<tr><td><b>Alert name:</b></td><td><<alert-name>></td></tr>
<tr><td><b>Alert Description: </b></td><td><<alert-description>></td></tr>
<tr><td><b>URL: </b></td><td><<URL>></td></tr>
</table>
```

HTML is encoded in the report. The text of the e-mail received by the recipient is decoded and is similar to the Pager message text. For more information on the different formats available to send e-mails, or pager messages, see "View the Alerts" on page 156.

The text of the Pager and SNMP messages has the following format:

```
<<ci-name>> status has changed to <<current-status>>.
Trigger Time: <<trigger-time>>
KPI Name: <<KPI-name>>
KPI value: <<KPI-value>>
Previous status: <<previous-status>>
Alert name: <<alert-name>>
Alert Description: <<alert-description>>
URL: <<URL>>
```

For details about the parameters displayed in the different formats, see "Configuration Item Status Alert Notifications Page/Report" on page 225.

13

SLA Alerts

This chapter explains how to create an SLA alert that notifies you or another user of changes to an SLA's KPI status.

Note: When defining SLA alert schemes, the term **SLA** includes OLAs and UCs.

This chapter describes:	On page:
Define an SLA Alert Scheme	161
View the SLA Alert Schemes	162
View SLA Alert and SLA Alert Notification Reports	163

Define an SLA Alert Scheme

You set up an alert scheme to monitor current status or forecast status for one or more SLAs, and to define the notifications that are sent when the alert is triggered. An alert scheme is defined in the Create New Alert wizard, accessed by clicking **New Alert** in the **Admin** > **Alerts** > **SLA Alerts** tab.

Before setting up an alert scheme, you must have defined one or more SLAs. In the Create New Alert wizard, you select one or more SLAs that will be monitored by the alert scheme. (You can later add additional SLAs by editing the alert scheme.)

In the wizard you also choose the recipients and templates for the generated alerts. You can select from the available recipients, or define new recipients while working in the wizard.

The Create New Alert wizard is described in "Create New Alert/Edit Alert Wizard" on page 239.

View the SLA Alert Schemes

After you complete defining an alert scheme, it is listed in the SLA Alerts tab. For details, see "SLA Alerts Page - Administration" on page 250.

You can perform the following actions:

- You can clone and edit an existing alert scheme. The cloned alert inherits all the properties of the existing alert, including SLAs and recipients. The creator of the new alert is the user who cloned it.
- You can delete an existing alert scheme.
- You can enable or disable an alert scheme.
- You can search for an alert scheme.

You administer existing alert schemes by duplicating a scheme and customizing it, deleting a scheme that is no longer needed. You can also enable alert schemes so that they send notifications to the recipients when the relevant conditions occur, or you can disable them. By default, alert schemes are enabled.

You can search for specific alert schemes using the search feature. The search feature works only on alert scheme names. For details, see "SLA Alerts Page - Administration" on page 250.

View SLA Alert and SLA Alert Notification Reports

The SLA Alerts report is a log of the alerts that are triggered during a specified time period, based on the defined SLA alert schemes. For details, see "SLA Alerts Report" on page 254.

You can view more details about a specific alert in the SLA Status Alert Notification page. For details, see "SLM Alert Notifications Page" on page 252.

14

Event-Based Alerts

HP Business Availability Center alerts proactively inform you when predefined performance limits are breached. To instruct HP Business Availability Center under what conditions to send alerts, you create alert schemes using the Alert Wizard. You can specify alert filters, trigger criteria, actions, and settings.

This chapter describes:	On page:
Create Alert Schemes	166
Configure Alert Notification Templates	178
Define Alert Dependency	181
Control Alerts	187
View and Manage an Alert Scheme	206
View Event-Based Alert Reports	207

Create Alert Schemes

Once you create a Business Process profile, you create one or more alert schemes for the profile, using the Alert Wizard. In each alert scheme, you define a unique set of alert properties. You can add as many alert schemes to your Business Process profile as required.

Workflow

To create an alert scheme using the Alert Wizard, perform the following steps:

1 **Select a profile and create a new alert.** Select the profile for which you want to create the alert and click **New Alert**. For details, see "Alerts Page" on page 269.

2 **Configure the alert scheme.** Use the Alert Wizard to:

- **Define the Alert Trigger Criteria.** You define the transaction response time and availability criteria that trigger the alert.
- **Set the Alert Filters.** You set alert filters that enable you to customize the alert scheme for more accurate alerting.
- **Configure the Alert Action Setting.** You specify what actions you want HP Business Availability Center to take when alert trigger criteria are met.
- **Configure Additional Alert Settings.** You specify various settings, including alert name, label, and status.

After you have finished creating the alert scheme, it is added to the Alerts table.

For details, see "Alert Wizard" on page 272.

Define the Alert Trigger Criteria

Alert trigger criteria enable you to specify the transaction response time and availability conditions that trigger an alert. You can choose to trigger the alert based on either an event related to the transaction's success or failure, or based on the time it takes for the transaction to be completed.

You define the alert trigger criteria from the Trigger Criteria tab of the Alert Wizard. For details, see "Trigger Criteria Tab" on page 273.

In the Trigger Criteria tab, you select a trigger in the upper part of the tab. The definition of the trigger criteria appears in the lower part of the tab in the Alert Description area. The trigger definition includes a link to define or edit the trigger definition.

When you set alert filters, HP Business Availability Center considers trigger criteria within the context of the selected items only.

If you select multiple, time-based alert trigger criteria, you also specify multiple trigger condition properties. For details, see "Select Multiple Triggers" on page 170.

Consider the following guidelines when specifying alert trigger criteria:

- Set your alerts to about 10-20% over your average times.
- Use the following values for transaction response time alert triggers: 4 seconds for general transactions, like loading a home page; 10 seconds for more complex transactions, like searching; 12 seconds for the most complex activities, like logging to the database.
- If you configure transaction thresholds in profiles to be similar to thresholds established in your organization's service level agreements, you can use threshold-based alerts to alert you to performance issues related to deviation from SLA criteria.

This section includes the following topics:

➤ "Configure Alerts for the Business Process Monitor Profile" on page 168

➤ "Configure Alert Triggers for the Real User Monitor" on page 168

➤ "Grouping and Limitation Options for Real User Monitor Alerts" on page 169

➤ "Select Multiple Triggers" on page 170

Configure Alerts for the Business Process Monitor Profile

If you are defining alert criteria for a Business Process Monitor profile, you can choose from the event-based triggers criteria or from the time-based triggers criteria.

When you select a trigger in the upper part of the tab, a trigger criteria element is added to the Alert criteria area. Click the link in the trigger criteria to define the criteria.

For details, see "Trigger Criteria Tab" on page 273.

Configure Alert Triggers for the Real User Monitor

The alert trigger criteria that you can configure for the Real User Monitor depend on the alert type (page alert, transaction alert, or server alert)you selected in the New Alert dialog box.

When you select a trigger in the upper part of the tab, a trigger criteria element is added to the Alert criteria area. Click the link in the trigger criteria to define the criteria.

For details, see "Trigger Criteria Tab" on page 273.

For example the user might receive the following alert:

```
Profile Name: Default_Client_RUM_Profile

Severity: Major

Alert Name: Page response time relative to threshold is greater than 60 percent


Trigger Condition:
------------------
60.00% hits with page time greater than defined threshold.
 Limitation of minimum 0 hits reaching threshold; Calculate alert over 15 minute interval.

Current Description:
--------------------
7 hits which are 70.00% of the hits were with page time greater than defined threshold.

User Message:

HP Web Site URL: http://h20230.www2.hp.com/svi_partner_list.jsp


Results of Requested Actions:
-----------------------------
N/A
```

Grouping and Limitation Options for Real User Monitor Alerts

The performance data by which you can group, and the data by which you can limit, a Real User Monitor alert scheme differ from other alert schemes. The grouping and limitation options also differ, depending on the type of Real User Monitor alert you are configuring.

The following table describes the grouping and limitation options available for each type of Real User Monitor alert:

Alert Type	Group Performance Data Options	Limitation Options
Page	Page name End-user name	Pages End-user names End-user locations
Transaction	Transaction name End-user name	Transactions End-user names End-user locations
Server	Server name	Servers

Select Multiple Triggers

If you select multiple time-based alert trigger criteria, you specify whether you want HP Business Availability Center to send the alert:

- if any of the trigger conditions are met
- only if all the time-based trigger conditions are met

For details, see "Multiple Trigger Condition Dialog Box" on page 315.

Set the Alert Filters

Alert filters enable you to track performance issues related to specific monitored servers, monitors, or measurements.

You set the alert filters from the Alert Filters tab of the Alert Wizard.

You can filter the alerts that HP Business Availability Center sends based on the triggers you configured by:

- **Group Performance Data.** HP Business Availability Center sends an alert when a specific set of alert trigger criteria are met. By default, when assessing whether alert trigger criteria have been met, all the relevant performance data in the profile database (for example, when assessing whether a transaction has failed, all the transaction instances are checked) is considered. For more details, see "Understand How to Group Performance Data for Alert Filters" on page 172.

  You can instruct HP Business Availability Center to consider the performance data per transaction, per script (file containing transactions), per group, per location, or per any combination of the four.

  If you are setting Real User Monitor alert filters, you can instruct HP Business Availability Center to consider the performance data per page name, per end-user name, per transaction name, and/or per server name, depending on the type of alert you are configuring.

- **Limiting Alerts to Specific Pages, Transactions,Servers, Locations, and/or Groups.** By default, HP Business Availability Center sends an alert when alert trigger criteria are met for any transaction, from any location or group, in the profile. By using any of these filters, you instruct HP Business Availability Center to limit the alert scheme to one or more specific pages, transactions, servers, locations, groups, and so on.

  HP Business Availability Center determines which alerts are sent by how the alert triggers and alert filters are configured.

Define the Filter Criteria

When you select a filter in the upper part of the tab, a filter criteria element is added to the Alert filters area. Click the link in the filter criteria to define the criteria.

The filter criteria elements are:

- **Group performance data by <specified criteria>**. For details, see "Group Performance Data Dialog Box" on page 311.
- **Limit to Transactions <as specified>.** For details, see "Transaction Filters Dialog Box" on page 344.

- **Limit to Pages <as specified>.** For details, see "Page Filters Dialog Box" on page 325.
- **Limit to Servers <as specified>.** For details, see "Server Filters Dialog Box" on page 339.
- **Limit to Groups <as specified>.** For details, see "Groups Filters Dialog Box" on page 310.
- **Limit to Locations <as specified>.** For details, see "Locations Filters Dialog Box" on page 313.

Understand How to Group Performance Data for Alert Filters

Understanding how to group performance data has an impact on the triggering of alerts.

- **For Business Process Monitor profiles.** If, for example, a profile contains two transactions, T1 and T2, both running from two locations, L1 and L2. Further, you want an alert to be triggered if average transaction response time is greater than 10 seconds. When assessing whether to send the alert, HP Business Availability Center has to consider the following data from the running profile:

Location	Transaction	Response Time (sec.)
L1	T1	12
L1	T2	11
L2	T1	12
L2	T2	1

Without the filter, HP Business Availability Center would calculate average response time as 9 seconds ((12+11+12+1)/4), and would thus not send an alert.

With the filter set to:

- **Group performance data by transaction**. HP Business Availability Center would consider all instances of transaction T1 separately and all instances of transaction T2 separately. Since average response time for T1 is greater than 10 seconds ((12+12)/2), HP Business Availability Center would send an alert for T1. Since average response time for T2 is under 10 seconds ((11+1)/2), HP Business Availability Center would not send an alert for T2.
- **Group performance data by location**. HP Business Availability Center would send an alert for location L1 but not for location L2.
- **Group performance data by transaction and location**. HP Business Availability Center would consider all instances of transaction T1 from location L1 separately, all instances of T1 from L2 separately, all instances of T2 from L1 separately, and all instances of T2 from L2 separately. HP Business Availability Center would send an alert for T1 from L1 and T1 from L2, but not for T2 from L2.

- **For Real User Monitor profiles.** The performance data by which you can group, and the data by which you can limit, a Real User Monitor alert scheme differ from other alert schemes. The grouping and limitation options also differ, depending on the type of Real User Monitor alert you are configuring.

  The following table describes the grouping and limitation options available for each type of Real User Monitor alert:

Alert Type	Group Performance Data Options	Limitation Options
Page	Page name End-user name	Pages End-user names End-user locations
Transaction	Transaction name End-user name	Transactions End-user names End-user locations

Alert Type	Group Performance Data Options	Limitation Options
Server	Server name	Servers
End-User	End-user name	End-user names End-user locations

Configure Alert Actions

Alert actions enable you to specify the actions that HP Business Availability Center takes when alert trigger criteria are met.

You define the alert actions from the Alert Actions tab of the Alert Wizard:

- **Send alert to specified recipients.** You specify the recipients that receive alert notices.
- **Include user message.** You specify that you want to include a user message and type the message that you want HP Business Availability Center to include in the alert notices that recipients receive.
- **Access URLs.** You specify that you want HP Business Availability Center to access a URL when alert trigger criteria are met. By accessing a URL, HP Business Availability Center can send alerts via a Web site, for example, using Active Server Pages, CGI, or Perl. The URL can activate an executable program on a Web server, report to a custom database, activate a Web-based fax service, and so on. You can develop custom pages or use existing ones.

Note: HP Business Availability Center supports the GET method only when accessing a URL. If your Web server only supports the POST method, or if you want more information on developing custom Web pages for your server, please contact your Customer Support representative.

➤ **Access a Service Impact report when an Alert Occurs for a Specific CI.** You can access the Service Impact report when an event-based alert occurs if you enter the following URL in the e-mail, SMS, or Pager message:

http://<server_name>/login.jsp?portlet_url=/service-impact/main/page.do?ciId=4230b4e6d2eb27c8379699921b0654ae

For details about the Service Impact report, see "Service Impact Report" in *Using Dashboard*.

➤ **Send SNMP trap.** You specify that you want HP Business Availability Center to send an SNMP trap when alert trigger criteria are met. The alert notice can then be seen via any SNMP management console in the organization.

Note: HP Business Availability Center supports only SNMP V1 traps.

For details on configuring the Alerts MIB in your SNMP management console, see "Configure the Alerts MIB" on page 198.

➤ **Run executable file.** You specify that you want HP Business Availability Center to run an executable file (for example, an **.exe** or **.bat** file) when an alert is triggered. The executable file must not be interactive (no user response required) and should not have a user interface.

HP Business Availability Center can run an executable file (**.exe** or **.bat** file) when an alert is triggered—either a predefined or custom executable.

➤ **Log to Event Viewer application log (Windows only).** You specify that you want HP Business Availability Center to log an event to the Windows Event Viewer application log when an alert is triggered. You configure the event type, ID, category, and description (standard Event Viewer categories).

If the Gateway Server is not installed on a Windows-based machine, HP Business Availability Center cannot execute this alert action.

➤ **Make specified alerts subordinate to this alert.** (Alert dependency)
HP Business Availability Center enables you to define alert dependency. You specify that you want alerts that were previously defined in a specific profile to be subordinate to the alert you are currently defining in that profile, thus making the current alert the dominant alert. If required, you can enable cross-profile dependency. This allows you to define alerts from other profiles as subordinate alerts.

When an alert defined as subordinate is triggered, HP Business Availability Center suppresses all actions configured for the alert if its dominant alert was previously triggered as well, and if the conditions that triggered the dominant alert remain true at the time the subordinate alert is triggered.

Further, you can define a time limit for each alert you designate as subordinate. HP Business Availability Center begins running the clock on the time limit from the moment the dominant alert is triggered. When a time limit is defined, the actions of the subordinate alert are suppressed as long as the conditions that triggered the dominant alert remain true—but only until the time limit expires.

For details, see "Guidelines and Tips for Configuring Alert Dependencies" on page 182.

Note: Regardless of the actions you select, each time alert trigger criteria are met, HP Business Availability Center logs an alert in the Alert Log, which you view on the Web site. For details on viewing the alert log, see "Alert Log Report" on page 267.

Define the Actions Criteria

When you select an action in the upper part of the tab, a filter criteria element is added to the Alert actiobs area. Click the link in the action criteria to define the criteria.

The filter criteria elements are:

➤ **Send alert to**. For details, see "Select Recipients Dialog Box" on page 338.

➤ **Include the user message**. The User Message dialog box opens. Enter the user message and click **OK**.

- **Access the URL(s)**. For details, see "Access URLs Dialog Box" on page 260.
- **Send SNMP trap to**. For details, see "SNMP Servers Dialog Box" on page 340.
- **Run executable file**. For details, see "Run Executable File Dialog Box" on page 336.
- **Log**. For details, see "Log Event Dialog Box" on page 314.

Configure Additional Alert Settings

You specify additional alert settings and review your alert scheme before saving it.

You configure the additional alert settings from the Alert Settings tab of the Alert Wizard. For details, see "Settings Tab" on page 298.

From the Alert Settings tab, you can:

- **Modify the default alert name.** The alert name appears in the alert notices that HP Business Availability Center sends. The default alert name is based on the alert trigger criteria you select. If you do not want HP Business Availability Center to use the default alert name, you can give the alert an alternative name. For details, see the **Name** description in "Settings Tab" on page 298.
- **Select a severity label for the alert.** You provide meaningful labels to your alerts to identify and classify them when you receive them, or when you see them in the Alert Log.

  For details, see the **Severity** description in "Settings Tab" on page 298.
- **Send a follow-up alert and run an executable file when follow-up alert is triggered.** You can instruct HP Business Availability Center to send a follow-up alert when the conditions that trigger the original alert are no longer true. HP Business Availability Center sends the follow-up alert to the same recipient(s) that received the original alert.

  For details, see the **Send follow up alert** description in "Settings Tab" on page 298.

- **Specify the alert notification frequency.** You specify the frequency with which you want HP Business Availability Center to perform the alert actions that you select.

  For details, see the **Notification Frequency** description in "Settings Tab" on page 298.

- **Temporarily disable the alert scheme.** You can temporarily disable the alert scheme if you do not want HP Business Availability Center to send or log alerts when the trigger criteria defined in the alert scheme are met. You disable an alert scheme if, for example, you have not yet finished creating the profile related to the alert, or if you temporarily stop the profile run.

  For details, see the **Enable alert** description in "Settings Tab" on page 298.

After selecting the required settings, you can review your alert scheme before saving it.

Configure Alert Notification Templates

HP Business Availability Center alerts proactively inform designated recipients when predefined performance limits are breached. To determine the contents and appearance of the alert notices, you can select predefined templates or configure your own template for notifications.

This section includes the following topics:

- "About Alert Notification Templates" on page 178
- "Configure a Template for Follow-up Notifications" on page 180

About Alert Notification Templates

Alert notification templates specify the information that HP Business Availability Center includes when it sends various types of alert notices. Default templates are available and are pre-configured with selected parameters for each section of the alert notice. For details on the information included in the default templates, see "Notification Templates Page" on page 322.

You can also create custom templates to use for different alert notice delivery methods (e-mail, pager, SMS), or for different recipients, for example. A custom template is defined in the Notification Template Properties page. Each section of the alert notice includes a list of parameters from which to select. For details on the information that can be included in a custom template, see "Notification Templates Page" on page 322.

Note for HP Managed Software Solutions customers: Your list of notification templates includes those created for your use by HP Managed Software Solutions representatives and those created by your organization.

The **Customer Template** column in the Notification Templates page indicates whether the template listed was created specifically for your organization's use.

You select which template to use per recipient in the Recipient Properties dialog box. For details, see "Recipients" on page 209.

You use the Notification Templates page to:

- **Create custom templates.** HP Business Availability Center gives you the flexibility to create different notification templates for the different alert schemes and recipients that are defined for your platform. For details, see "Notification Template Properties Dialog Box" on page 318.
- **Modify the default templates.** For details, see "Notification Templates Page" on page 322.

- **Manage existing templates.** Over time, you may find it necessary to make changes to notification templates that you create, due to organizational changes, changes in notification policies, changes to service level monitoring contracts, and so on. You use the Notification Templates page to edit, clone, and delete notification templates defined in HP Business Availability Center. For details, see "Notification Templates Page" on page 322.
- **Create custom templates for follow-up notifications.** Every template is divided into sections. You specify the information that you want to appear in each section. For details, see "Notification Template Properties Dialog Box" on page 318.

Configure a Template for Follow-up Notifications

When configuring alert schemes, you can instruct HP Business Availability Center to automatically follow up the alert by sending a follow-up notification. For details on selecting this option while creating your alert scheme, see "Configure Additional Alert Settings" on page 177.

There is a default template for follow-up notifications that is automatically used by HP Business Availability Center. If you do not want HP Business Availability Center to use that default template, create your own follow-up template.

This follow-up template must be based on an existing notification template. HP Business Availability Center uses the follow-up notification template that you create under the following circumstances:

- An alert has been triggered.
- Notification is sent to a recipient based on an existing template (default or user-defined).
- The alert scheme has been configured to send a follow-up alert.

The notification template selected for the recipient has a follow-up template based on the notification template's name. For details on naming a follow-up template, see "Notification Template Properties Dialog Box" on page 318. For details on follow up alerts, see "Settings Tab" on page 298.

Define Alert Dependency

HP Business Availability Center enables you to define alert dependency.

This section includes the following topics:

- "About Alert Dependency" on page 181
- "Guidelines and Tips for Configuring Alert Dependencies" on page 182
- "Examples of Alert Dependency" on page 183
- "Benefits of Alert Dependency" on page 184
- "Define Alert Dependency" on page 185
- "Review Alert Dependencies" on page 186
- "Change the Cross-Profile Alert Dependency Status" on page 186

About Alert Dependency

You specify that you want alerts that were previously defined in a specific profile to be subordinate to the alert you are currently defining in that profile, thus making the current alert the dominant alert. If required, you can enable cross-profile dependency. This allows you to define alerts from other profiles as subordinate alerts.

When an alert defined as subordinate is triggered, HP Business Availability Center suppresses all actions configured for the alert if its dominant alert was previously triggered as well, and if the conditions that triggered the dominant alert remain true at the time the subordinate alert is triggered.

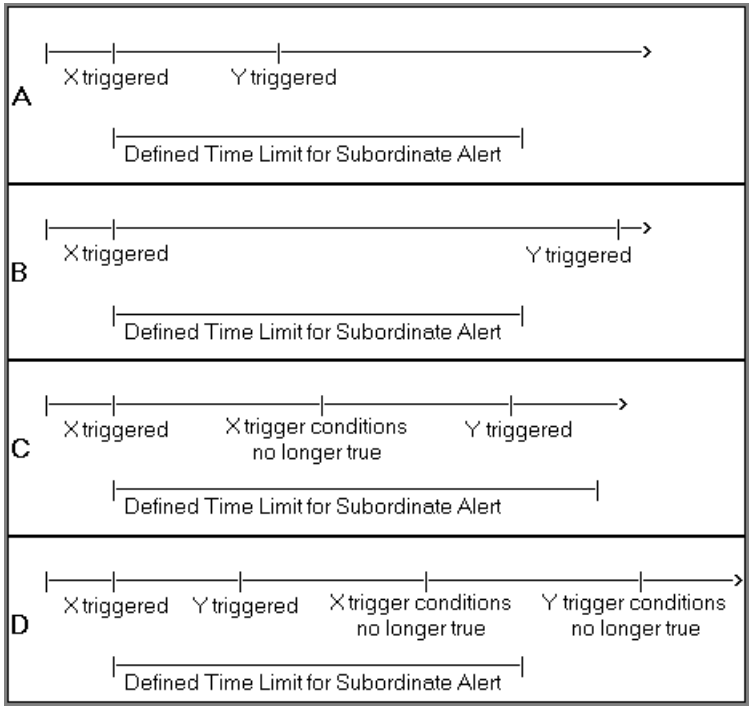
Further, you can define a time limit for each alert you designate as subordinate. HP Business Availability Center begins running the clock on the time limit from the moment the dominant alert is triggered. When a time limit is defined, the actions of the subordinate alert are suppressed as long as the conditions that triggered the dominant alert remain true—but only until the time limit expires.

Guidelines and Tips for Configuring Alert Dependencies

- Subordinate alerts are always logged to the Alert Log.
- If a follow-up alert is defined for an alert, regardless of whether the alert is dominant or subordinate, HP Business Availability Center sends the follow-up alert only if the original alert was sent. Thus, if a subordinate alert is suppressed, its follow-up alert is not sent. For details on defining follow-up alerts, see "Notification Template Properties Dialog Box" on page 318.
- Subordinate alerts are never triggered in the specified time limit.
- You cannot create alert loops. That is, if you have a series of dependencies, the dependency path cannot loop back on itself. For example, if Alert A is subordinate to Alert B, Alert B is subordinate to Alert C and Alert D, and Alert C is subordinate to Alert E, you cannot define Alerts B, C, D, or E to be subordinate to Alert A.
- Alert dependency is not transitive. For example, if Alert A is subordinate to Alert B, and Alert B is subordinate to Alert C, Alert A is not subordinate to Alert C.

Examples of Alert Dependency

Consider the following examples, in which alert Y is defined as being subordinate to alert X.



- In example A, HP Business Availability Center suppressed alert Y's defined actions because alert X, the dominant alert, occurred before alert Y. Further, alert Y occurred during its defined time limit, and while the conditions that triggered alert X remained true.
- In example B, HP Business Availability Center did not suppress alert Y's defined actions (that is, alert Y behaved as defined) because—even though alert X, the dominant alert, occurred before alert Y—alert Y occurred after its defined time limit expired.

- In example C, HP Business Availability Center did not suppress alert Y's defined actions (that is, alert Y behaved as defined) because the conditions that triggered alert X, the dominant alert, were no longer true by the time alert Y occurred. In this case, the time limit is irrelevant.
- In example D, HP Business Availability Center suppressed alert Y's defined actions because alert X, the dominant alert, occurred before alert Y and because alert Y occurred during its defined time limit. In addition, assuming follow-up alerts were defined for alerts X and Y, HP Business Availability Center sent a follow-up alert for alert X when its trigger conditions were no longer true. A follow-up alert for alert Y was not sent when its trigger conditions were no longer true, since the original alert Y was suppressed.

Benefits of Alert Dependency

Defining subordinate alerts allows you to:

- Reduce the amount of alert traffic sent.
- Define alert dependencies that match transaction dependencies.

  For example, if you have a transaction that checks the login to your application and a transaction that checks a search in the application after login, you can define the alert that notifies you about poor search performance subordinate to the alert that notifies you about failure to log in to your application. In this case, only the dominant alert is necessary to alert staff to a problem.
- Nest alerts according to severity.

  For example, you can make alerts that are of severity Minor subordinate to alerts that are of severity Critical.

➤ Define alert dependencies that match alert trigger criteria.

For example, if you define an alert to be triggered if response time is greater than 15 seconds, and another alert for response time greater than 30 seconds, if response time was 35 seconds, without dominant/subordinate alert definition, HP Business Availability Center would send 2 alerts. By making the "response time greater than 15 seconds" alert subordinate to the "response time greater than 30 seconds" alert, only the dominant alert would be sent if response time were greater than 30 seconds. The subordinate alert would be sent if response time were between 15 and 30 seconds.

Define Alert Dependency

To make optimal use of the alert dependency feature, it is recommended that you map out an overall picture of your monitoring and alerting strategy before defining subordinate alerts. Further, you should decide whether you need cross-profile alert dependency (once enabled, cross-profile alert dependency cannot be disabled). For details on enabling cross-profile dependency, see "Change the Cross-Profile Alert Dependency Status" on page 186.

Once you have planned out your required alert dependencies and configured the needed cross-profile dependency setting, you can create or edit your dominant alerts to specify their subordinate alerts.

For details, see "Define Subordinate Alerts Dialog Box" on page 306.

Review Alert Dependencies

You can view an overall summary of all defined alert dependencies for all profiles. You can also determine whether a specific alert is defined as subordinate and view its dominant alert(s). You can:

- **Review all defined alert dependencies.** In the Event-based Alerts tab, select the **View Dependencies** menu item. The Alert Dependency Overview page opens and displays a table that lists all existing dominant alerts and their subordinate alerts, along with their corresponding profiles, and the dependency time limit. For details, see "View Dominating Alerts Dialog Box" on page 346.
- **Verify whether an alert is defined as subordinate or as a dominant alert(s).** In the Actions tab of the Alert Wizard for the alert, in the Alert Description area, under Alert action:
  - **Make the following alert(s) subordinate to this alert: <specified alerts>.** Indicates that the current alert is a dominant alert for the specified alert(s). For details, see "Alert Wizard" on page 272.
  - **This alert is subordinate to the alert(s): <specified alert>.** Indicates that the current alert is subordinate to the specified alert. For details, see "Alert Wizard" on page 272.

Change the Cross-Profile Alert Dependency Status

Cross-profile alert dependency is disabled by default. Enabling cross-profile alert dependency has the following implications:

- After it has been enabled, it cannot be disabled.
- With cross-profile alert dependency enabled, more complex alert dependencies can be defined. However, managing complex dependencies may require an advanced level of administration.

- When defining alert dependencies with cross-profile alert dependency enabled, users must keep in mind that they do not have permissions to modify alerts defined in profiles to which they do not have permissions. Thus, if a subordinate alert belongs to a profile to which the user does not have permissions, the user cannot unassociate it from its dominant alert, even if the dominant alert belongs to a profile to which the user does have permissions. Further, if a dominant alert belongs to a profile to which the user does not have permissions, the user cannot edit the alert at all (that is, cannot add or remove dependencies).

Control Alerts

This section describes how to control alerts.

This section includes the following topics:

- "Embed Alert Parameters in a URL" on page 187
- "Embed Alert Parameters in the Command Line" on page 188
- "Alert Parameter Categories" on page 189
- "Configure the Alerts MIB" on page 198
- "Configure SMTP Mails" on page 203
- "Add a Custom Pager or SMS Service Provider" on page 203

Embed Alert Parameters in a URL

You can embed predefined alert parameters into a URL that is accessed when an alert is triggered. For details, see "Access URLs Dialog Box" on page 260.

The format is:
URL?request_parameter_name=<<request_parameter_value>>&request_parameter_name=<<request_parameter_value>>

request_parameter_value must be enclosed in double-angled brackets.

For a description and listing of the different alert parameters, see "Alert Parameter Categories" on page 189.

For example, the following URL accesses the myticketingsystem.com site and uses the name of the alert, the alert ID number and the description of the alert as parameters:
http://myticketingsystem.com?name=<<**Alert Name**>>
&ticketID=<<**ID**>>&description=<<**Alert Description**>>

Embed Alert Parameters in the Command Line

You can embed predefined alert parameters into a custom command line that runs an executable file when an alert is triggered. For details, see "Run Executable File Dialog Box" on page 336.

The format is: **path_to_exe_file** –**request_parameter_name** "**string <<request_parameter_value>>**" –**request_parameter_name** "**<<request_parameter_value>>**"

request_parameter_value must be enclosed in double-angled brackets.

For a description and listing of the different alert parameters, see "Alert Parameter Categories" on page 189.

For example, the following command uses the MyAlertReporter exe file located in C:\Bin, and uses the name of the alert, the name of the profile, and the message to the user as parameters:
C:\Bin\MyAlertReporter.exe –title "Alert <<**Alert Name**>> for <<**Profile Name**>>" –Text "<<**User Message**>>"

Alert Parameter Categories

You can embed different categories of parameters.

This section includes the following topics:

- "Alert Parameters" on page 189
- "Event Parameters" on page 190
- "Group Performance Data Parameters" on page 193
- "SubAlerts Parameter" on page 195

Alert Parameters

Use the following alert parameters to return information about the Business Process Monitor alerts that HP Business Availability Center sends.

Parameter	Description
Actual Details	A description of actual conditions at the time of the alert, generated by HP Business Availability Center.
Alert Name	The alert name specified in the alert scheme.
AlertPurpose	The type of alert, either a "regular" alert, which is sent when alert trigger conditions are true, or a "follow-up" alert, which is sent when the alert trigger conditions that triggered the earlier alert are no longer true.
ID	The unique ID assigned to the alert scheme.
Location Name	The location of the host machine, specified during Business Process Monitor installation, that ran the transaction(s) that triggered the event. This parameter is available to use as an alert parameter only when the alert has been grouped by location.
Profile Name	The name of the profile in which the alert scheme was created.
Severity	The alert severity label specified in the alert scheme.

Parameter	Description
Transaction Name	The transaction name specified in the script. This parameter is available to use as an alert parameter only when the alert has been grouped by transaction.
Trigger Cause	The alert trigger criteria specified in the alert scheme.
User Message	The user message specified in the alert scheme.

Event Parameters

Use event parameters to return information about specific transaction events that meet alert trigger criteria, but for which an alert is not sent. For details, see "Event Parameters" on page 190.

You can define alert trigger criteria in such a way that multiple conditions must be met before HP Business Availability Center sends an alert. For example, say you specify alert trigger criteria as follows:

Send alert if transactions fail or if transaction response time is greater than 10 seconds. Send alert if trigger conditions occur at least 3 times out of 5.

In this case, HP Business Availability Center considers each instance of transaction failure or response time greater than 10 seconds as one transaction event that meets alert trigger criteria. However, HP Business Availability Center sends an alert only if there are at least 3 such events out of 5 total events.

You use the event parameters to return specific information about each of the individual transaction events for which trigger criteria were met.

Format

The format of event parameters is
<<**parameter_nameevent_number tx_resp|tx_fail**>>

where:

- **parameter_name.** Enter the name of the parameter. For details, see "Parameters" on page 193.
- **event_number.** Enter the index of the triggered event. The default value is 1.

Note: parameter_name and **event_number** are not separated by a space, **event_number** and **tx_resp** are separated by a space.

If you do not specify the index of the triggered event, information on the first event that meets trigger criteria is returned.

If you specify the index of an event that does not occur (for example, if you specify 4 and there are only 3 events), an empty string is returned.

For example, you specified that an alert is sent if a transaction fails three times out of five. To return information on all three "transaction failed" events, use the following command:

```
C:\Bin\MyAlertReporter.exe –title "Event for <<Transaction Name1>>" – Time "<<Transaction Time1>>" –Text "<<Actual Details1>>" –title "Event for <<Transaction Name2>>" –Time "<<Transaction Time2>>" –Text "<<Actual Details2>>" –title "Event for <<Transaction Name3>>" –Time "<<Transaction Time3>>" –Text "<<Actual Details3>>"
```

- **tx_resp.** Use this parameter when you have selected both **Transaction response time** and **Transaction response time relative to threshold** triggers in the Trigger Criteria page in the Alerts wizard, and you want to display information about each type of trigger.

  If you do not use this parameter, you only see the **Transaction response time relative to threshold** triggers information.

For example, you specified that the alert is sent if a transaction fails three times out of five. You want to return information about the three "transaction failed" events related to the **Transaction response time**, and the three "transaction failed" events related to the **Transaction response time relative to threshold**. To do that use the following command:

```
C:\Bin\MyAlertReporter.exe –title "Event for <<Transaction Name1>>" –Time
"<<Transaction Time1>>" –Text "<<Actual Details1>>" –title "Event for <<Transaction
Name2>>" –Time "<<Transaction Time2>>" –Text "<<Actual Details2>>" –title "Event
for <<Transaction Name3>>" –Time "<<Transaction Time3>>" –Text "<<Actual
Details3>>" –title "Event for <<Transaction Name1 tx_resp>>" –Time "<<Transaction
Time1 tx_resp>>" –Text "<<Actual Details1 tx_resp>>" –title "Event for <<Transaction
Name2 tx_resp>>" –Time "<<Transaction Time2 tx_resp>>" –Text "<<Actual Details2
tx_resp>>" –title "Event for <<Transaction Name3 tx_resp>>" –Time "<<Transaction
Time3 tx_resp>>" –Text "<<Actual Details3 tx_resp>>"
```

- **tx_fail.** Use this parameter when you have selected both **Transaction Fail** and **Transaction response time relative to threshold** triggers in the Trigger Criteria page in the Alerts wizard, and you want to display information about each type of trigger.

  If you do not use this parameter, you only see the **Transaction response time relative to threshold** triggers information.

  For example, you specified that the alert is sent if a transaction fails three times out of five. You want to return information about the three "transaction failed" events related to the **Transaction fail**, and the three "transaction failed" events related to the **Transaction response time relative to threshold**. To do that use the following command:

```
C:\Bin\MyAlertReporter.exe –title "Event for <<Transaction Name1>>" –Time
"<<Transaction Time1>>" –Text "<<Actual Details1>>" –title "Event for <<Transaction
Name2>>" –Time "<<Transaction Time2>>" –Text "<<Actual Details2>>" –title "Event
for <<Transaction Name3>>" –Time "<<Transaction Time3>>" –Text "<<Actual
Details3>>" –title "Event for <<Transaction Name1 tx_fail>>" –Time "<<Transaction
Time1 tx_fail>>" –Text "<<Actual Details1 tx_fail>>" –title "Event for <<Transaction
Name2 tx_fail>>" –Time "<<Transaction Time2 tx_fail>>" –Text "<<Actual Details2
tx_fail>>" –title "Event for <<Transaction Name3 tx_fail>>" –Time "<<Transaction Time3
tx_fail>>" –Text "<<Actual Details3 tx_fail>>"
```

Return information about the "transaction failed" events for all three triggers by adding the command for **<<parameter_nameevent_number>>,** **<<parameter_nameevent_number tx_resp>>**, and **<<parameter_nameevent_number tx_fail>>**.

Parameters

The following table describes the individual event parameters:

Parameter	Description
Actual Details	A description of actual conditions at the time of the event
Data Collector Name	The name of the host machine that ran the transaction(s) that triggered the event
Group Name	The name of the organization specified during installation
Location Name	The location of the host machine, specified during Business Process Monitor installation, that ran the transaction(s) that triggered the event
Script Name	The name of the script containing the transaction(s) that triggered the event
Transaction Error	A description of the error that the script generated, if an error occurred at the time of the event
Transaction Name	The transaction name specified in the script
Transaction Time	The time when the event was triggered

Group Performance Data Parameters

Use Group Performance Data parameters to return information as alert parameters or event parameters when HP Business Availability Center has been instructed to consider the performance data by transaction, by script (file containing transactions), by group, by location, or by any combination of the four. Use these parameters only when you selected **Group performance data** in the alert definition. These parameters can be embedded as either alert parameters or event parameters as described above. For example, –title "Group by <<transaction>>" - text "<<User Message>>"

Note: For details on grouping performance data when creating an alert scheme, see "Understand How to Group Performance Data for Alert Filters" on page 172.

You can use this category of parameters as either alert parameters or event parameters. They can be embedded only if the alert scheme was defined with performance data grouped by one of the parameters or a combination of the four.

Parameter	Description
transaction	The transaction name specified in the script. Can be used only when performance data has been grouped by transaction.
location	The location of the host machine, specified during Business Process Monitor installation, that ran the transaction(s) that triggered the event. Can be used only when performance data has been grouped by location.
group	The group name of the host machine that ran the transaction(s) that triggered the alert and/or event. Can be used only when performance data has been grouped by group.
transaction file	The name of the script containing the transaction(s) that triggered the alert and/or event. Can be used only when performance data has been grouped by script.

SubAlerts Parameter

Use the SubAlerts parameters to return, in XML format, information about specific transaction events that meet alert trigger criteria, but for which an alert is not sent. For details, see "SubAlerts Parameter" on page 195.

You can use the **SubAlerts** parameter to return complete details of all the transaction events related to the alert, as a string in XML format. For a description of transaction events, see "Event Parameters" above. For details on the returns XML string, see "Understand the XML String Returned by the SubAlerts Parameter" on page 196 below.

The SubAlerts parameter contains the following sections:

Section	Description
<Sub_Alert Index="x">	Each section in the XML string beginning with this tag contains the transaction events related to one defined alert trigger criterion. The "x" indicates the order in which alert trigger criteria occur.
<Sub_Alert_Instance Index="x">	This tag nests under the **<Sub_Alert Index="x">** section and its contents relate to the alert trigger criterion for that section. Each section in the XML string beginning with the **<Sub_Alert_Instance Index="x">** tag contains the transaction events for one specific member of a group, as defined in the **Group By** filter in the Alert Wizard. For example, if you specify Group By Location, and transaction events occur at 2 locations, HP Business Availability Center lists one instance of the **<Sub_Alert_Instance Index="x">** parameter for each location. If there are no defined **group by** criteria, all events are listed under **<Sub_Alert_Instance Index="1">**. The "x" represents the order in which the events occur.

Section	Description
<Transaction_Event Index="x">	This tag nests under the **<Sub_Alert Index="x">** and **<Sub_Alert_Instance Index="x">** sections and its contents relate to the alert trigger criterion for those sections. Each section in the XML string beginning with the **<Transaction_Event Index="x">** tag contains information on one specific transaction event. The "x" represents the order in which the events occur. When the executable parses the XML string, it should run until there are no more events to read.

Understand the XML String Returned by the SubAlerts Parameter

You can use the information in the XML file returned by the SubAlerts parameter to understand the circumstances that triggered the alert, and thus take the appropriate corrective action, for example, restart a service or notify another utility.

➤ **XML String for Business Process Profile Alerts.** For alerts generated through a Business Process profile, the SubAlerts parameter returns an XML string containing the following information:

➤ **Sub_Alert Tags**

Tag	Description
Trigger Cause	The alert trigger criteria that triggered the alert
Actual Details	A description of actual conditions at the time of the alert

➤ **Transaction_Event Tags**

Tag	Description
Transaction Name	The transaction name specified in the script
Group Name	The name of the organization specified during installation
Data Collector Name	The name of the host machine that ran the transaction(s) that triggered the alert
Location Name	The location of the host machine specified during Business Process Monitor installation

Tag	Description
Script Name	The name of the script containing the transaction(s) that triggered the alert
Transaction Time	The time at which the alert was triggered
Actual Details	A description of actual conditions at the time of the alert
Transaction Error	A description of the error that the script generated, if an error occurred

For example:

```
<Sub_Alerts>
  <Sub_Alert Index="1">
   <Sub_Alert_Instance Index="1">
            <Trigger Cause>Response time for 2 out of 3 transactions greater
                  than 0.01 seconds.</Trigger Cause>
            <Actual Details>Response time for 2 out of 2 transactions
                   was greater than 0.01 seconds.</Actual Details>
            <Transaction_Event Index="1">
                 <Transaction Name>MyHomepage</Transaction Name>
                 <Group Name>MyCompany</Group Name>
                 <Data Collector Name>Agent1</Data Collector Name>
                 <Location Name>Location1</Location Name>
                 <Script Name>TransFile1</Script Name>
                 <Transaction Time>Monday, September 10, 2001
                 09:24:00</Transaction Time>
                 <Actual Details>Response time was 0.20
                  seconds.</Actual Details>
            </Transaction_Event>
            <Transaction_Event Index="2">
                 <Transaction Name>MyHomepage</Transaction Name>
                 <Group Name>MyCompany</Group Name>
                 <Data Collector Name>Agent1</Data Collector Name>
                 <Location Name>Location1</Location Name>
```

```
                <Script Name>TransFile1</Script Name>
                <Transaction Time>Monday, September 10, 2001
                09:29:00</Transaction Time>
                <Actual Details>Response time was 0.18
                 seconds.</Actual Details>
            </Transaction_Event>
  </Sub_Alert_Instance>
 </Sub_Alert>
</Sub_Alerts>
```

Configure the Alerts MIB

If you enabled alerts via SNMP trap in your alert schemes, it is recommended that you configure your SNMP management console to read the Alerts MIB. This enables you to see a name, rather than an OID (Discovery), when working in the management console.

Note: HP Business Availability Center uses the AM alerts MIB 5.0 by default.

To configure the alerts MIB in your SNMP management console:

1. Copy the Alerts MIB file **amAlerts5.mib** into your SNMP management console. The file is on the HP Business Availability Center Documentation and Utilities DVD in **tools_and_utilities\SNMP_MIBS**.
2. To view the Alerts varbinds, use your SNMP management console's MIB browser. See "Alerts MIB Varbinds" on page 200 for a list of varbinds and their descriptions.
3. Using your SNMP management console's event configuration utility, configure the notification content and method for the various alert types. See SNMP-Specific Codes below for a list of alert types and their corresponding SNMP-specific codes.

Note: If you need to use a MIB from a previous version of HP Business Availability Center, follow the procedure in step 1 on page 198 above for copying the appropriate MIB file. The files are numbered according to the version number of HP Business Availability Center.

For details on how to set HP Business Availability Center to use the appropriate MIB, see "Set Up HP Business Availability Center to Use the Appropriate MIB" on page 143.

SNMP-Specific Codes

The following table lists the alert types and their SNMP-specific codes. Use these codes when configuring alert notification events in your SNMP management console.

SNMP-Specific Code	Alert Type
1	Transaction response time Alert Frequency: Even once
2	Transaction failure Alert Frequency: Even once
3	Transaction availability
4	Average transaction response time
5	Measurement value Alert Frequency: Even once
6	Average measurement value
7	Real User Monitor alert
8	Transaction response time for specified percentage of transactions
9	Transaction response time Alert Frequency: X out of Y
10	Transaction failure Alert Frequency: X out of Y
11	Measurement failure Alert Frequency: Even once
11	Measurement failure Alert Frequency: Even once

SNMP-Specific Code	Alert Type
12	Measurement value for specified percentage of measurements
13	Measurement availability
14	Measurement value Alert Frequency: X out of Y
15	Measurement failure Alert Frequency: X out of Y
16	Measurement page download time
17	Measurement page server time
18	Measurement page availability
19	Measurement number of page hits
20	Measurement transaction availability
21	Measurement total transaction time
22	Measurement net transaction time
23	Measurement transaction server time
24	Measurement number of transaction
25	Measurement number of completed transaction
26	Not Supported
27	Measurement server availability
28	Measurement end-user latency
100	Complex alert (contains more than one subalert)

Alerts MIB Varbinds

The tables below list the varbinds used in the Alerts MIB.

Object Identifier	MIB Label	Description
1.3.6.1.4.1.5233	mercuryInteractive	Company name
1.3.6.1.4.1.5233.4	topazAlerts4	Subject

Object Identifier	MIB Label	Description
1.3.6.1.4.1.5233.4.1	profileName	Profile name
1.3.6.1.4.1.5233.4.2	alertName	Alert name (for example, “Response time of any transaction < 10.00 sec”)
1.3.6.1.4.1.5233.4.3	alertType	Alert type: regular or follow-up
1.3.6.1.4.1.5233.4.4	alarmID	Unique alert ID
1.3.6.1.4.1.5233.4.5	alertSeverity	Alert severity: informational -10, warning - 20, minor - 30, major - 40,critical - 50
1.3.6.1.4.1.5233.4.6	alertTriggerCause	Defined alert trigger conditions (for example, “Response time less than 10 seconds”)
1.3.6.1.4.1.5233.4.7	alertActualDescription	Actual conditions at time of alert (for example, “Current response time is 3.00 seconds”)
1.3.6.1.4.1.5233.4.8	alertUserMessage	User message for this alert
1.3.6.1.4.1.5233.4.9	subAlertsTable	Start of Subalerts table. Subalerts trigger alerts (listed in Events table below)
1.3.6.1.4.1.5233.4.9.1	subAlertsEntry	Start of subalert entry
1.3.6.1.4.1.5233.4.9.1.1	subAlertIndex	Index of the subalert within subalert list
1.3.6.1.4.1.5233.4.10	subAlertInstances Table	Start of subalert instance table
1.3.6.1.4.1.5233.4.9.10.1	subAlertInstances Entry	Start of subalert instance entry

Object Identifier	MIB Label	Description
1.3.6.1.4.1.5233.4.9.10.1.1	subAlertInstances Index	Index of the subalert instance
1.3.6.1.4.1.5233.4.9.10.1.2	subAlertOwner	Index of subalert owner
1.3.6.1.4.1.5233.4.9.10.1.3	subAlertInstance TriggerCause	Defined alert trigger conditions for subalert instance
1.3.6.1.4.1.5233.4.9.10.1.4	subAlertInstance ActualDesc	Actual conditions at time of subalert instance
1.3.6.1.4.1.5233.4.11	alertEvents	Start of Events table
1.3.6.1.4.1.5233.4.11.1	transactionalEvents Table	Start of alerts table
1.3.6.1.4.1.5233.4.11.1.1	transEventEntry	Start of alert entry
1.3.6.1.4.1.5233.4.11.1.1.1	transEventIndex	Index of the event within event list
1.3.6.1.4.1.5233.4.11.1.1.2	txnSubAlertInstance Owner	Index of the subalert instance owner from the subalert instance table
1.3.6.1.4.1.5233.4.11.1.1.3	transactionName	Transaction name
1.3.6.1.4.1.5233.4.11.1.1.4	organization	Group name
1.3.6.1.4.1.5233.4.11.1.1.5	host	Host name
1.3.6.1.4.1.5233.4.11.1.1.6	location	Location name
1.3.6.1.4.1.5233.4.11.1.1.7	script	script name
1.3.6.1.4.1.5233.4.11.1.1.8	eventTime	Event time
1.3.6.1.4.1.5233.4.11.1.1.9	eventActualDescription	Description of event (for example, “Response time 3.00 seconds”)
1.3.6.1.4.1.5233.4.11.1.1.10	txnErrorMessage	Error message generated during a script run

Configure SMTP Mails

You can send e-mail alerts and scheduled reports via a configured SMTP server or via the Microsoft SMTP Service.

Note: UNIX uses the **sendmail** application for sending SMTP e-mails and, therefore, SMTP settings are not needed for Unix systems. Contact your system administrator to configure sending e-mails correctly for Unix systems.

You can configure a primary SMTP server and an alternate SMTP server. HP Business Availability Center uses the primary server and only if the primary server fails to send the message, attempts to use the alternate server.

The primary and alternate SMTP servers are setting values that are configured in Infrastructure Settings. For details, see "Set Up the Primary and Alternate SMTP Servers" on page 139.

Note: If you use the Microsoft SMTP service to send e-mail alerts, HP Business Availability Center cannot send the e-mail-based Performance Update report (which you configure in Scheduled Reports) in HTML format. The report must be sent as an HTML, MHT, CSV, or PDF attachment.

Add a Custom Pager or SMS Service Provider

If you are configuring pager or SMS alerts and your pager or SMS service provider does not appear on the default provider list and the provider uses an e-mail gateway, you can manually add your provider to HP Business Availability Center. After doing so, your provider appears on the list.

Provider Uses E-mail Gateway

To add a provider that uses an e-mail gateway, manually add the gateway information to the management database. If necessary, ask your database administrator for assistance.

To add a provider that uses an e-mail gateway:

1. Open the **NOTIFICATION_PROVIDERS** table in the management database.
2. In the **NP_NOTIFICATION_PROVIDER_NAME** column, add the name of the provider to the bottom of the list. Add the name exactly as you want it to appear in the provider list that opens in the Recipient Properties dialog box of the Recipients page in Platform Administration.

   Note the ID number that is automatically assigned to the provider.
3. Close the **NOTIFICATION_PROVIDERS** table, and open the **NOTIFPROVIDER_NOTIFTYPE** table.
4. In the **NN_NOTIF_PROVIDER_ID** column, add the ID number that was assigned to the new provider in step 2 on page 204.
5. In the **NN_NOTIF_TYPE_ID** column, assign the provider one of the following notification types:
   - **102** – for pager service provider
   - **101** – for SMS service provider
6. Close the **NOTIFPROVIDER_NOTIFTYPE** table, and open the **NOTIFICATION_PROVIDER_PROP** table.
7. In the **NPP_NOTIFICATION_PROVIDER_ID** column, add the ID number that was assigned to the new provider in step 2 on page 204. Note that you add the ID number to two consecutive rows.

8 In the **NPP_NPROVIDER_PROP_NAME** and **NPP_NPROVIDER_PROP_VALUE** columns, add the following new property names and values for the provider, one beneath the other (for examples, see existing entries):

Property Name	Property Value	Description
EMAIL_SUFFIX	<email_suffix>	The gateway's e-mail suffix. For example, if the gateway e-mail address is 12345@xyz.com, enter xyz.com as the property value for EMAIL_SUFFIX.
EMAIL_MAX_LEN	<max_length>	The maximum message length, in characters, of the body of the e-mail message. For example, 500. When determining this value, take into consideration the maximum length limit imposed by your service provider, as well as limitations to your pager or mobile phone.

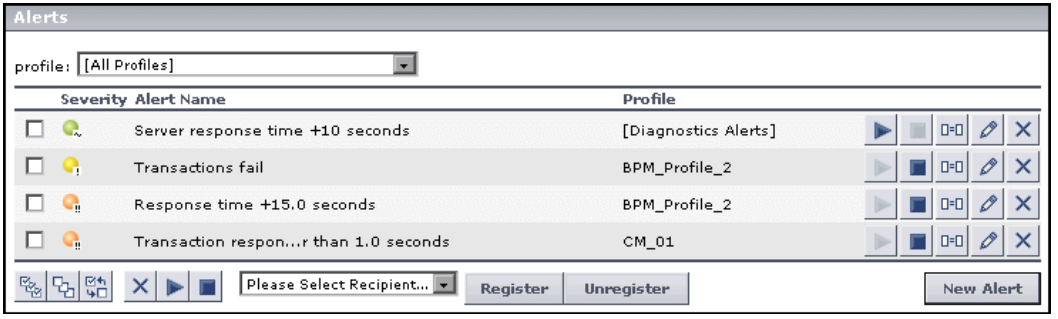
9 In the **NPP_NPROVIDER_PROP_DATATYPE_ID** column, specify an ID value as follows:

- for EMAIL_SUFFIX, specify: 1
- for EMAIL_MAX_LEN, specify: 2

10 Restart HP Business Availability Center.

View and Manage an Alert Scheme

After you create an alert scheme, HP Business Availability Center displays it in the Alerts table. The Alerts table lists alerts by name, their severity label, and their associated profile.



The Alerts page provides information about the alert severity, the status of the alert (whether it is enabled or disabled) by the status of the Enable and Disable buttons next to each alert scheme.

Over time, you may find it necessary to make changes to alert schemes that you create, due to organizational changes, changes to service level monitoring contracts, and so on. For example, if an alert recipient leaves the company, you will need to modify the alert scheme. Alternatively, if, due to a change in a service level monitoring agreement, the availability rate of a specific transaction is now expected to be at 97 percent rather than 90 percent, you may want to modify alert trigger criteria for that transaction accordingly.

For details, see “Alerts Page” on page 269.

View Event-Based Alert Reports

HP Business Availability Center sends alerts according to the alert trigger criteria you specify when creating alert schemes. Every alert that HP Business Availability Center sends is logged to the database. You view information about the alerts that have been sent in Alert reports.

Alert reports enable you to track alerts that are triggered by HP Business Availability Center during a Business Process Monitor profile run, and to view information about alerts that you integrate into HP Business Availability Center through SiteScope EMS monitors.

You can:

- Track alert details for alerts send by HP Business Availability Center for Business Process Monitor profiles in the **Alert Log** report. For details, see "Alert Log Report" on page 267.
- Display, for the selected profile, the number of alerts that occurred over a specified time range, organized by severity, source, or type, in the **Alert Count Over Time** report. For details, see "Alert Count over Time Report" on page 263.

  For details on working with reports (choosing the time range, selecting the profile, saving and sharing reports, and so on), see "Working in Reports" in *Reference Information*.

  For details on creating HP Business Availability Center alerts, see "Event-Based Alerts" on page 165.

Note: If you have Real User Monitor installed and integrated with HP Business Availability Center, HP Business Availability Center displays the Real User Monitor Alert Log. For details on installing and working with Real User Monitor, see "Real User Monitor Administration" in *Using End User Management*. For details on configuring Real User Monitor in HP Business Availability Center, see "Install and Configure Real User Monitor" in *Using End User Management*.

15

Recipients

HP Business Availability Center enables you to define and configure recipients for alerts, scheduled reports, and subscription and package notifications (HP Managed Software Solution customers only).

This chapter describes:	On page:
Configure Recipients	209
Manage Recipients	210

Configure Recipients

You configure recipients by defining one or more notification method, the template to use for alert notices, and a notification schedule.

For details, see "Recipient Properties Wizard" on page 350.

You can define the following types of notification methods:

- **e-mail.** Enables you to specify multiple e-mail addresses for the recipient, the type of notification template, the schedule for sending e-mail notifications, and the security certificate if necessary. For details, see "Email" on page 353.
- **pager.** Enables you to specify the pager service provider, the pager numbers, the type of notification template, and the schedule for sending alert notification to the pager. For details, see "Pager Messages" on page 355.

➤ **SMS.** Enables you to specify the SMS (short message service) service provider, the SMS numbers, the type of notification template and the schedule for sending alert notification to the SMS. SMS is a text messaging service provided by most GSM-based cellular phone providers. SMS messages are useful to notify staff who are mobile, or who do not have e-mail or pager access. Note that the maximum message length of SMS text messages is generally 160 characters. For details, see "SMS" on page 356.

Note: Only those recipients who have been configured to receive e-mail can be selected to receive scheduled reports and are listed in Available Recipients when configuring scheduled reports.

Manage Recipients

You manage recipients in the Recipients page. You can add new recipients, or edit their definitions. For details, see "Recipients Page" on page 349.

16

CI Status Alerts User Interface

This chapter includes the pages and dialog boxes that are part of the Configuration Item Alerts user interface.

This chapter describes:	On page:
Create New Alert Wizard	211
Create New Executable File/Edit Executable File Dialog Box	220
Create New SNMP Trap/Edit SNMP Trap Dialog Box	222
Create New URL/Edit URL Dialog Box	223
Configuration Item Status Alert Notifications Page/Report	225
Configuration Item Status Alerts Page - Administration	230
Configuration Item Status Alerts Report	233

Create New Alert Wizard

Description	Enables you to create new alert schemes and attach them to any CI. You can attach more than one alert scheme to a CI, and you can attach the same alert scheme to more than one CI. An alert attached to a CI in a view is attached to the CI in any view where the CI is included. **To access:** Select **Admin** > **Alerts** > **CI Status Alerts**.

Included in Tasks	"Create a CI Status Alert Scheme and Attach it to a CI" on page 147
Wizard Map	The **Create New Alert Wizard** includes: General Page > Related Configuration Items > Templates and Recipients > Actions > Summary

General Page

Description	Enables you to define the alert scheme general information.
Wizard Map	The Create New Alert Wizard includes: **General Page** > Related Configuration Items > Templates and Recipients > Actions > Summary

The page includes the following elements (listed alphabetically):

GUI Element	Description
Alert Type	Select: ➤ **All KPIs** if you want the alert to be triggered by the specified status change in any of the KPIs attached to any of the selected CIs ➤ **Selected KPIs** if you want the alert to be triggered by the specified status change in the selected KPIs attached to any of the selected CIs You select CIs and KPIs in the next step of the wizard.
Condition	Select one of the following options: ➤ **Send alert once status worsens (not including "No Data" and "Downtime")** to trigger the alert when the current status of the KPIs is worse than the previous status. The **No Data** and **Downtime** statuses are not taken into consideration. For example, the alert is triggered when the status changes from Warning to Minor. ➤ **Send alert once status improves (not including "No Data" and "Downtime")** to trigger the alert when the current status of the KPIs is better than the previous status. The **No Data** and **Downtime** statuses are not taken into consideration. For example, the alert is triggered when the status changes from Warning to OK. ➤ **Send alert if status value was changed from** to set the appropriate conditions for sending an alert. Select the appropriate status in the **from** box, and in the **to** box. The available statuses are: **critical, major, minor, warning, OK, no data, downtime, stop, and uninitialized.**
Description	Enter the alert scheme's description.

GUI Element	Description
Name	Enter the name of the alert scheme.
Notification frequency	Select one of the following options: ➤ **Send alert for every trigger occurrence** to send an alert notification every time an alert is triggered. ➤ **Send no more than one alert per <time_period>** and specify the time period and unit to send an alert notification every time period.

Related Configuration Items

Description	Use this step to specify the CIs and KPIs to which you want to attach to the alert scheme. If you selected **All KPIs** in the **General** page, then in the Related Configuration Items page, select the CIs to which you want to attach the alert scheme. The alert is triggered by the specified status change in any of the KPIs attached to any of the selected CIs. If you selected **Selected KPIs** in the **General** page, then in the Related Configuration Items page, select the CIs to which you want to attach the alert scheme. You must also select one or more of the KPIs that are listed in the KPIs area. The KPIs area lists all the types of KPIs that are attached to the selected CIs. The alert is triggered by the specified status change in the selected KPIs attached to any of the selected CIs. You can share the same CI Status alert scheme definition between several CIs when you select more than one CI in the Related Configuration Items page.
Wizard Map	The Create New Alert Wizard includes: General Page > **Related Configuration Items** > Templates and Recipients > Actions > Summary

The page includes the following elements (listed alphabetically):

GUI Element	Description
	Click the right arrow button to move your selections to the **Selected Configuration Items** list. You can select multiple CIs using the CTRL key. To remove a CI from the **Selected Configuration Items** list, select it in the **Selected Configuration Items** list and click the left arrow button .
	Click the button to display the CI General Properties page. For details, see "Attaching Existing CIs" in *IT World Model Management*.
<Tree>	Select the CIs to which you want to attach the alert scheme from the View Explorer (you can expand the View Explorer if needed), and click the right arrow button to move your selections to the **Selected Configuration Items** list. You can select multiple CIs using the CTRL key. To remove a CI from the **Selected Configuration Items** list, select it and click the left arrow button . The alert is triggered by any change in any of the KPIs attached to the CI the alert scheme is assigned to.
KPIs	If you selected **Selected KPIs** in the **General** page, select the KPIs whose change of status will trigger the alert.

Templates and Recipients

Description	Use this step to define the alert recipients and templates. When an alert is triggered, an e-mail, SMS message, or Pager message is sent to a predefined recipient. The e-mail, SMS message, or Pager messages have a predefined templates.
Important Information	The notification method that is used to notify a recipient depends of the recipient definition. You cannot use customized templates for e-mails, SMS messages, or Pager messages with the CI Status alerts.
Wizard Map	The Create New Alert Wizard includes: General Page > Related Configuration Items > **Templates and Recipients** > Actions > Summary

The page includes the following elements (listed alphabetically):

GUI Element	Description
	Click the right arrow button to move your selections to the **Selected Recipients** list. You can select multiple recipients using the CTRL key. To remove a recipient from the **Selected Recipients** list, select it and click the left arrow button.
Available recipients	Select the recipients to whom you want notifications sent, and click the right arrow button to move your selections to the **Selected recipient** list. You can select multiple recipients using the CTRL key. To remove a recipient from the **Selected recipient** list, select it and use the left arrow button .

GUI Element	Description
E-mail message template	Choose between: ➤ **Short HTML e-mail message, short text e-mail message.** These messages include the change in status only. ➤ **Long HTML e-mail message, long text e-mail message.** These messages include a subject line and body. For details on modifying the message character set, see "Modify the Message's Character Set" on page 142. For details about the structure of the e-mail, SMS, and Page message templates, see "E-Mail, SMS, and Pager Message Templates for CI Status Alerts" on page 150.
New Recipient	To define a new recipient, click **New Recipient.** For details, see "Recipient Properties Wizard" on page 350.
Selected recipient	Lists the recipients that you have selected.
SMS template **Pager template**	SMS and pager messages are sent via e-mail to the service provider. The pager messages use the same templates as the SMS messages. The e-mail address is: **<SMS provider access number>@<SMS provider e-mail address>** or **<Pager provider access number>@<Pager provider e-mail address>**. Select between: ➤ **Long SMS/Pager message.** The message includes the change in status and information about the SLA. ➤ **Short SMS/Pager message.** The message includes the change in status only. For details on modifying the message character set, see "Modify the Message's Character Set" on page 142. For details about the structure of the e-mail, SMS, and Page message templates, see "E-Mail, SMS, and Pager Message Templates for CI Status Alerts" on page 150.

Actions

Description	Use this step to define the user-defined alert handlers (actions) that will be triggered by the alert.
Wizard Map	The Create New Alert Wizard includes: General Page > Related Configuration Items > Templates and Recipients > **Actions** > Summary

The page includes the following elements (listed alphabetically):

GUI Element	Description
	Select the appropriate URL and click to open the Edit URL dialog box. For details, see "Create New URL/Edit URL Dialog Box" on page 223. Select the appropriate Executable File and click to open the Edit Executable File dialog box. For details, see "Create New Executable File/Edit Executable File Dialog Box" on page 220. Select the appropriate SNMP Trap and click to open the Edit SNMP Trap dialog box. For details, see "Create New SNMP Trap/Edit SNMP Trap Dialog Box" on page 222.
	Select the appropriate URL and click to delete it. Select the appropriate Executable File and click to delete it. Select the appropriate SNMP Trap and click to delete it.
Executable Files	Lists the executable files that ar.e to execute when the alert is issued.
New Executable File	Click to define a new executable file. The **Create Executable File** page opens. For details, see "Create New Executable File/Edit Executable File Dialog Box" on page 220.
New SNMP Trap	Click to configure a new SNMP trap. The Create New SNMP Trap page opens. For details, see "Configuration Item Status Alerts Page - Administration" on page 230.

GUI Element	Description
New URL	Click to create a new URL. The **Create New URL** page opens. For details, see "Create New URL/Edit URL Dialog Box" on page 223
SNMP Traps	Lists the SNMP traps that are to be sent when the alert is issued.
URLs	Lists the URLs that are to open when the alert is issued.

Summary

Description	Displays a summary of the alert scheme definition.
Wizard Map	The Create New Alert Wizard includes: General Page > Related Configuration Items > Templates and Recipients > Actions > **Summary**

The page includes the following elements (listed alphabetically):

GUI Element	Description
Close	Click to close the wizard and return to the Configuration Item Status Alerts page where the new alert scheme is displayed.
Finish	If you click **Finish**, the following message is displayed: **Alert was successfully saved**.

Create New Executable File/Edit Executable File Dialog Box

Description	Enables you to create or edit an executable file and embed predefined alert parameters in the file. The parameters are used as placeholders when the message is formatted. Only users with administrative privileges can create an executable file to be run when the alert it is attached to is triggered. For details, see "Granting and Removing Permissions" in *Platform Administration*. The executable file writes information in special logs or inserts information into external databases. **Note to HP Managed Software Solutions customers:** To create an executable file, contact HP Managed Software Solutions Support. **To access:** Click **New Executable File** or the appropriate button in the Executable File area in the Actions page of the Alerts wizard.
Important Information	To set the appropriate administrative privileges, select **Admin** > **Platform** > **Users and Permissions** > **Permissions Management**, select the **Monitors** context, click **Alerts - Run executable file**, select the **Operations** tab, set the permissions to Change. For details, see "Granting and Removing Permissions" in *Platform Administration*.
Included in Tasks	"Create an Executable Notification File" on page 148

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Enter command	Displays the command and the selected fields. The selected field appears between double angle-brackets
Field	In the list, select the name of the field and click **Insert Field**. The field values represent: ➤ **CI Name.** The name of the CI. ➤ **Alert Name.** The name of the alert. ➤ **Trigger Time.** The time and date when the alert was triggered. The format is: dd/mm/yy hh:mm GMT[<offset>] ➤ **Previous Status.** The previous status of the KPIs. ➤ **Current Status.** The current status of the KPIs. The change from previous status to current status triggers the alert. ➤ **KPI Name.** The name of the KPI. ➤ **KPI Value.** The value of the KPI.
Insert Field	Select the name of a field in the Field box and click to copy the field to the Enter command box.

Create New SNMP Trap/Edit SNMP Trap Dialog Box

Description	Enables you to create or edit an SNMP trap to attach to an alert. This SNMP trap is sent when the alert criteria is met. The alert notice can be viewed via any SNMP management console in the organization. **To access:** Click **New SNMP Trap** or the appropriate button in the SNMP Trap area in the Actions page of the Alerts wizard.
Important Information	**Note:** HP Business Availability Center supports only SNMP V2 traps. **Note:** HP Business Availability Center uses the AM alerts MIB 5.0 by default and supports SNMP V1. To enable alerts via SNMP trap, it is recommended that you configure your SNMP management console to read the Alerts MIB. For details, see "Configure the Alerts MIB" on page 198. This enables you to see names, rather than Object IDs (OIDs), when working in the management console.
Included in Tasks	"Configure a Notification SNMP Trap" on page 150

The dialog box includes the following element:

GUI Element	Description
Enter destination host	Enter the host address. You can use different formats: ➤ If you work with Alerts for profiles, use the following format: ➤ <target_host_IP_address> ➤ <target_host_IP_address>[:<port_number>] ➤ If you work with CMDB, use the following format: ➤ <target_host_name|target_host_IP_address> ➤ <target_host_name|target_host_IP_address> [:<port_number>] For details about the default host address, see "Modify the Default SNMP Trap Host Address" on page 140.

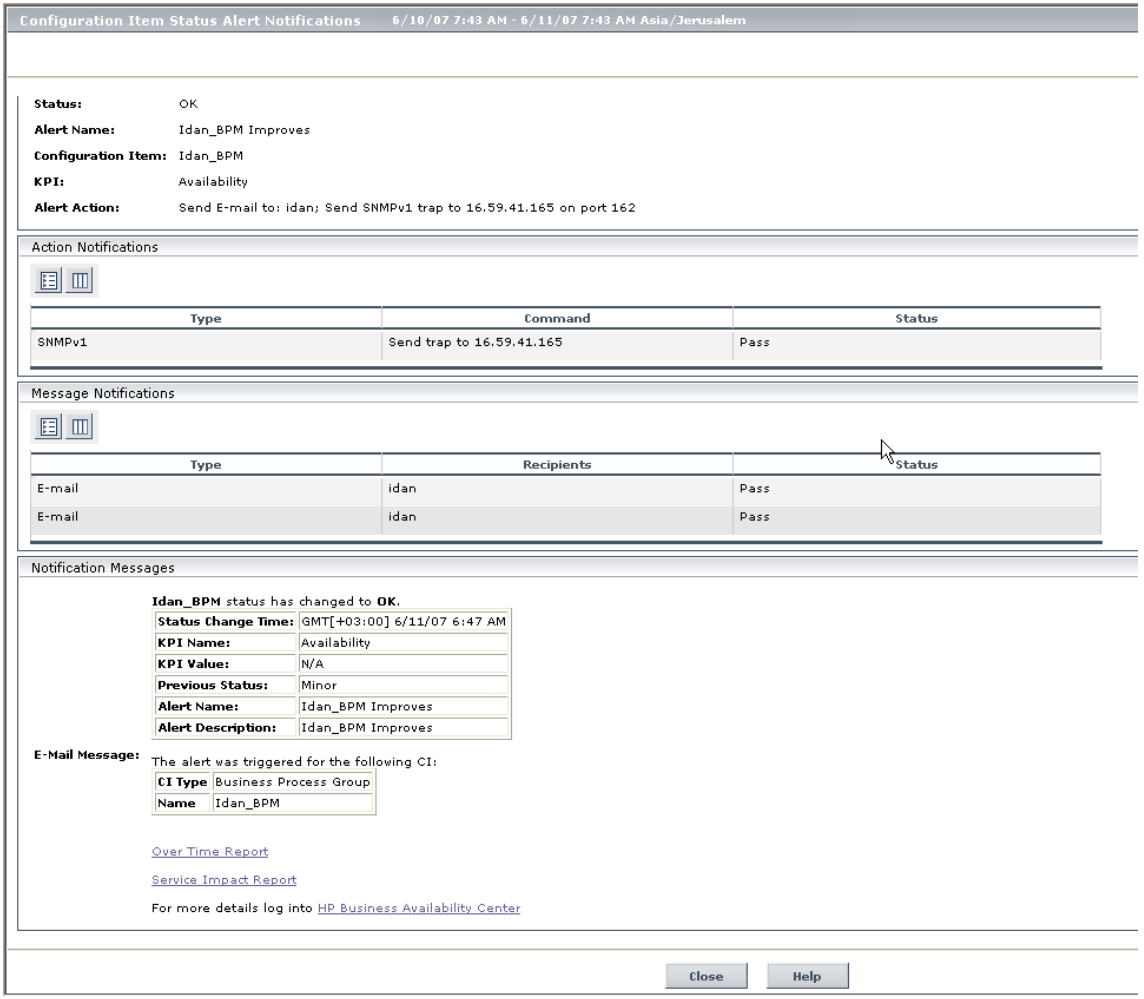
Create New URL/Edit URL Dialog Box

Description	Enables you to create or edit a notification URL to attach to an alert. The notification URL is used to pass alert information to external systems such as a customer Web application. You can embed predefined alert parameters in the notification URL. The parameters are used as place-holders when the message is formatted. **To access:** Click **New URL** or the appropriate button in the URL area in the Actions page of the Alerts wizard.
Important Information	You can modify the default URL that appears in the notifications. This URL represents the URL of the Gateway Server. For details, see “Specify a Notification URL” on page 147.
Included in Tasks	“Specify a Notification URL” on page 147

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Enter URL	Displays the URL and the selected fields. The selected field appears between double angle-brackets. For examples of URLs, see "Specify a Notification URL" on page 147. You can also enter the URL of a Service Impact report for the relevant CI. For details, see "Service Impact Report" in *Using Dashboard*.
Field	Select the name of a field and click **Insert Field**. The field values represent: ➤ **CI Name.** The name of the CI. ➤ **Alert Name.** The name of the alert scheme. ➤ **Trigger Time**. The time and date when the alert was triggered. The format is: dd/mm/yy hh:mm GMT[<offset>]. ➤ **Previous Status**. The previous status of the KPIs. ➤ **Current Status**. The current status of the KPIs. ➤ The change from previous status to current status triggers the alert. ➤ **KPI Name.** The name of the KPI. ➤ **KPI Value.** The result of the calculation performed by the rule attached to the KPI. This is the result that triggered the alert.
Insert Field	Select the name of a field in the Field box and click to copy the field to the Enter URL box.

Configuration Item Status Alert Notifications Page/Report



Description	Enables you to display detailed alert information. **To access:** Access the Configuration Item Status Alerts page, and click the **Details** button.
Included in Tasks	"View the CI Status Alert Notifications Report" on page 158

Report Settings

The area includes the following element:

GUI Element	Description
<Common report settings>	See "Understanding Common Report Elements" in *Reference Information*.

<Alert Details> Area

Description	Includes details about the alert.

The area includes the following elements (listed alphabetically):

GUI Element	Description
Alert Action	The action that has been assigned to the alert.
Alert Name	The name of the alert.
Configuration Item	The name of the CI to which the alert is attached.
KPI	The name of the KPI whose change of status triggered the alert.
Status	The previous status of the KPI.
Time	The time when the alert was triggered.

Action Notifications Area

Description	Includes details about the notification.

The area includes the following elements (listed alphabetically):

GUI Element	Description
	Click to reset 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.
	Click the **Select Columns** button to open the Selecct Columns dialog box and select the columns you want to be displayed on the table. For details on the Select Columns dialog box, see "Select Columns Dialog Box" in *Reference Information*.
Command	The action that was executed: ➤ for executables: the command line ➤ for URLs: the URLs ➤ for SNMP traps: **Send SNMP trap to <address>**
Status	The status of the action: ➤ **Pass.** When the action has been performed. ➤ **Fail.** When the action failed.
Type	The type of action notification: Executable, URL, or SNMP trap.

Message Notifications Area

Description	Includes details about the notification message.

The area includes the following elements (listed alphabetically):

GUI Element	Description
	Click to reset 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.
	Click the **Select Columns** button to open the Selecct Columns dialog box and select the columns you want to be displayed on the table. For details on the Select Columns dialog box, see "Select Columns Dialog Box" in *Reference Information*.
Recipients	The names of the recipients who receive the notification that the alert has been triggered and that the alert scheme has been executed.
Status	The status of the message: ➤ **Pass.** When the message has been sent. ➤ **Fail.** When the message was not sent.
Type	The type of message notification: E-mail, SMS message, or Pager message.

Notification Messages Area

Description	Displays the type of message followed by the text of the message.
Important	For details about the Long or Short HTML format displayed in the Notification Messages area and the different parameters used in the format, see "View the CI Status Alert Notifications Report" on page 158.

The area includes the following elements (listed alphabetically):

GUI Element	Description
<ci-name>	The name of the CI whose change of status triggered the alert.
<current-status>	The new status of the CI.
Additional Parameters	Depending on the type of the CI, additional parameters are automatically added to the notification. For details, see "Additional Parameters" on page 230. To add additional parameters to the CIT, see "Advanced Option–Add the Additional Parameters to a CIT" on page 155.
Alert Description	The description of the alert.
Alert Name	The name of the alert.
CI Type	The type of the CI that triggered the alert.
KPI Name	The name of the KPI.
KPI Value	The value of the KPI.
Name	The name of the CI whose change of status triggered the alert.
Over Time Report	Click to open the KPIs Over Time report for all the KPIs of the selected CI. For details, see "KPIs Over Time Report" in *Using Dashboard*.
Previous Status	The previous status of the CI.
Service Impact Report	Click to open the Service Impact report for selected CI. For details, see "Service Impact Report" in *Using Dashboard*.
Status Change Time	The time and date when the alert was triggered. The format is: dd/mm/yy hh:mm GMT[<offset>].
URL	The URL of the HP Business Availability Center Gateway Server.

Additional Parameters

The additional parameters are:

CI Type	Parameter
Business Unit	**Contact information.** The business unit contact information.
Host	**IP.** The IP number of the host. **Vendor.** The name of the vendor. **Operating system.** The type of operating system.
Siebel Application Server	**Version.** The Siebel version that is in use. **Language.** The language that is in use.
SAP Application Server	**Version.** The SAP version that is in use. **IP.** The IP number that is in use. **Port.** The number of the port that is in use.
Database	**Type.** The type of database. **Version.** The version that is in use. **Port.** The number of the port that is in use.
Service	**Service Operating Status.** The status of the operating system· **Service Description.** A description of the service.

Configuration Item Status Alerts Page - Administration

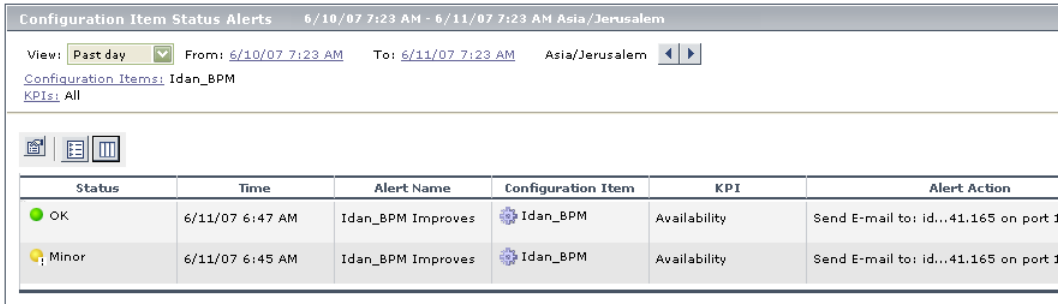
Description	After you complete defining an alert scheme, it is listed in the CI Status Alerts tab. **To access: Admin > Alerts > CI Status Alert tab**
Included in Tasks	"Create a CI Status Alert Scheme and Attach it to a CI" on page 147

The page includes the following elements (listed alphabetically):

GUI Element	Description
	Click the button beside the alert whose properties you want to modify. The Alert Wizard opens. For details, see “Create New Alert Wizard” on page 211.
	Click the button next to the alert scheme you want to clone. HP Business Availability Center adds a copy of the alert scheme to the profile tree, with a new name.Rename and edit the alert scheme as required.
	Click the button beside the alert to delete the alert. To delete multiple alerts simultaneously, select their check boxes in the left column, and click the button located at the bottom of the Alerts table.
	Click the required button to select all options, clear all options, or reverse the current selection.
	If an alert is enabled, click the **Disable Alert** button beside the alert to disable it. When an alert is disabled, HP Business Availability Center does not send an alert notice when the trigger conditions defined in the alert occur. To enable or disable multiple alerts simultaneously, select their check boxes in the left column and click the button located at the bottom of the Alerts table.
	If the alert is disabled, click the **Enabled Alert** button beside the alert to enable it. When an alert is disabled, HP Business Availability Center does not send an alert notice when the trigger conditions defined in the alert occur. To enable or disable multiple alerts simultaneously, select their check boxes in the left column and click the button located at the bottom of the Alerts table.
Alert Name	The name of the alert scheme.
Condition	A description of the condition.

GUI Element	Description
New Alert	Click to define a new alert. The Alerts wizard opens. For details about the Alert wizard, see "Create New Alert Wizard" on page 211.
Recipients	The names of the recipients.
Search	Click to perform the search.
Search in current view by name	Enables you to search for specific alert schemes assigned to a CI in the current view using the search feature. The search feature works only on alert scheme names. For example, search for all the alert schemes whose names include the string OK so that you can change their conditions. Use: ➤ an asterisk wildcard (*) to represent a string of characters ➤ a question mark wild card (?) to represent one character only Click **Search** to perform the search. The relevant alerts are listed. **Note:** To restore the complete list of alerts after a search, enter an asterisk and click **Search**.
Status	Indicates if the alert scheme is enabled or disabled.

Configuration Item Status Alerts Report



Description	Enables you to list all of the alerts that occurred in the specified period of time. **To access:** Select: ➤ **Applications** > **Alerts** > **CI Status Alerts Report** ➤ **Applications** > **Dashboard** > **Console tab**, click the appropriate context menu, and select **Configuration Item Status Alerts**.
Included in Tasks	"View the Alerts" on page 156

Report Settings

The area includes the following elements (listed alphabetically):

GUI Element	Description
<Common report settings>	See "Understanding Common Report Elements" in *Reference Information*.
Configuration Items	To select CIs, click the **Configuration Items** link. For details, see "Configuration Items Dialog Box" on page 298.
KPIs	To select KPIs, click the **KPIs** link. For details, see "KPIs Dialog Box" on page 299. **Default value:** After selecting one or more CIs, the first two KPIs in the list are automatically selected.

<Table> Area

The table area includes the following elements (listed alphabetically):

GUI Element	Description
	Click the button relevant to the appropriate alert to see the alert notification details. If the button does not appear in the report, click the Reset the table columns' width button and make the Details column visible. For details, see "Configuration Item Status Alert Notifications Page/Report" on page 225.
Alert Action	The action that is triggered by the alert.
Alert Name	The name of the alert.
Configuration Item	The name of the CI the alert is attached to.
KPI	The name of the KPI.
Status	The current status of the KPIs. The change from previous status to current status triggers the alerts.
Time	The time and date when the alert was triggered. The format is: dd/mm/yy hh:mm GMT[<offset>].

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SLA Alerts User Interface

This chapter includes the pages and dialog boxes that are part of the SLA Alerts application and administration user interface, listed alphabetically.

This chapter describes:	On page:
Create Executable File Dialog Box/Edit Executable File Dialog Box	236
Create New Alert/Edit Alert Wizard	239
Create SNMP Trap/Edit SNMP Trap Dialog Box	247
Create URL/Edit URL Dialog Box	248
SLM Alert Notifications Page	252
SLA Alerts Page - Administration	250
SLA Alerts Report	254
Tracking Periods Dialog Box	255

Create Executable File Dialog Box/Edit Executable File Dialog Box

Description	Enables you to define a command line for running an executable file. HP Business Availability Center runs the executable file (for example, an **.exe** or **.bat** file) when the alert is triggered. You can embed alert parameters in the executable file. The parameters are substituted with the relevant values when the message is formatted. **To access:** In the **Actions** page of the Create New Alert wizard, click **New Executable File** or the **Edit** button for a listed executable file.
Important Information	➤ The executable file is run from the HP Business Availability Center Data Processing Server, so the path to the executable file must be available from the server machine. ➤ The executable file must not be interactive (no user response required) and should not have a user interface.

The Create Executable File or Edit Executable File dialog box includes the following elements:

GUI Element	Description
Enter Command	Enter the command line in the box, and inset alert parameters. When using a custom command line, the command line that runs the executable file must be in the following format: <full path to program from HP Business Availability Center Data Processing Server machine> <program command line switches> You embed the alert parameters—which are expanded before the command line is executed—in the program command line switches section of the command line statement. For example: C:\Bin\MyAlertReporter.exe –title “<Alert Name> for <SLA Name>” –Text “<Current Status>”

GUI Element	Description
Field	Select alert parameters to insert into the command line. The alert parameters are: ➤ **SLA Name.** If the alert scheme monitors more than one SLA, the name of the SLA that triggered the alert will be used for this parameter. ➤ **Alert Name.** The name you defined for the alert scheme. ➤ **Trigger Time.** The start date and time of the event that triggered the alert. **Note:** Trigger time is not necessarily the time of the alert. For example, if the alert engine is down when the alert is triggered, the alert may be sent several minutes later. ➤ **Previous Status.** The status of the SLA before the alert was triggered. Service Level Management includes the following statuses: Exceeded, Met, Minor Breached, Breached, and Failed. ➤ **Current Status.** The current status of the SLA. (The change from previous status to current status is the trigger for the alert.) ➤ **Tracking Period.** The monitored SLA tracking period in which the alert occurred.
Insert Field	Click to insert the alert parameter displayed in the **Field** box into the **Enter Command** box. The alert parameter is added at the cursor location, between double angle brackets.

Create New Alert/Edit Alert Wizard

Description	Enables you to create an SLA status alert scheme, to notify you or another user of changes to SLA status (occurring in the present or predicted to occur in the future). **To access:** Select **Admin** > **Alerts** > **SLA Alerts**, then click **New Alert**, or the **Edit** button for an existing alert.
Wizard Map	The Create New Alert wizard contains: Welcome > General Page > Related SLAs Page > Templates and Recipients Page > Actions Page > Summary Page
Useful Links	"Define an SLA Alert Scheme" on page 161

General Page

Description	Enables you to define alert scheme parameters and alert conditions.
Important Information	➤ The forecast calculations are based on averages, so if an SLA contains a KPI that is based on an accumulative result (the Outage Duration KPI or the Number of Outages KPI), the calculations yield inaccurate forecast results. Do not create a status alert scheme for SLAs that contain either of these KPIs. ➤ After saving an SLA alert scheme, you cannot change the alert type from status to forecast or vice versa.
Wizard Map	The Create New Alert/Edit Alert Wizard contains: Welcome > **General Page** > Related SLAs Page > Templates and Recipients Page > Actions Page > Summary Page

The page includes the following elements (listed alphabetically):

GUI Element	Description
Alert Definition	Select the required definition: ➤ **All Tracking Periods.** The alert scheme monitors all tracking periods. ➤ **Selected Tracking Periods.** You select the tracking periods in the next stage of the procedure. **Note:** For a forecast alert scheme, the **Alert Definition** parameter is disabled—the forecast calculation is automatically applied to all tracking periods.
Alert Type	Select the required type: ➤ **Forecast Alert.** The alert scheme monitors changes in the forecast SLA status. ➤ **Status Alert.** The alert scheme monitors changes in the current SLA status. **Note:** You cannot modify the Alert Type when editing an alert scheme.
Condition	Select the required condition: ➤ **Send alert if status worsens.** Triggers the alert when the current or forecast status of an SLA is worse than the previous status. For example, if the status changes from Met to Minor Breached, the alert is triggered. Statuses **No Data** and **Downtime** are ignored. ➤ **Send alert if status improves.** Triggers the alert when the current or forecast status of the SLA is better than the previous status. For example, if the status changes from Breached to Minor Breached, the alert is triggered. Statuses **No Data** and **Downtime** are ignored. ➤ **Send alert if status value was changed from.** Sets the appropriate conditions for sending an alert. Select the appropriate status in the **from** and **to** boxes.
Description	Enter a description to appear in Service Level Management reports.

GUI Element	Description
Name	The name of the alert scheme must be unique and must not be longer than 100 characters.
Notification Frequency	Select the required notification frequency: ➤ **Send alert for every trigger occurrence.** Send an alert each time the condition is triggered. ➤ **Send no more than one alert per.** Send an alert once only during the time period you select, even if the condition is triggered more than once during that time period.

Related SLAs Page

Description	Enables you to select the SLAs, and, where relevant, the tracking periods that the alert scheme should monitor, or the alert forecasting periods.
Wizard Map	The Create New Alert/Edit Alert Wizard contains: Welcome > General Page > **Related SLAs Page** > Templates and Recipients Page > Actions Page > Summary Page

The page includes the following elements (listed alphabetically):

GUI Element	Description
Base Forecasting On	This parameter is displayed for alert schemes of **Forecast Alert** type (selected in the previous page of the wizard). Select the analysis period to use for the forecast calculation. The results from the analysis period serve as the basis for the forecast calculation, on the assumption that the SLA will perform in the future as it did during this analysis period. The options for this parameter are based on the SLA tracking period, up to the current date. However, only the tracking periods that are common to all SLAs added to the **Selected SLAs** list, and that are also included in the following list, are available as options: ➤ Week to date ➤ Month to date ➤ Quarter to date ➤ Year to date
Give Forecasting For	This parameter is displayed for alert schemes of **Forecast Alert** type (selected in the previous page of the wizard). Select the period that you want the forecast to cover. For example, select **End of month** for a forecast of the SLA status at the end of the current month. The options for this parameter are based on the SLA tracking periods; however, only the tracking periods that are common to all SLAs added to the **Selected SLAs** list, and that are also included in the following list, are available: ➤ End of week ➤ End of month ➤ End of quarter ➤ End of year

GUI Element	Description
Selected SLAs	Lists the SLAs (including OLAs and UCs) that are monitored by the alert scheme.
SLAs	Lists the existing SLAs (including OLAs and UCs, and including those not currently running, or terminated). The list displays those SLAs for which you have change or delete permission.Add SLAs from the **SLAs** list to the **Selected SLAs** list: ➤ To add an SLA to the Selected SLAs list, select the SLA in the left pane and use the upper arrow. ➤ To remove an SLA from the Selected SLAs list, select the SLA in the right pane and use the lower arrow. ➤ Select multiple SLAs by holding down the CTRL key while making your selections.
Tracking Periods	Enables you to select the tracking periods that you want the alert scheme to monitor. The **Tracking Periods** table is displayed only if you selected the following in the previous page of the wizard: ➤ Alert Type: **Status Alert** ➤ Alert Definition: **Selected Tracking Periods** After selecting SLAs, the available tracking periods are listed in the table. The available options include each tracking period that is defined for at least one of the selected SLAs. **Note:** ➤ An alert scheme cannot be defined for tracking period **Hour**; therefore, this tracking period does not appear in the table. ➤ For each included SLA, the alert scheme monitors only the selected tracking periods that are relevant for that SLA. **Tip:** To make your selections, you can also use the buttons at the bottom of the list for **Select All**, **Clear All**, and **Invert Selection**.

Templates and Recipients Page

Description	Enables you to define to whom a triggered alert should be sent, and to define the template to be used for each alert type.
Important Information	The default character set for e-mail, SMS, and pager messages sent by HP Business Availability Center is **UTF-8**. You can change the default to ISO-2022-JP. **Customizable:** For details on changing the character set to ISO-2022-JP, see "View SLA Alert and SLA Alert Notification Reports" on page 163. **Note:** You cannot edit the e-mail, SMS, and Pager message templates.
Wizard Map	The Create New Alert/Edit Alert Wizard contains: Welcome > General Page > Related SLAs Page > **Templates and Recipients Page** > Actions Page > Summary Page

The page includes the following elements (listed alphabetically):

GUI Element	Description
E-mail message template	Select the e-mail template format to be used when HP Business Availability Center sends the alert to recipients: ➤ **Short HTML e-mail message/short text e-mail message.** These messages include the change in status only. ➤ **Long HTML e-mail message/long text e-mail message.** These messages include a subject line and body. HP Business Availability Center supports secure mail. For details, see "Email" on page 353.
New Recipient	Click to open the Recipient Properties dialog box, where you can define a new recipient. For details, see "Recipient Properties Wizard" on page 350.

GUI Element	Description
Pager template	Select the pager template format to be used when HP Business Availability Center sends the alert to recipients: Choose between: ➤ **Long SMS/Pager message.** The message includes the change in status and information about the SLA. ➤ **Short SMS/Pager message.** The message includes the change in status only. Pager messages are sent via e-mail to the service provider. The e-mail address is: **<Pager provider access number>@<Pager provider e-mail address>**.
SMS template	Select the SMS template format to be used when HP Business Availability Center sends the alert to recipients: Choose between: ➤ **Long SMS/Pager message.** The message includes the change in status and information about the SLA. ➤ **Short SMS/Pager message.** The message includes the change in status only. SMS messages are sent via e-mail to the service provider. The e-mail address is: **<SMS provider access number>@<SMS provider e-mail address>**

Actions Page

Description	Enables you to define actions that you want to HP Business Availability Center to perform when an alert is triggered.
Wizard Map	The Create New Alert/Edit Alert Wizard contains: Welcome > General Page > Related SLAs Page > Templates and Recipients Page > **Actions Page** > Summary Page

The page includes the following elements (listed alphabetically):

GUI Element	Description
Executable Files	Lists the executable files that run when the alert is triggered. You can edit or delete an executable file.
New Executable File	Click to open the Create New Executable File dialog box. For details, see "Create Executable File Dialog Box/Edit Executable File Dialog Box" on page 236.
New SNMP Trap	Click to open the Create New SNMP Trap dialog box. For details, see "Create SNMP Trap/Edit SNMP Trap Dialog Box" on page 247.
New URL	Click the **New URL** button to open the Create New URL dialog box. For details, see "Create URL/Edit URL Dialog Box" on page 248.
SNMP Traps	Lists the SNMP traps that run when the alert is triggered.
URLs	Lists the URLs, with embedded alert parameters, that are accessed by HP Business Availability Center when the alert is triggered. You can edit or delete a URL.

Summary Page

Description	Lists the settings you defined for the alert scheme. If you want to make changes to the alert scheme, click **Back** or click the alert scheme page in the left menu to go directly to the page you want to change. Click **OK** to save the alert scheme.
Wizard Map	The Create New Alert/Edit Alert Wizard contains: Welcome > General Page > Related SLAs Page > Templates and Recipients Page > Actions Page > **Summary Page**

Create SNMP Trap/Edit SNMP Trap Dialog Box

Description	Enables you to specify that HP Business Availability Center should send an SNMP trap when alert trigger criteria are met. The alert notice can be seen via any SNMP management console in the organization. **To access:** In the **Actions** page of the Create New Alert wizard, click **New SNMP Trap** or the **Edit** button for a listed SNMP trap.
Important Information	HP Business Availability Center supports only SNMP V1 traps. For details on configuring the alerts MIB in your SNMP management console, see "Configure the Alerts MIB" on page 198. (For traps created through the SLA Alerts page, use the file **CIAlerts.mib**.)

The dialog box includes the following elements:

GUI Element	Description
Enter destination host	Enter the IP address or name of the destination host to which the SNMP traps will be sent. Example of an IP address: 1.1.1.1. Example of a destination host: \\HostName If Service Level Management displays a default host destination, you can accept the default, or replace with another IP address or name. If you do not enter a port number, Service Level Management uses a default port number. The default values for the SNMP trap destination host and port are set in Infrastructure Settings Manager. To modify the default values, select **Admin** > **Platform** > **Setup and Maintenance** > **Infrastructure Settings**, choose **Foundations**, select **Alerting**, and locate the **Default SNMP port** and the **Default SNMP target address** entries in the **Triggered Alerts** table. Modify the values as required.

Create URL/Edit URL Dialog Box

Description	Enables you to define a URL with embedded predefined alert parameters. The parameters are substituted with the relevant values when the URL is accessed, so that the alert information can be inserted into special logs or external databases. The URL is accessed when an alert is triggered, so that the alert can be sent via a Web site, for example, using Active Server Pages, CGI, or Perl. The URL can activate an executable program on a Web server, report to a custom database, activate a Web-based fax service, and so on. **To access:** In the **Actions** page of the Create New Alert wizard, click **New URL** or the **Edit** button for a listed URL.
Important Information	When accessing a URL, HP Business Availability Center supports the GET method only. This enables the URL to be copied from HP Business Availability Center, pasted into an e-mail, and sent to the user. (If the POST method was used, the HTML file would first have to be saved on the client computer, and then sent by the administrator to the specific user.) For information on the differences between the methods, see http://www.cs.tut.fi/~jkorpela/forms/methods.html or http://en.wikipedia.org/wiki/HTTP.

The dialog box includes the following elements:

GUI Element	Description
Enter URL	Enter the URL in the box, and inset alert parameters where required. When embedding alert parameters in a URL, use the following format: http://<server_or_IP>?<alert parameters> For example: http://financesystem.com?name=<AlertName>&sla= <SLA Name>&TriggerTime= <Trigger Time>&CurrentStatus=<Current Status>
Field	Select alert parameters to insert into the URL. The alert parameters are: ➤ **SLA Name.** If the alert scheme monitors more than one SLA, the name of the SLA that triggered the alert will be used for this parameter. ➤ **Trigger Time.** The start date and time of the event that triggered the alert. **Note:** Trigger time is not necessarily the time of the alert. For example, if the alert engine is down when the alert is triggered, the alert may be sent several minutes later. ➤ **Previous Status.** The status of the SLA before the alert was triggered. Service Level Management includes the following statuses: Exceeded, Met, Minor Breached, Breached, and Failed. ➤ **Current Status.** The current status of the SLA. (The change from previous status to current status is the trigger for the alert.) ➤ **Tracking Period.** The monitored SLA tracking period in which the alert occurred.

GUI Element	Description
Insert Field	Click to insert the alert parameter displayed in the **Field** box into the **Enter URL** box. The alert parameter is added at the cursor location, between double angle brackets.

SLA Alerts Page - Administration

Description	You use this page to create SLA status alert schemes (based on current status or forecast status), or to perform actions on existing alert schemes. The page lists the existing alert schemes (Service Level Management displays only the alert schemes for which you have change or delete permission). **To access:** Clicking **Admin** > **Alerts** > **SLA Alerts**
Useful Links	"Define an SLA Alert Scheme" on page 161

The page includes the following elements (listed alphabetically):

GUI Element	Description
	Click to run the alert scheme, or to run all selected alert schemes. If this button is disabled, the alert scheme is running.
	Click to stop the alert scheme, or to stop all selected alert schemes.
	Click to clone the alert scheme. A copy of the alert scheme is added to the list, named **Copy of <name>**. The copy has the same properties as the original.
	Click to edit the alert scheme. Opens the Edit Alert wizard at the General page. For details, see "General Page" on page 239.
	Click to delete the alert scheme, or to delete all selected alert schemes.

GUI Element	Description
	Click the required button to select all options, clear all options, or reverse the current selection.
<check box>	Select for each alert scheme as required, to perform an action on multiple alert schemes simultaneously.
Alert Name	The name of the alert scheme. For a long name, hold the cursor over the name to view it in full in a tooltip. Click the column header to sort the list by this column, in either ascending or descending order.
Alert Type	Shows whether the alert scheme is monitoring current status (**SLM Alert**) or forecast status (**Forecast Alert**).
Condition	The condition that trigger an alert, for example, if the SLA status worsens.
New Alert	Click the **New Alert** button to define a new alert scheme. For details, see "Create New Alert/Edit Alert Wizard" on page 239.
Recipients	The names of the users who are to be informed when an alert is triggered. Click the column header to sort the list by this column, in either ascending or descending order.
Search	Enter the name of an alert scheme in the **Search in current view by name** box and click **Search**. You can also enter part of an alert scheme name, using an asterisk (*****) to replace missing characters or words. For example, enter *B* to display all alert schemes that contain the letter **B** in their name. Service Level Management filters the list of alert schemes to display the alerts that fit the search criteria. To clear the filtering, type an asterisk only in the box and click **Search**. **Note:** The search is case sensitive.

SLM Alert Notifications Page

Description	Displays detailed information about the relevant alert. **To access:** In the SLA Alerts report, click the button.
Important Information	Click the Details button relevant to the appropriate alert to see the alert notification details. If the button does not appear in the report, click the Reset the table columns' width button and make the Details column visible. For details, see "Configuration Item Status Alert Notifications Page/Report" on page 225.

Report Settings

The area includes the following element:

GUI Element	Description
<Common report settings>	See "Understanding Common Report Elements" in *Reference Information*.

Alert Details Area

The area includes the following elements (listed alphabetically):

GUI Element	Description
Alert Action	The action that has been assigned to the alert.
Alert Name	The name of the alert.
SLA	The name of the SLA whose change of status triggered the alert.
Status	The previous status of the SLA.
Time	The time of the SLA's change of status.
Tracking Period	The time period that defines which granularities are to be displayed in the alert.

Message Notifications Area

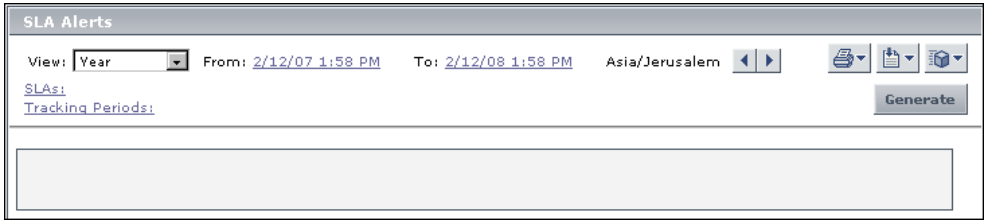
The area includes the following elements (listed alphabetically):

GUI Element	Description
Recipients	The names of the recipients who receive the notification that the alert has been triggered and that the alert scheme has been executed.
Status	The status of the message: **Pass:** the message has been sent; **Fail:** the message has not been sent.
Type	The type of message notification: e-mail, SMS message, or pager message.

Notification Messages Area

Description	The Notification Messages area displays the type of message followed by the text of the message. The text of the e-mail messages has different formats depending on the e-mail format selected by the sender. HTML is encoded in the report. The text of the e-mail received by the recipient is decoded and is similar to the Pager message text. For details on the available formats, see "Actions Page" on page 245.

SLA Alerts Report



Description	Lists the alerts that were triggered during a specified time period. Service Level Management alerts proactively inform you of SLA status changes, by sending alerts to predefined users. **To access:** Select **Applications** > **Alerts** > **SLA Alerts Report**
Useful Links	"View the SLA Alert Schemes" on page 162

Filter Area

The Filter area includes the following elements (listed alphabetically):

GUI Element	Description
<filter area>	"Choosing the Time Range and Granularity" in *Reference Information*
Generate	Click to generate the report.
SLAs	Click the link to open the SLAs Filter dialog box where you select the relevant SLAs.
Tracking Period	Click the link to open the Tracking Periods dialog box where you select the tracking period. For details, see "Tracking Periods Dialog Box" on page 255.

Table Area

The table area includes the following elements (listed alphabetically):

GUI Element	Description
	Click to view details of the SLA status alert. For a details, see "SLM Alert Notifications Page" on page 252.
Alert Action	The action that is triggered by the alert. For a long name, hold the pointer over the name to view it in full in a tooltip.
Alert Name	The name of the alert.
SLA	The name of the SLA that the alert is attached to.
Status	The current status of the SLA. The status change (from previous status to current status) triggers the alert.
Time	The time and date when the status changed. The format is: dd/mm/yy hh:mm GMT[<offset>].
Tracking Period	The time periods selected during SLA creation. The tracking periods that you select here define which granularities are to be displayed in the alert.

Tracking Periods Dialog Box

Description	Enables you to select the tracking period for which you can view data in the SLA Alerts report. **To access:** Click **Tracking Period** in the SLA Alerts Report.
Important Information	Select one or more of the tracking periods: **Hour**, **Day**, **Week**, **Month**, **Quarter**, **Year**, or **SLA Period**. (The tracking periods that are listed are are defined during SLA creation. For more information on SLA tracking periods, see "Tracking Periods Dialog Box" in *Using Service Level Management*.)

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Event-Based Alerts User Interface

This chapter includes the pages and dialog boxes that are part of the Alerts user interface, listed alphabetically.

This chapter describes:	On page:
Access URL Dialog Box	259
Access URLs Dialog Box	260
Alert Count by Severity Report	262
Alert Count over Time Report	263
Alert Dependency Overview Page	265
Alert Frequency Criteria Dialog Box	266
Alert Log Report	267
Alerts Page	269
Alert Wizard	272
Average Response Time Dialog Box	302
Calculated Time Period Dialog Box	303
Completed Transaction Volume Dialog Box	305
Define Subordinate Alerts Dialog Box	306
End-User Filters Dialog Box	307
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Access URL Dialog Box

Description	Enter the URL that you want HP Business Availability Center to access when alert trigger criteria are met. **Note:** HP Business Availability Center supports the GET method only when accessing a URL. If your Web server only supports the POST method, or if you want more information on developing custom Web pages for your server, please contact your Customer Support representative. **To access:** Click **Add URL** in the Access URLs dialog box.
Important Information	You can customize and control the URL by adding parameters to the URL string. For details, see "Control Alerts" on page 187.
Included in Tasks	"Control Alerts" on page 187

The dialog box includes the following element:

GUI Element	Description
Enter URL	Enter the URL with the following format: **http://<server_or_IP>?<<parameters>>** Embed the alert parameters in the <**parameters**> section of the URL. The format of alert parameters is: <ParameterName> For a description and listing of the different alert parameters, see "Alert Parameter Categories" on page 189.

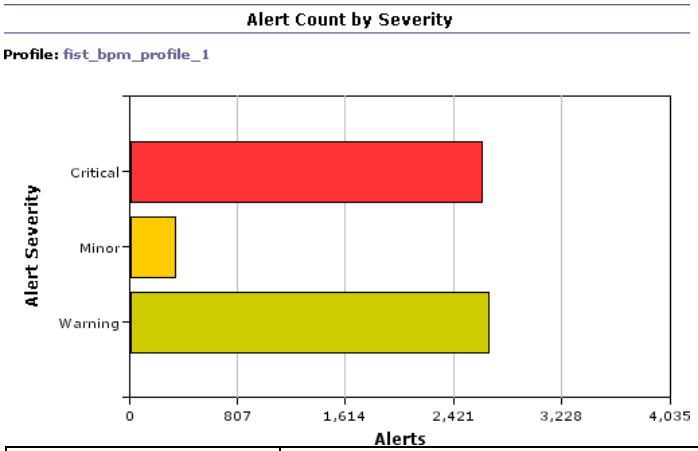
Access URLs Dialog Box

Description	Specify that you want HP Business Availability Center to access a URL when alert trigger criteria are met. This enables HP Business Availability Center to send alerts via a Web site, for example, using Active Server Pages, CGI, or Perl. The URL can activate an executable program on a Web server, report to a custom database, activate a Web-based fax service, and so on. You can develop custom pages or use existing ones. **Note:** HP Business Availability Center supports the GET method only when accessing a URL. If your Web server only supports the POST method, or if you want more information on developing custom Web pages for your server, please contact your Customer Support representative. **To access:** Click the link in **Access the URLs <as_specified>** in the Alert definitions area in the Actions tab in the Alert wizard.
Important Information	You can customize and control the URL by adding parameters to the URL string. For details, see "Control Alerts" on page 187.
Included in Tasks	"Control Alerts" on page 187

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
	Click to open the Access URL dialog box where you can edit the current URL.
	Click to delete the current URL.
<URL>	The URL accessed by HP Business Availability Center when the alert is triggered.
Add URL	Click the button to Access URL dialog box where you can add the URL. For details on embedding predefined alert parameters in the URL, see “Embed Alert Parameters in a URL” on page 187.

Alert Count by Severity Report

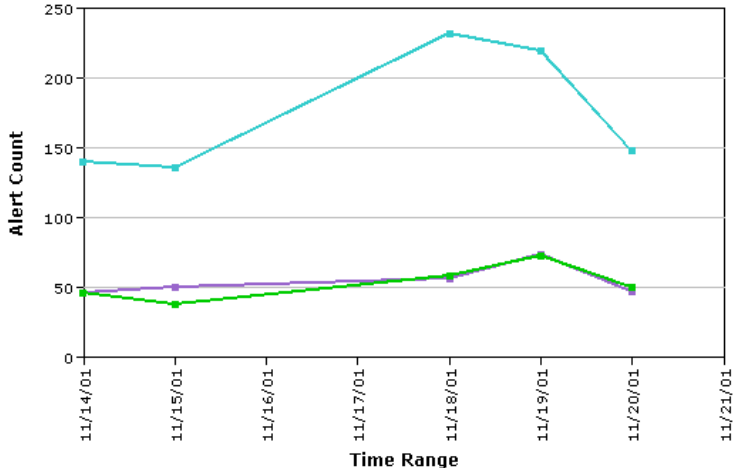


Description	Enables you to display alerts organized by their severity for a specific profile. **To access:** This report is available only through the custom report feature.
Important Information	This report is available only through the custom report feature. For details on adding this report to a custom report, see "Adding a Component to a Report" in *Custom Reporting and Alerting*.
Included in Tasks	"View Event-Based Alert Reports" on page 207

The report includes the following elements (listed alphabetically):

GUI Element	Description
<tooltip>	Move the mouse over a severity status to view a tooltip with the number of alerts in that status.
Alert Severity	Displays the number of alerts per severity. Severity can be: **Critical**, **Minor**, **Major**, **Warning**, and so on.
Profile	The name of the profile.

Alert Count over Time Report



Description	Enables you to display a quick overview of the frequency of alerts (the number of alerts that occurred over the specified time range) that HP Business Availability Center has sent. In addition, by using the view filter, you can group the data by source, severity label, or alert type, for a specific profile. For example, you can determine how often critical alerts are being sent. **To access:** Select **Applications** > **Alerts** > **Event-Based Alerts Report**.
Included in Tasks	"View Event-Based Alert Reports" on page 207

Report Settings

GUI Element	Description
<Common report settings>	See "Understanding Common Report Elements" in *Reference Information*.

GUI Element	Description
Active Filters	Click to open the Active Filters dialog box where you can select the severities used to filter the alerts displayed in the report.
Profile(s)	Click to open the Profiles dialog box where you can select the profile used to filter the alerts displayed in the report.

Graph Area

The area includes the following elements (listed alphabetically):

GUI Element	Description
<any point in graph>	Click any point in the graph to increase the time resolution for the selected source, severity label, or alert type.
<drill down>	Click drill down links to the right of the report to focus on a source, severity label, or alert type.
<tooltip>	Move the mouse over any small square in the report to view a tooltip containing details about the number of alerts corresponding to that point in time.

Alert Dependency Overview Page

Description	Enables you to view an overall summary of all defined alert dependencies for all profiles. You can also determine whether a specific alert is defined as subordinate and view its dominant alert(s). **To access:** Select **Admin** > **Alerts** > **Event-Based Alerts** > **View Dependencies**.
Important Information	For details about subordinate alerts, see "Define Subordinate Alerts Dialog Box" on page 306. To verify that an alert is defined as subordinate, look for the following line in the bottom window of any page in the Alert Wizard: **This alert is subordinate to the alert(s): <alert_name(s)>**
Included in Tasks	"Define Alert Dependency" on page 181

The page includes the following elements (listed alphabetically):

GUI Element	Description
Dominant Alert	The name of the dominant alert.
Dominant Alert Profile	The profile of the dominant alert.
Subordinate Alert	The name of the subordinate alert. Click the name of the alert to view the alert's dominant alert(s). The Dominant Alert dialog box opens.
Subordinate Alert Profile	The profile of the subordinate alert.
Time Limit	The amount of time HP Business Availability Center suppresses instances of the current alert after the dominant alert is triggered.

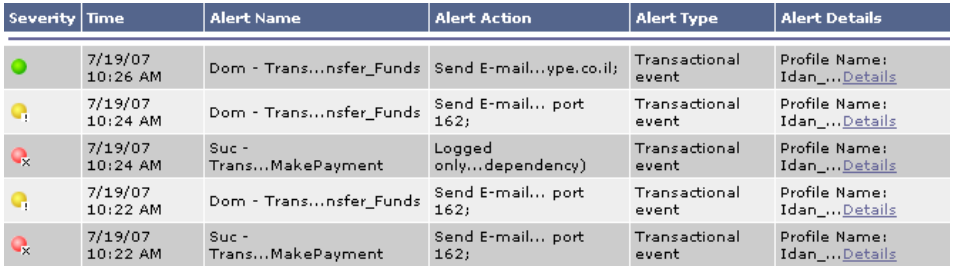
Alert Frequency Criteria Dialog Box

Description	To define how often HP Business Availability Center sends an alert notice when the event-based alert trigger conditions defined above occur. If you selected any of the event-based alert triggers, you can define the alert frequency criteria. **To access:** Click the link of **Send alert if trigger conditions occur <alert_frequency_criteria>** in the Alert Description area of the Trigger Criteria tab in the Alert wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
At least <X> times out of <Y>	Select to have HP Business Availability Center send an alert only when the defined alert trigger conditions occur X times out of Y, where X represents the number of times the alert conditions occur, and Y represents the total number of transaction instances HP Business Availability Center considers. For example: for the alert trigger **Transactions fail**, if you specify **at least 3 times out of 5**, HP Business Availability Center sends an alert only if 3 out of every 5 transactions fail; for the alert trigger **Transaction response time is greater than 10 seconds**, if you specify **At least 2 times out of 4**, HP Business Availability Center sends an alert only if transaction response time is greater than 10 seconds in at least 2 out of 4 transaction instances.
Even once	Select to have HP Business Availability Center send an alert every time the defined alert trigger conditions occur.

Alert Log Report



Severity	Time	Alert Name	Alert Action	Alert Type	Alert Details
	7/19/07 10:26 AM	Dom - Trans...nsfer_Funds	Send E-mail...ype.co.il;	Transactional event	Profile Name: Idan_...Details
	7/19/07 10:24 AM	Dom - Trans...nsfer_Funds	Send E-mail... port 162;	Transactional event	Profile Name: Idan_...Details
	7/19/07 10:24 AM	Suc - Trans...MakePayment	Logged only...dependency)	Transactional event	Profile Name: Idan_...Details
	7/19/07 10:22 AM	Dom - Trans...nsfer_Funds	Send E-mail... port 162;	Transactional event	Profile Name: Idan_...Details
	7/19/07 10:22 AM	Suc - Trans...MakePayment	Send E-mail... port 162;	Transactional event	Profile Name: Idan_...Details

Description	Enables you to track all alert details for alerts sent by HP Business Availability Center during the specified time range, for the selected Business Process Monitor profiles, or Real User Monitor, regardless of the action specified for the alert in the alert scheme. In addition, you can view alerts sent via your organization's enterprise management systems (if configured in EMS profiles). For example, the Alert Log lists alerts that are not sent to specified recipients and alerts that trigger an executable file. **To access:** Select **Applications** > **Alerts** > **Event-Based Alerts Report** > **Alert Log**.
Important Information	The Alert Log displays up to 20 entries per page. If there are more than 20 entries, use the navigation links at the top or bottom of the screen to move through the Alert Log.
Included in Tasks	"View Event-Based Alert Reports" on page 207

Report Settings

GUI Element	Description
<Common report settings>	See "Understanding Common Report Elements" in *Reference Information*.
Active Filters	Click to open the Active Filters dialog box where you can select the severities used to filter the alerts displayed in the report.
Profile(s)	Click to open the Profiles dialog box where you can select the profile used to filter the alerts displayed in the report.

Report Table Area

The area includes the following elements (listed alphabetically):

GUI Element	Description
Alert Action	Displays alert notification information, for example, the recipients who received the alert. You specify alert recipients in your alert schemes.
Alert Details	Displays the beginning of the alert notice. Click the **Details** link to open the Alert Details window. The Alert Details window displays the information that is available for the alert, including the actual conditions at the time of the alert.
Alert Name	Displays the alert name that you specified in your alert scheme.
Alert Type	Displays the type of alert (currently **Transactional event** is the only possible value).
Severity	Displays an icon that represents the alert severity label you selected for the alert in the alert scheme. The severity is selected in "Settings Tab" on page 298.
Time	Displays the date and time that HP Business Availability Center logged the alert.

Alerts Page

Description	After you create an alert scheme, HP Business Availability Center displays it in the Alerts table. The Alerts table lists alerts by name, severity label, and their associated profile. Over time, you may find it necessary to make changes to alert schemes that you create, due to organizational changes, changes to service level monitoring contracts, and so on. For example, if an alert recipient leaves the company, you will need to modify the alert scheme. Alternatively, if, due to a change in a service level monitoring agreement, the availability rate of a specific transaction is now expected to be at 97 percent rather than 90 percent, you may want to modify alert trigger criteria for that transaction accordingly. **To access:** Select **Admin** > **Alerts**.
Included in Tasks	"Create Alert Schemes" on page 166 "Control Alerts" on page 187

The page includes the following elements (listed alphabetically):

GUI Element	Description
	Click the button beside the alert whose properties you want to modify. The Alert Wizard opens. For details, see "Alert Wizard" on page 272.
	Click the button next to the alert scheme you want to clone. HP Business Availability Center adds a copy of the alert scheme to the profile tree, with a new name.Rename and edit the alert scheme as required.
	Click the button beside the alert to delete the alert. To delete multiple alerts simultaneously, select their check boxes in the left column, and click the button located at the bottom of the Alerts table.
	Click the required button to select all options, clear all options, or reverse the current selection.

GUI Element	Description
	If an alert is enabled, click the **Disable Alert** button beside the alert to disable it. When an alert is disabled, HP Business Availability Center does not send an alert notice when the trigger conditions defined in the alert occur. To enable or disable multiple alerts simultaneously, select their check boxes in the left column and click the button located at the bottom of the Alerts table. **Note:** You can also disable or enable an alert scheme from the Settings page of the Alert Wizard. For details, see "Settings Tab" on page 298.
	If an alert is disabled, click the **Disable Alert** button beside the alert to enable it. When an alert is enabled, HP Business Availability Center sends an alert notification when the trigger conditions defined in the alert occur. To enable or disable multiple alerts simultaneously, select their check boxes in the left column and click the button located at the bottom of the Alerts table. **Note:** You can also disable or enable an alert scheme from the Settings page of the Alert Wizard. For details, see "Settings Tab" on page 298.
<check box>	Select when you want to perform the same action on several alerts simultaneously.
<Please select recipient>	Select the check box beside the alert(s) for which you want to add or remove a recipient. Select the recipient to add or remove in the recipient list at the bottom of the Alerts table.
Alert Name	The name of the alert.

GUI Element	Description
New Alert	Click to define a new alert. Depending on the profile selected in the Profile box at the top of the page, the New Alert dialog box, or the Alerts wizard opens. For details about the New Alert dialog box, see "New Alert Dialog Box" on page 317. For details about the Alert wizard, see "Alert Wizard" on page 272.
Profile	Select the profile for which you want to create the alert from the list of profiles at the top of the page. If you are creating an alert for a Real User Monitor, select the **[RUM Engines]** item from the profile list. **Note:** ➤ If **[All Profiles]** was selected in the profile list when you clicked **New Alert**, the New Alert dialog box for selecting a profile opens and you must select a profile before continuing. For details, see "New Alert Dialog Box" on page 317. ➤ If **[RUM Engines]** was selected in the profile list when you clicked **New Alert**, the New Alert dialog box opens and you must select a Real User Monitor engine as well as the type of alert (page, transaction, or server) before continuing. For details, see "New Alert Dialog Box" on page 317.
Register **Unregister**	After you have selected the check box beside the alert(s) for which you want to add a recipient, and selected the recipient in the recipient list at the bottom of the Alerts table, click the button to add the specified recipient to the selected alert(s).

GUI Element	Description
Severity	The severity can be: ➤ - Informational ➤ - Warning ➤ - Minor ➤ - Major ➤ - Critical
Unregister	After you have selected the check box beside the alert(s) for which you want to remove a recipient, and selected the recipient in the recipient list at the bottom of the Alerts table, click the button to remove the specified recipient to the selected alert(s).

Alert Wizard

Description	Enables you to create an alert scheme. **To access:** ➤ Click **New Alert** in the Alerts page. ➤ Click the appropriate Edit button in the Alerts page.
Included in Tasks	"Create Alert Schemes" on page 166 "Define the Alert Trigger Criteria" on page 166 "Set the Alert Filters" on page 170 "Configure Alert Actions" on page 174 "Configure Additional Alert Settings" on page 177
Wizard Map	The **Alert Wizard** includes: Trigger Criteria Tab > Filters Tab > Actions Tab > Settings Tab

Trigger Criteria Tab

Description	Enables you to specify the transaction response time and availability conditions that trigger an alert. You can choose to trigger the alert based on either an event related to the transaction's success or failure, or based on the time it takes for the transaction to be completed.
Important Information	When you select a trigger criteria, the **Profile** and **Alert triggers** elements are added to the Alert Description area. Depending on the trigger criteria you select the Alert triggers area displays different information. You can combine one or more trigger criterias for each type of filters. If you select both **Transaction response time** and **Transaction response time relative to threshold**, and you want to send URLs or use an executable file to obtain more functionality. An alert scheme can only contain either event-based trigger criteria exclusively or time-based trigger criteria exclusively. You can select to send alerts if one or more of the trigger-based criteria are met. In this case you can select the **Send alert if any of the above trigger conditions are met** or to **Send alert if all of the above trigger conditions are met.**
Wizard Map	The Alert Wizard includes: **Trigger Criteria Tab** > Filters Tab > Actions Tab > Settings Tab

Alert Triggers Area for Event-Based Alerts

Description	Lists the event-based triggers that enable HP Business Availability Center to send alerts when a specific event occurs. For example, send an alert when a transaction fails or exceeds a specified amount of time. This list of triggers is displayed when you have selected a Business Process Monitor profile. If you select multiple, event-based alert trigger criteria, you also specify multiple trigger condition properties. The event-based triggers are: ➤ "Transaction failure" on page 274 ➤ "Transaction Response Time" on page 275 ➤ "Transaction Response Time Relative to Threshold" on page 276

The area includes the following elements (listed alphabetically):

GUI Element	Description
Transaction failure	Select to use transaction failure as a criteria. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Transactions fail** **Send alert if trigger conditions occur** <alert_frequency_criteria> Click the link to edit the default value.

GUI Element	Description
Transaction Response Time	Select to send an alert if transaction response time is greater than or less than the selected number of seconds. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Transaction response time is** <condition> **seconds** **Send alert if trigger conditions occur** <alert_frequency_criteria> Click the link to edit the default value. Only completed transactions are considered for this alert trigger. If a transaction fails—that is, is not completed successfully—no alert will be sent.

GUI Element	Description
Transaction Response Time Relative to Threshold	Select to send an alert if transaction response time is better or worse than the selected transaction threshold. For example: the alert is sent if response time for a given transaction is worse than the set Warning/Poor level threshold, but treats the threshold value as 10 percent better. Thus, if the Warning/Poor level threshold for the transaction is, for example, 10 seconds, HP Business Availability Center sends an alert if transaction response time is worse than 9 seconds (since 9 seconds is 10 percent better than 10 seconds). After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Transaction response time relative to threshold is** <response_time_ relative_to_ threshold> **Send alert if trigger conditions occur** <alert_frequency_criteria> Click the link to edit the default value. Only completed transactions are considered for this alert trigger. In addition, you can instruct HP Business Availability Center to treat the threshold value as better or worse than the set threshold, by a specified percentage.

Alert Triggers Area for Time-Based Alerts

Description	Lists the triggers that enable HP Business Availability Center to send alerts when specific conditions exist over a specified period of time. For example, when average transaction response time is greater than 10 seconds for a period of 1 hour. This list of triggers is displayed when you have selected a Business Process Monitor profile. If you select multiple, time-based alert trigger criteria, you also specify multiple trigger condition properties. If you set alert filters, HP Business Availability Center considers trigger criteria within the context of the selected items only. The time-based triggers are: ➤ "Availability" on page 278 ➤ "Average Transaction Response Time" on page 279 ➤ "Transaction Response Time for Specified Percentage of Transactions" on page 280 ➤ "Transaction Response Time Relative to Threshold for Specified Percentage of Transactions" on page 281

The area include the following elements (listed alphabetically):

GUI Element	Description
Availability	Select to send an alert if transaction availability is greater than or less than the selected percentage, calculated over the selected time period. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Availability is** <transaction_availability> **Calculate over** <calculated_time_period> Click the link to edit the default value. Availability is the number of times that transactions succeed as a percentage of the total number of transaction instances. **Note:** Every minute, a check is performed to see if the criteria is fulfilled for the specified time period. If it is, an alert notification is sent. If you want to receive only one alert notification for the same alert event, select **Send no more than one alert as long as the alert continues to exist** in the Settings tab. For example, when the criteria is fulfilled 5 minutes after the start of the time period (15 minutes), a check performed at 16 minutes after the start of the time period finds the criteria fulfilled and sends an alert. The same test is then performed every minute after that and finds that the criteria is fulfilled five times, up to the 21st minute after the start of the time period. At the 22nd minute after the start of the time period, the criteria is not fulfilled any more.

GUI Element	Description
Average Transaction Response Time	Select to send an alert if average transaction response time is greater than or less than the selected number of seconds, calculated over the selected time period. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Average transaction response time is** <condition> **seconds** **Calculate over** <calculated_time_period> Click the link to edit the default value. **Note:** Every minute, a check is performed to see if the criteria is fulfilled for the specified time period. If it is, an alert notification is sent. If you want to receive only one alert notification for the same alert event, select **Send no more than one alert as long as the alert continues to exist** in the Settings tab. For example, when the criteria is fulfilled 5 minutes after the start of the time period (15 minutes), a check performed at 16 minutes after the start of the time period finds the criteria fulfilled and sends an alert. The same test is then performed every minute after that and finds that the criteria is fulfilled five times, up to the 21st minute after the start of the time period. At the 22nd minute after the start of the time period, the criteria is not fulfilled any more.

GUI Element	Description
Transaction Response Time for Specified Percentage of Transactions	Select to send an alert if response time is greater or less than the selected number of seconds, for the specified percentage of transactions, calculated over the selected time period. In addition, you can instruct HP Business Availability Center to count a minimum number of transactions over the calculated time period. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Transaction response time for specified percentage of transactions is** <response_time_for_%_of_trans> **Calculate over** <calculated_time_period> Click the link to edit the default value. Only completed transactions are considered for this alert trigger. In addition, you can instruct HP Business Availability Center to count a minimum number of transactions over the calculated time period. **Note:** Every minute, a check is performed to see if the criteria is fulfilled for the specified time period. If it is, an alert notification is sent. If you want to receive only one alert notification for the same alert event, select **Send no more than one alert as long as the alert continues to exist** in the Settings tab. For example, the criteria is fulfilled 5 minutes after the start of the time period (15 minutes). This means that a check performed at 16 minutes, after the start of the time period, finds the criteria fulfilled and sends an alert. The same test is then performed every minute after that and finds that the criteria is fulfilled five times, up to the 21st minute after the start of the time period. At the 22nd minute after the start of the time period, the criteria is not fulfilled any more.

GUI Element	Description
Transaction Response Time Relative to Threshold for Specified Percentage of Transactions	Select to send an alert if response time is better or worse than the selected transaction threshold, for the specified percentage of transactions, calculated over the selected time period. In addition, you can instruct HP Business Availability Center to treat the threshold value as better or worse than the set threshold, by a specified percentage or to count a minimum number of transactions over the calculated time period. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Transaction response time relative to threshold for specified percentage of transactions is** <response_time_threshold_for_%_of_trans> **Calculate over** <calculated_time_period> Click the link to edit the default value. Only completed transactions are considered for triggering this alert. **Note:** Every minute, a check is performed to see if the criteria is fulfilled for the specified time period. If it is, an alert notification is sent. If you want to receive only one alert notification for the same alert event, select **Send no more than one alert as long as the alert continues to exist** in the Settings tab. For example, the criteria is fulfilled 5 minutes after the start of the time period (15 minutes). This means that a check performed at 16 minutes, after the start of the time period, finds the criteria fulfilled and sends an alert. The same test is then performed every minute after that and finds that the criteria is fulfilled five times, up to the 21st minute after the start of the time period. At the 22nd minute after the start of the time period, the criteria is not fulfilled any more.

Alert Triggers Area for Page Alerts

Description	Lists the triggers that enable HP Business Availability Center to send alerts when specific conditions exist over a specified period of time. The alert trigger criteria that you can configure for the Real User Monitor depend on the alert type you selected in the New Alert dialog box. The Page alerts criteria are: ➤ "Page Availability" on page 282 ➤ "Page Performance - page response time for specified percentage of pages" on page 283 ➤ "Page performance - server response time for specified percentage of pages" on page 283 ➤ "Page volume" on page 284 **Note:** Upgraded Real User Monitor page alerts must be reconfigured. End User alerts and their dependencies are not upgraded and are not available in this version.

The area includes the following elements (listed alphabetically):

GUI Element	Description
Page Availability	Select to send an alert if page availability is less than or greater than the specified percentage, calculated over the selected time period. This trigger is displayed when you have selected a RUM Engines profile and the RUM Pages type in the New Alert dialog box. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Page availability is** <condition> **Calculate over** <time_period> Only completed transactions are considered when triggering this alert.

GUI Element	Description
Page Performance - page response time for specified percentage of pages	To send an alert if the percentage of users that attempt to access the page with a response time that is higher than the threshold, has been reached, calculated over the selected time period. For details on setting up the threshold, see "Edit General Settings" in *Using End User Management*. This trigger is displayed when you have selected a RUM Engines profile and the RUM Pages type in the New Alert dialog box. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Page response time for specified percentage of pages is** <as specified> **Calculate over** <time_period> Only completed transactions are considered when triggering this alert.
Page performance - server response time for specified percentage of pages	To send an alert if the percentage of users that attempt to access the page located on a server and the server's response time that is higher than the threshold has been reached, calculated over the selected time period. For details on setting up the threshold, see "Edit General Settings" in *Using End User Management*. This trigger is displayed when you have selected a RUM Engines profile and the RUM Pages type in the New Alert dialog box. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Server response time for specified percentage of pages is** <as specified> **Calculate over** <time_period> Only completed transactions are considered when triggering this alert.

GUI Element	Description
Page volume	To send an alert if the number of page accessed is less than or greater than the specified number, calculated over the selected time period. This trigger is displayed when you have selected a RUM Engines profile and the RUM Pages type in the New Alert dialog box. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Page volume is** <condition> **hits** **Calculate over** <time_period> Only completed transactions are considered when triggering this alert.

Alert Triggers Area for Transaction Alerts

Description	The alert trigger criteria that you can configure for the Real User Monitor depend on the alert type you selected in the New Alert dialog box. The Transaction alerts criteria are: ➤ "Transaction availability" on page 285 ➤ "Transaction performance - total transaction response time for specified percentage of transactions" on page 285 ➤ "Transaction performance - net transaction response time for specified percentage of transactions" on page 287 ➤ "Transaction performance - server response time for specified percentage of transactions" on page 286 ➤ "Transaction volume - all" on page 286 ➤ "Transaction volume - completed" on page 287 **Note:** Transaction alerts are only sent for transactions that you configure in End User Management.

The area includes the following elements (listed alphabetically):

GUI Element	Description
Transaction availability	To send an alert if transaction availability is less than or greater than the specified percentage, calculated over the selected time period. This trigger is displayed when you have selected a RUM Engines profile and the RUM transactions type in the New Alert dialog box. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Transaction availability is** <condition> **Calculate over** <time_period> Only completed transactions are considered when triggering this alert.
Transaction performance - total transaction response time for specified percentage of transactions	To send an alert if the total transaction response time for the specified percentage of transactions corresponds to the conditions, calculated over the selected time period. You can also set a minimum number of transactions that must run in order for the alert conditions to be calculated. This trigger is displayed when you have selected a RUM Engines profile and the RUM transactions type in the New Alert dialog box. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Total transaction response time for specified percentage of transactions is <as specified>** **Calculate over** <time_period> Only completed transactions are considered when triggering this alert.

GUI Element	Description
Transaction volume - all	Sends an alert if the total transaction volume corresponds to the conditions, calculated over the selected time period. This trigger is displayed when you have selected a RUM Engines profile and the RUM transactions type in the New Alert dialog box. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Total volume is** <condition> **transactions** **Calculate over** <time_period> Only completed transactions are considered when triggering this alert.
Transaction performance - server response time for specified percentage of transactions	To send an alert if the server response time for the specified percentage of transactions corresponds to the conditions, calculated over the selected time period.. You can also set a minimum number of transactions that must run in order for the alert conditions to be calculated. This trigger is displayed when you have selected a RUM Engines profile and the RUM transactions type in the New Alert dialog box. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Server response time for specified percentage of transactions is <as specified>** **Calculate over** <time_period> Only completed transactions are considered when triggering this alert.

GUI Element	Description
Transaction performance - net transaction response time for specified percentage of transactions	To send an alert if the net transaction response time for the specified percentage of transactions corresponds to the conditions, calculated over the selected time period. You can also set a minimum number of transactions that must run in order for the alert conditions to be calculated. This trigger is displayed when you have selected a RUM Engines profile and the RUM transactions type in the New Alert dialog box. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Net transaction response time for specified percentage of transactions is <as specified>** **Calculate over** <time_period> Only completed transactions are considered when triggering this alert.
Transaction volume - completed	To send an alert if the volume of completed transactions corresponds to the conditions, calculated over the selected time period. This trigger is displayed when you have selected a RUM Engines profile and the RUM transactions type in the New Alert dialog box. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Completed volume is** <condition> **transactions** **Calculate over** <time_period> Only completed transactions are considered when triggering this alert.

Alert Triggers Area for Server Alerts

Description	Lists the triggers that enable HP Business Availability Center to send alerts when specific conditions exist over a specified period of time. The alert trigger criteria that you can configure for the Real User Monitor depend on the alert type you selected in the New Alert dialog box. The Server alerts criteria are: ➤ "Page Availability" on page 282 ➤ "Page Performance - page response time for specified percentage of pages" on page 283 ➤ "Page performance - server response time for specified percentage of pages" on page 283 ➤ "Page volume" on page 284 **Note:** Upgraded Real User Monitor page alerts must be reconfigured. End User alerts and their dependencies are not upgraded and are not available in this version.

The area includes the following elements (listed alphabetically):

GUI Element	Description
Server availability	To send an alert if server availability is less than or greater than the specified percentage, calculated over the selected time period. This trigger is displayed when you have selected a RUM Engines profile and the RUM servers type in the New Alert dialog box. After selection, the following editable information is displayed in the Alert Description area in the Alert triggers section: **Server availability is** <condition> **Calculate over** <time_period> Only completed transactions are considered when triggering this alert.

Alert Description Area

Description	Displays a summary of the selections you have made in the current tab and in the previous tabs (if relevant). It can include: ➤ **Profile.** The name of the profile you selected in the New Alert dialog box. ➤ **Alert triggers.** The list of triggers you selected in the Trigger Criteria tab. See each trigger description for a list of the elements that can be listed in this section. ➤ **Alert filters.** The list of filters you selected in the Filters tab. See each filter description for a list of the elements that can be listed in this section. In addition, if you have selected the RUM Engine profile in the New Alert dialog box, the name of the RUM Engine is listed in this section. ➤ **Alert actions.** The list of actions you selected in the Actions tab. See each action description for a list of the elements that can be listed in this section.

Filters Tab

Description	Enables you to track performance issues related to specific monitored servers, monitors, or measurements.
Important Information	When you select a filter, the **Alert filters** element is added to the Alert Description area. Depending on the filter you select the Alert triggers area displays different information. You can combine one or more filters for each type of filters.
Wizard Map	The Alert Wizard includes: Trigger Criteria Tab > **Filters Tab** > Actions Tab > Settings Tab

<Select Filters> Area

The area includes the following elements (listed alphabetically):

GUI Element	Description
Group performance data	Select to use the group performance data as a criteria. After selection, the following editable information is displayed in the Alert Description area in the Alert filters section: **Group performance data by** <specified criteria> **(Setting not specified)** HP Business Availability Center sends an alert if the performance data per page name, per transaction name, and/or per server name matches specified criteria. For details, see "Group Performance Data Dialog Box" on page 311.
Limit to end-user locations	Select to use the limit to end-user locations as a criteria. After selection, the following editable information is displayed in the Alert Description area in the Alert filters section: **Limit to end-user locations** <as_specified> HP Business Availability Center sends an alert if the alert trigger criteria are met for one or more specific end-user locations. By default, alerts are sent when alert trigger criteria are met for any end-user location. **Note:** For more information on Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.

GUI Element	Description
Limit to end-user names	Select to use the limit to end-user names as a criteria. After selection, the following editable information is displayed in the Alert Description area in the Alert filters section: **Limit to end-user names** <as_specified> HP Business Availability Center sends an alert if the alert trigger criteria are met for one or more specific end-user names. By default, alerts are sent when alert trigger criteria are met for any end-user name. **Note:** For more information on Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.
Limit to groups	Select to use the limit to groups as a criteria. After selection, the following editable information is displayed in the Alert Description area in the Alert filters section: **Limit to groups** <as_specified> HP Business Availability Center sends an alert if the alert trigger criteria are met for one or more specific groups. By default, alerts are sent when alert trigger criteria are met for any group. **Note:** For more information on Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.

GUI Element	Description
Limit to locations	Select to use the limit to locations as a criteria. After selection, the following editable information is displayed in the Alert Description area in the Alert filters section: **Limit to locations** <as_specified> HP Business Availability Center sends an alert if the alert trigger criteria are met for one or more specific locations. By default, alerts are sent when alert trigger criteria are met for any location. **Note:** For more information on Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.
Limit to pages	Select to use the limit to pages as a criteria. After selection, the following editable information is displayed in the Alert Description area in the Alert filters section: **Limit to pages** <as_specified> HP Business Availability Center sends an alert if the alert trigger criteria are met for one or more specific pages. By default, alerts are sent when alert trigger criteria are met for any page. **Note:** For more information on Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.

GUI Element	Description
Limit to servers	Select to use the limit to servers as a criteria. After selection, the following editable information is displayed in the Alert Description area in the Alert filters section: **Limit to servers** <as_specified> HP Business Availability Center sends an alert if the alert trigger criteria are met for one or more specific servers. By default, alerts are sent when alert trigger criteria are met for any end-user server. **Note:** For more information on Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.
Limit to transactions	Select to use the limit to transactions as a criteria. After selection, the following editable information is displayed in the Alert Description area in the Alert filters section: **Limit to transactions** <as_specified> HP Business Availability Center sends an alert if the alert trigger criteria are met for one or more specific transactions. By default, alerts are sent when alert trigger criteria are met for any transaction. **Note:** For more information on Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.

Alert Description Area

Description	Displays a summary of the selections you have made in the current tab and in the previous tabs (if relevant). It can include: ➤ **Profile.** The name of the profile you selected in the New Alert dialog box. ➤ **Alert triggers.** The list of triggers you selected in the Trigger Criteria tab. See each trigger description for a list of the elements that can be listed in this section. ➤ **Alert filters.** The list of filters you selected in the Filters tab. See each filter description for a list of the elements that can be listed in this section. In addition, if you have selected the RUM Engine profile in the New Alert dialog box, the name of the RUM Engine is listed in this section. ➤ **Alert actions.** The list of actions you selected in the Actions tab. See each action description for a list of the elements that can be listed in this section.

Actions Tab

Description	Enables you to specify the actions that HP Business Availability Center takes when alert trigger criteria and filter criteria are met.
Important Information	When you select an action, the **Alert actions** element is added to the Alert Description area. Depending on the action you select the Alert actions area displays different information. You can combine one or more actions.
Wizard Map	The Alert Wizard includes: Trigger Criteria Tab > Filters Tab > **Actions Tab** > Settings Tab

<Select Actions> Area

The area includes the following elements (listed alphabetically):

GUI Element	Description
Access URLs	Select to use this action when an alert is triggered. After selection, the following editable information is displayed in the Alert Description area in the Alert actions section: **Access the URLs** <as_specified> HP Business Availability Center accesses the specified URLs when an alert is triggered. By accessing a URL, HP Business Availability Center can send alerts via a Web site, for example, using Active Server Pages, CGI, or Perl. The URL can activate an executable program on a Web server, report to a custom database, activate a Web-based fax service, and so on. You can develop custom pages or use existing ones. **Note:** HP Business Availability Center supports the GET method only when accessing a URL. If your Web server only supports the POST method, or if you want more information on developing custom Web pages for your server, please contact your Customer Support representative. **Note:** You can configure the URL to access the appropriate Service Impact report for the CI. For details, see "Configure Alert Actions" on page 174.
Include user message	Select to use this action when an alert is triggered. After selection, the following editable information is displayed in the Alert Description area in the Alert actions section: **Include the user message** <as_specified> HP Business Availability Center sends a user message when an alert is triggered.

GUI Element	Description
Log to Event Viewer application log (Windows only)	Select to use this action when an alert is triggered. After selection, the following editable information is displayed in the Alert Description area in the Alert actions section: **Log** <as_specified> HP Business Availability Center logs the event that triggered the alert to the Windows Event Viewer application log when an alert is triggered. You configure the event type, ID, category, and description (standard Event Viewer categories). **Note:** If the Gateway Server is not installed on a Windows-based machine, HP Business Availability Center cannot execute this alert action.
Make specified alerts subordinate to this alert	Select to suppress all actions configured for the alert if its dominant alert was previously configured as well, and if the conditions that triggered the dominant alert remain true at the time the subordinate alert is triggered. After selection, the following editable information is displayed in the Alert Description area in the Alert actions section: **Make the following alert(s) subordinate to this alert:** <specify alerts> For additional information, see "Alert Dependency Overview Page" on page 265.

GUI Element	Description
Run executable file	Select to use this action when an alert is triggered. After selection, the following editable information is displayed in the Alert Description area in the Alert actions section: **Run executable file** <as_specified> HP Business Availability Center runs the specified executable file (for example, an **.exe** or **.bat** file) when an alert is triggered. The executable file must not be interactive (no user response required) and should not have a user interface. HP Business Availability Center can run an executable file (**.exe** or **.bat** file) when an alert is triggered—either a predefined or custom executable.
Send alert to specified recipients	Select to use this action when an alert is triggered. After selection, the following editable information is displayed in the Alert Description area in the Alert actions section: **Send alert to** <specified_recipients> HP Business Availability Center sends an alert alert notice to selected recipients when an alert is triggered.
Send SNMP trap	Select to use this action when an alert is triggered. After selection, the following editable information is displayed in the Alert Description area in the Alert actions section: **Send SNMP trap to** <specified_IP(s)> HP Business Availability Center sends an SNMP trap when an alert is triggered. The alert notice can then be seen via any SNMP management console in the organization. **Note:** HP Business Availability Center supports only SNMP V1 traps. For details on configuring the Alerts MIB in your SNMP management console, see “Configure the Alerts MIB” on page 198.

Alert Description Area

Description	Displays a summary of the selections you have made in the current tab and in the previous tabs (if relevant). It can include: ➤ **Profile.** The name of the profile you selected in the New Alert dialog box. ➤ **Alert triggers.** The list of triggers you selected in the Trigger Criteria tab. See each trigger description for a list of the elements that can be listed in this section. ➤ **Alert filters.** The list of filters you selected in the Filters tab. See each filter description for a list of the elements that can be listed in this section. In addition, if you have selected the RUM Engine profile in the New Alert dialog box, the name of the RUM Engine is listed in this section. ➤ **Alert actions.** The list of actions you selected in the Actions tab. See each action description for a list of the elements that can be listed in this section.

Settings Tab

Description	Enables you to specify additional alert settings and review your alert scheme before saving it.
Important Information	If the original alert sent was configured to be sent based on any alert frequency criteria other than **even once**, the executable file run based on a follow-up alert cannot include the following parameters: UserMessage, org_name, script_name, txn_err, host_name, time, actual_desc, target_host_name, mon_name, msr_name, con_name, err_msg. This is because HP Business Availability Center records all the data for each event that satisfies the alert criteria and sends the alert only when the defined frequency criteria was met. The follow-up alert will no longer contain these parameters. For details on alert frequency criteria, see "Alert Frequency Criteria Dialog Box" on page 266.

Wizard Map	The Alert Wizard includes: Trigger Criteria Tab > Filters Tab > Actions Tab > **Settings Tab**

<Settings> Area

The area includes the following elements (listed alphabetically):

GUI Element	Description
Action	Click to open the Run Executable File dialog box. For details, see "Run Executable File Dialog Box" on page 336.
Auto Name	Click the button to restore the default name assigned by HP Business Availability Center.
Enable alert	➤ Select to enable the alert. ➤ Clear to temporarily disable the alert scheme if you do not want to send or log alerts when the trigger criteria are met. For example, disable an alert scheme when you have not finished creating the profile related to the alert or if you temporarily stop the profile run.
Name	Enter the required alert name. The alert name appears in the alert notices that HP Business Availability Center sends. The default alert name is based on the alert trigger criteria you select. If you do not want HP Business Availability Center to use the default alert name, you can give the alert an alternative name.

GUI Element	Description
Notification Frequency	Select one of the following options to specify the frequency with which you want HP Business Availability Center to perform the alert actions that you select: ➤ **send alert for every trigger occurrence** ➤ **send no more than one alert per <specified time>** ➤ **send no more than one alert as long as the conditions that triggered the alert continue to exist** Details about these options are provided elsewhere in this table. **Note:** Regardless of the frequency you select, each time alert trigger criteria are met, HP Business Availability Center logs an alert in the Alert Log. For details on viewing the alert log, see "Alert Log Report" on page 267.
Send alert for every trigger occurrence	To send an alert every time trigger conditions exist.
Send follow up alert	To send a follow-up alert when the conditions that trigger the original alert are no longer true. HP Business Availability Center sends the follow-up alert to the same recipient(s) that received the original alert. HP Business Availability Center uses the system's default, follow-up template or a user-defined, follow-up template. For details on creating a user-defined follow-up template and the conditions under which it is used, see "Configure a Template for Follow-up Notifications" on page 180. You can also instruct HP Business Availability Center to run an executable file when the follow-up alert is triggered. For details, see **Action** description in this table. **Note:** The follow-up alert is logged in the Alerts log with the status listed as Informational, regardless of the status of the original alert.

GUI Element	Description
Send no more than one alert as long as the conditions that triggered the alert continue to exist	To send no more than one alert notice as long as the conditions that triggered the alert continue to exist. For example, if you select this option, from the moment alert trigger conditions exist and HP Business Availability Center sends the alert, an additional alert is not sent as long as the conditions that triggered the alert continue to exist. **Note:** When you select this option, HP Business Availability Center automatically selects the **Send follow-up alert** option. If you do not want a follow-up alert to be sent when the conditions that triggered the alert no longer exist, you must manually clear the **Send follow-up alert** setting.
Send no more than one alert per specified time period	To send no more than one alert over each specified time period, even if alert trigger conditions continue to exist during the entire time period. For example, if you instruct HP Business Availability Center to send no more than one alert notice per 60 minutes, from the moment alert trigger conditions exist and HP Business Availability Center sends the alert, HP Business Availability Center waits 60 minutes before sending another alert. If, after the 60 minutes, the conditions that triggered the alert continue to exist, another alert is sent.
Severity	To provide meaningful labels to your alerts to identify and classify them when you receive them or when you see them in the Alert Log. Select: **Informational**, **Warning**, **Minor**, **Major**, or **Critical** When choosing the severity label, consider the priority of the alert scheme's alert trigger criteria. For example, label the alert Informational if the alert trigger criteria do not reflect a problem that affects end users. Label the alert Critical if the alert trigger criteria reflect a total site crash.

Alert Description Area

Description	Displays a summary of the selections you have made in the current tab and in the previous tabs (if relevant). It can include: ➤ **Profile.** The name of the profile you selected in the New Alert dialog box. ➤ **Alert triggers.** The list of triggers you selected in the Trigger Criteria tab. See each trigger description for a list of the elements that can be listed in this section. ➤ **Alert filters.** The list of filters you selected in the Filters tab. See each filter description for a list of the elements that can be listed in this section. In addition, if you have selected the RUM Engine profile in the New Alert dialog box, the name of the RUM Engine is listed in this section. ➤ **Alert actions.** The list of actions you selected in the Actions tab. See each action description for a list of the elements that can be listed in this section.

Average Response Time Dialog Box

Description	To specify the trigger criteria. HP Business Availability Center sends an alert if the average transaction response time is greater than or less than the selected number of seconds, calculated over the selected time period. Only completed transactions are considered when triggering this alert. **To access:** Click the link of **Average transaction response time is <average_response_time> seconds** in the Alert Description area of the Trigger Criteria tab in the Alert wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following element:

GUI Element	Description
Average response time is <condition> <nn> seconds	Select the required criteria. For example, select **greater than** and **10** to instruct HP Business Availability Center to send the alert if average response time is greater than 10 seconds, over the calculated time period.

Calculated Time Period Dialog Box

Description	Select the calculated time period. **To access:** Click the link of **Calculate over <calculated_time_period>** in the Alert Description area of the Trigger Criteria tab in the Alert wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following element:

GUI Element	Description
Calculate over <nn> <time period>	Specify the trigger criteria. You can select up to **525600 minutes**, **721 hours**, or **30 days**. For example: ➤ for the **Availability** time-based trigger, select **15** and **minute(s)** to instruct HP Business Availability Center to send the alert if transaction availability is less than 95 percent, over a 15 minute-period. ➤ for the **Transaction Response Time for Specified Percentage of Transactions** time-based trigger, select **2** and **hour(s)** to instruct HP Business Availability Center to send the alert if response time is greater than 7 seconds for 50 percent of all transaction instances that occur over a 2-hour period, but only if there were at least 50 transaction instances during the 2 hours. ➤ for the **Transaction Response Time Relative to Threshold for Specified Percentage of Transactions** time-based trigger, select **2** and **hour(s)** to instruct HP Business Availability Center to send the alert if response time is worse than the set Warning/Poor threshold (treated as 10 percent better than the set value) for 90 percent of transaction instances that occur over a 2-hour period, but only if there were at least 100 transaction instances during the 2 hours. ➤ for the **Average Transaction Response Time** time-based trigger, select **2** and **hour(s)** to instruct HP Business Availability Center to send the alert if average response time is greater than 10 seconds, over a 2-hour period.

Completed Transaction Volume Dialog Box

Description	If you select the **Completed volume is <condition> transactions** trigger, HP Business Availability Center sends an alert if the number of completed transaction runs is less than or greater than the specified number, calculated over the selected time period. **To access:** Click the link in **Completed volume is <condition> transactions** in the Trigger Criteria page of the Alerts wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following element:

GUI Element	Description
Completed volume is <condition> <nn> transactions	Select the required criteria. For example, select **less than** and **80** to instruct HP Business Availability Center to send the alert if there were fewer than 80 completed transaction runs, over the calculated time period. For details about how to set the calculated time period, see "Calculated Time Period Dialog Box" on page 303.

Define Subordinate Alerts Dialog Box

Description	To make optimal use of the alert dependency feature, it is recommended that you map out an overall picture of your monitoring and alerting strategy before defining subordinate alerts. For details, see "Define Alert Dependency" on page 181. Further, you should decide whether you need cross-profile alert dependency (once enabled, cross-profile alert dependency cannot be disabled). For details on enabling cross-profile dependency, see "Change the Cross-Profile Alert Dependency Status" on page 186. Once you have planned out your required alert dependencies and configured the needed cross-profile dependency setting, you can create or edit your dominant alerts to specify their subordinate alerts. **To access:** Click the link in **Make the following alert(s) subordinate to this alert: <specify alerts>** in the Alert definitions area in the Actions tab in the Alert wizard.
Included in Tasks	"Define Alert Dependency" on page 181

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
	Click to edit the existing subordinate alert.
	Click to delete the relevant subordinate alert.
Alert	The name of the subordinate alert. If you are editing a current subordinate alert definition, or if you have clicked **New**, in the **Alert** list, select the alert that you want to be subordinate to the alert you are defining.

GUI Element	Description
New	Click to add a row to the table and display a list of available alerts that you can select to be subordinate to the alert you are defining. HP Business Availability Center also displays time limit selection lists. If cross-profile dependency is enabled, from the Profile list select the profile in which the alert you want to define as subordinate is defined. For details on enabling cross-profile dependency, see "Change the Cross-Profile Alert Dependency Status" on page 186.
Profile	The profile corresponding to the subordinate alert.
Time Limit	The time limit of the subordinate alert.If you are editing a current subordinate alert definition, or if you have clicked **New**, in the **Time Limit** list, select the time limit of the subordinate alert.

End-User Filters Dialog Box

Description	Enables you to select the end-users that are to be used as criteria for the alert. **To access:** Click the link in **Limit to end-user names <as_specified>** in the Alerts definition area in the Filters tab in the Alert wizard.
Important Information	For details on the options available when setting Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.
Included in Tasks	"Define the Filter Criteria" on page 171

The dialog box includes the following element:

GUI Element	Description
Available End-Users **Selected End-Users**	Select from the **Available End-Users** list, and use the upper, right arrow to move your selection(s) to the **Selected End-Users** list. Use the lower, left arrow to remove an entity from the filter. You can select multiple filters using the CTRL key.

End-User Location Filters Dialog Box

Description	Enables you to select the end-user locations that are to be used as criteria for the alert. **To access:** Click the link in **Limit to end-user locations <as_specified>** in the Alerts definition area in the Filters tab in the Alert wizard.
Important Information	For details on the options available when setting Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.
Included in Tasks	"Define the Filter Criteria" on page 171

The dialog box includes the following element:

GUI Element	Description
Available Locations **Selected Locations**	Select from the **Available Locations** list, and use the upper, right arrow to move your selection(s) to the **Selected Locations** list. Use the lower, left arrow to remove an entity from the filter. You can select multiple filters using the CTRL key.

Event-Based Alerts Tab (Administration)

Description	Provides access to elements you must specify to define an event-based alert. **To access:** Select **Admin** > **Alerts** > **Event-Based Alerts**.

The tab includes the following elements (listed alphabetically):

GUI Element	Description
Event-Based Alert Configuration	Click to open the Alerts page where you can view the existing alert schemes. For details, see "Alerts Page" on page 269.
Notification Templates	Click to open the Notifcation Templates page where you can view the existing notification templates. For details, see "Notification Templates Page" on page 322.
View Dependencies	Click to open the Alert Dependency Overview page where you can view the existing alert dependencies. For details, see "Alert Dependency Overview Page" on page 265.

Event-Based Alerts Tab (Application)

Description	Provides access to the Alert Log and the Alert Count Over Time reports. **To access:** Select **Application** > **Alerts** > **Event-Based Alerts**.

The tab includes the following elements (listed alphabetically):

GUI Element	Description
Alert Count Over Time	Click to open the Alert Count Over Time report to view, for the selected profile, the number of alerts that occurred over the specified time range, organized by severity, source, or type. For details, see "Alert Count over Time Report" on page 263.
Alert Log	Click to open the Alert Log page to track all alert details for alerts sent by HP Business Availability Center during the specified time range, for the selected Business Process Monitor profile. For details, see "Alert Log Report" on page 267.

Groups Filters Dialog Box

Description	To instruct HP Business Availability Center to limit the alert scheme to one or more specific group. **To access:** Click the link in **Limit to groups <as_specified>** in the Alerts definition area in the Filters tab in the Alert wizard.
Important Information	For the Real User Monitor, you can instruct HP Business Availability Center to limit the alert scheme to one or more specific pages, transactions, servers depending on the type of alert you are configuring. For more information on Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.
Included in Tasks	"Define the Filter Criteria" on page 171

The dialog box includes the following element:

GUI Element	Description
Available Groups **Selected Groups**	Select from the **Available** list, and use the upper, right arrow to move your selection(s) to the **Selected** list. Use the lower, left arrow to remove an entity from the filter. You can select multiple filters using the **CTRL** key.

Group Performance Data Dialog Box

Description	To set the alert filters to group the performance data: **To access:** Select **Group performance data** in the Filters tab in the Alert wizard.
Important Information	For details on the options available when setting Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.
Included in Tasks	"Define the Filter Criteria" on page 171

The dialog box includes the following element:

GUI Element	Description
Transaction **Script** **Location** **Group**	Select whether you want performance data grouped by transactions, scripts, location, or groups. For example, a profile contains two transactions, T1 and T2, both running from two locations, L1 and L2. The following combinations of locations and transactions have the following response times: ➤ L1, T1 - 12 seconds ➤ L1, T2 - 11 seconds ➤ L2, T1 - 12 seconds ➤ L2, T2 - 1 second You want an alert to be triggered if average transaction response time is greater than 10 seconds. Without the filter, the average response time is 9 seconds ((12+11+12+1)/4), and the alert is not sent. When the filter is set to **Transaction**, all instances of transaction T1 are considered separately from all instances of transaction T2. The average response time for T1 is greater than 10 seconds ((12+12)/2); for T2 it is under 10 seconds ((11+1)/2). An alert is sent for T 1but not for T2. With the filter set to **Location**, an alert is sent for L1 but not for L2. With the filter set to **Transaction** and **location**, all instances of transaction T1 from location L1, T1 from L2, T2 from L1, and T2 from L2 are all considered separately. An alert is send for T1 from L1 and T1 from L2, but not for T2 from L2.

Locations Filters Dialog Box

Description	To instruct HP Business Availability Center to limit the alert scheme to one or more specific location. **To access:** Click the link in **Limit to locations <as_specified>** in the Alerts definition area in the Filters tab in the Alert wizard.
Important Information	For the Real User Monitor, you can instruct HP Business Availability Center to limit the alert scheme to one or more specific pages, transactions, servers, depending on the type of alert you are configuring. For more information on Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.
Included in Tasks	"Define the Filter Criteria" on page 171

The dialog box includes the following element:

GUI Element	Description
Available Locations **Selected Locations**	Select from the **Available** list, and use the upper, right arrow to move your selection(s) to the **Selected** list. Use the lower, left arrow to remove an entity from the filter. You can select multiple filters using the **CTRL** key.

Log Event Dialog Box

Description	You specify that you want HP Business Availability Center to log an event to the Windows Event Viewer application log when an alert is triggered. You configure the event type, ID, category, and description (standard Event Viewer categories). **Note:** If the Gateway Server is not installed on a Windows-based machine, HP Business Availability Center cannot execute this alert action. **To access:** Click the link in **Log** <as specified> in the Alert definitions area in the Actions tab in the Alert wizard.
Included in Tasks	"Define the Actions Criteria" on page 176

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Category	If required, specify a numerical category value in the Category box (by default the category value is 0). You can use category values, for example, to group alerts by type—assign **1** to availability-related alerts and **2** to response-time related alerts. Using categories enables you to find events in the Event Viewer.
Description	If required, type a description of the logged event. For example, type a description that corresponds to the characteristics of the alert scheme (alert filters being used, alert trigger criteria, and so on).

GUI Element	Description
Event ID	If required, specify a numerical event ID in the Event ID box (by default the event ID is 0). You can use event IDs, for example, to group alerts by trigger criteria, profile, transaction, or any other identifying characteristic. Using event IDs will enable you to find events in the Event Viewer.
Type	Select an event type from the Type list: **Success**, **Error**, **Warning**, **Information**, **Success audit**, or **Failure audit**. Event types are represented by icons to the left of the entries in the Event Viewer.

Multiple Trigger Condition Dialog Box

Description	If you select multiple time-based alert trigger criteria, you specify whether you want HP Business Availability Center to send the alert: ➤ if any of the trigger conditions are met ➤ only if all the time-based trigger conditions are met **To access:** Click the link of **Send alert if <any of the above> trigger conditions are met** in the Alert Description area of the Trigger Criteria tab in the Alert wizard.
Included in Tasks	"Select Multiple Triggers" on page 170

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
All trigger conditions are met	Select if you want HP Business Availability Center to send the alert only if all the time-based trigger conditions are met
Any of the trigger conditions are met	Select if you want HP Business Availability Center to send the alert if at least one of the trigger conditions are met.

Net Transaction Response Time Performance Dialog Box

Description	If you select the **Net transaction response time for specified percentage of transactions is <as specified>** trigger, HP Business Availability Center sends an alert if net transaction time is greater than or less than the selected number of seconds for no less than the selected percentage of transactions, calculated over the selected time period. You can also set a minimum number of transactions that must run in order for the alert conditions to be calculated. **To access:** Click the link in **Net transaction response time for specified percentage of transactions is <as specified>** in the Trigger Criteria page of the Alerts wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Minimum number of transactions for which condition is calculated:	Select a minimum number of transactions that must run in order for the alert conditions to be calculated.
Net transaction time is <condition> <nn>seconds for <percent> percent of transactions	Select the required criteria. For example, select **greater than**, enter a value of **8** seconds, and select **90** percent to instruct HP Business Availability Center to send the alert if net transaction response time exceeds 8 seconds for at least 90 percent of the transactions that were run, over the calculated time period. **Note:** The value of the percentage must be an integer.

New Alert Dialog Box

Description	Enables you to create a new alert. **To access:** Select **[RUM Engines]** in the profile list and click **New Alert** in the Alerts Page.

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Engine	If **[RUM Engines]** was selected in the profile list when you clicked **New Alert**, you can select one of the listed engines.
Profile	Select a profile. This field appears if you have selected **[All Profiles]** in the Alerts page. If **[RUM Engines]** was selected in the profile list when you clicked **New Alert**, the New Alert dialog box opens and you must select a Real User Monitor engine as well as the type of alert (page, transaction, or server) before continuing.
Type	If **[RUM Engines]** was selected in the profile list when you clicked **New Alert**, you can select one of the following types: ➤ RUM Pages ➤ RUM Transactions ➤ RUM Servers

Notification Template Properties Dialog Box

Description	Enables you to define a new alert notification template. **To access:** In the Notification Templates page, click the **New Template** button.
Important Information	**Follow-up notifications:** If you want to set up a follow-up notification, select the notification template to use as the basis for your follow up template and clone it. Make you determination based on which notification templates are selected for users likely to receive a follow-up alert notification. Change the name of the template by deleting Copy of and adding _FOLLOWUP (all caps, one word). Edit the template details as required. It is recommended that you include in the Subject (for e-mails), Header, and/or Alert Specific Information that this is a follow up to an alert. For example, if you are creating a follow-up template based on the LONG default template, you would call the follow-up template LONG_FOLLOWUP. If the follow-up template is based on a user-defined template called MyTemplate, name the follow-up template MyTemplate_FOLLOWUP. **Default:** The _FOLLOWUP string is the default string recognized by HP Business Availability Center as the template name for a follow-up alert message. **Customization:** You can customize the _FOLLOWUP string. For details, see "Control Alerts" on page 187.
Included in Tasks	"Configure a Template for Follow-up Notifications" on page 180

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
<insert list for Alert Specific Information>	Select a parameter to add to the section. Repeat to add as many text parameters as you want from the list. ➤ **Trigger Cause.** A description of the alert trigger conditions, as specified in the alert scheme. ➤ **Actual Details.** A description of the actual conditions at the time of the alert.
<insert list for Subject / Header / Footer>	Select a parameter to add to the section. Repeat to add as many text parameters as you want from the list. Add free text before or after the text parameters. ➤ **Alert Name.** The name of the alert, as defined in the alert scheme. ➤ **Severity.** The severity label assigned to the alert in the alert scheme. ➤ **HP AM URL.** The URL of the HP Business Availability Center Web site. ➤ **Profile Name.** The name of the profile in which the alert scheme was created. ➤ **User Message.** The user message, as specified in the alert scheme. ➤ **Actions Result.** A description of the results of the alert actions specified in the alert scheme. ➤ **Add Hardcoded Strings Flag.** Text and values that have been predefined in the system. These include the occurrence of the alert and if the alert is, or has triggered, a subordinate alert. For example, Occurrence 5, Subalert triggered (1 of 3).

GUI Element	Description
<insert list for Transaction>	Select a parameter to add to the section. Repeat to add as many text parameters as you want from the list. ➤ **Transaction Time.** The date and time of the alert. ➤ **Transaction Name.** The name of the transaction related to the alert. ➤ **Script Name.** The name of the script containing the transaction related to the alert. ➤ **Data Collector Name.** The name of the data collector running the transaction related to the alert. ➤ **Location Name.** The location of the data collector running the transaction related to the alert. ➤ **Group Name.** The group defined for the data collector running the transaction related to the alert. ➤ **Transaction Error.** The error message generated by the data collector for the transaction, if a transaction error occurred at the time of the alert. ➤ **Transaction Description.** A description of the transaction, if it has been defined in System Availability Management.
Alert Specific Information	Specify the information that you want HP Business Availability Center to include in alert text itself. Use <insert list for Alert Specific Information> to add parameters and free text to create a customized alert text. Use as many parameters as you want from the list.
Footer	Specify the information that you want to appear at the bottom of the alert notice. Use <insert list for Subject / Header / Footer> to add parameters and free text to create a customized footer. Use as many parameters as you want from the list.
Header	Specify the information that you want to appear at the top of the alert notice. Use the <insert list for Subject/Header/Footer> to add parameters and free text to create a customized header. Use as many parameters as you want from the list.
Message format	Select the format for the message: **Text** or **HTML**.

GUI Element	Description
Name	Enter a name for the template. If possible, use a descriptive name, for example, one that includes information on the type of alert (e-mail, pager, SMS) for which you plan to use the template, or the recipient(s) who will receive alerts using this template. **Note to HP Managed Software Solutions customers:** When creating a notification template, the Customer Template checkbox is automatically selected. The template will be listed as a Customer Template in the Notification Templates page.
Subject	Specify the information that you want HP Business Availability Center to include in the subject of the e-mail, pager message, or SMS message. Use the <insert list for Subject/Header/Footer> to add parameters and free text to create a customized subject. Use as many parameters as you want from the list.
Transaction	Specify the information that you want HP Business Availability Center to include in transaction. Use the <insert list for Transaction> to add parameters and free text to create a customized transaction. Use as many parameters as you want from the list.

Notification Templates Page

Description	Enables you to: ➤ Manage default and custom templates and to create new templates. ➤ Edit follow-up notification templates. **To access:** Select **Admin** > **Alerts** > **Event-based Alerts** > **Notification Templates**. HP Business Availability Center opens the Notification Templates page listing the default templates, and any custom templates that have been defined.
Important Information	When configuring alert schemes, you can instruct HP Business Availability Center to automatically follow up the alert by sending a follow-up notification. For details on selecting this option while creating your alert scheme, see "Configure a Template for Follow-up Notifications" on page 180. There is a default template for follow-up notifications that is automatically used by HP Business Availability Center. If you do not want to use that default template, you can create your own follow-up template. This follow-up template must be based on an existing notification template. HP Business Availability Center uses the follow-up notification template that you create under the following circumstances: ➤ An alert has been triggered. ➤ Notification is sent to a recipient based on an existing template (default or user-defined). ➤ The alert scheme has been configured to send a follow-up alert. ➤ The notification template (DEFAULT_POSITIVE_FORMAT) selected for the recipient has a follow-up template based on the notification template's name.
Included in Tasks	"Configure Alert Notification Templates" on page 178

The page includes the following elements (listed alphabetically):

GUI Element	Description
	Click the required button to select all options, clear all options, or reverse the current selection.
	Click the button beside the notification template you want to modify. The Notification Template Properties dialog box opens. For details, see "View Dominating Alerts Dialog Box" on page 346.
	Click the button next to the notification template you want to clone. The Notification Template Properties dialog box opens. For details, see "Notification Template Properties Dialog Box" on page 318. **Follow up Notification:** To create a Follow-up Notification template, follow the procedure explained in "Notification Template Properties Dialog Box" on page 318.
	To delete multiple templates simultaneously, select their check boxes in the left column, and click the **Delete Selected** button located at the bottom of the templates list.
Delete Selected	To delete multiple templates simultaneously, select their check boxes in the left column, and click the **Delete Selected** button located at the bottom of the templates list.

GUI Element	Description
Notification Template Name	Lists the default templates and the custom templates. The default templates are: ➤ **LONG.** Includes all the elements needed to create a default long format notification. ➤ **SHORT.** Includes all the elements needed to create a default short format notification. ➤ **DEFAULT_POSITIVE_FORMAT.** Includes all the elements needed to create a default long format notification for positive/follow up alerts. For details about follow up alerts, see "Configure a Template for Follow-up Notifications" on page 180. ➤ **DEFAULT_LOG_FORMAT.** Includes all the elements needed to create a default long format notification for reports. **Note:** For details about the parameters displayed in each template, see "Control Alerts" on page 187.

Page Availability Dialog Box

Description	If you select the **Page Availability** trigger, HP Business Availability Center sends an alert if page availability is less than or greater than the specified percentage, calculated over the selected time period. **To access:** Click the link in **Page availability is <condition>** in the Trigger Criteria page of the Alerts wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following element:

GUI Element	Description
Page availability is <condition> <n> percent	Select the required criteria. For example, select **less than** and **50** to instruct HP Business Availability Center to send the alert if page availability is less than 50 percent, over the calculated time period. For details about how to set the calculated time period, see "Calculated Time Period Dialog Box" on page 303. **Note:** The value of the percentage must be an integer.

Page Filters Dialog Box

Description	To instruct HP Business Availability Center to limit the alert scheme to one or more specific page. **Note:** For the Real User Monitor, you can instruct HP Business Availability Center to limit the alert scheme to one or more specific pages, transactions, or servers, depending on the type of alert you are configuring. For more information on Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168. **To access:** Click the link in **Limit to servers <as_specified>** in the Alerts definition area in the Filters tab in the Alert wizard.
Important Information	For details on the options available when setting Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.
Included in Tasks	"Define the Filter Criteria" on page 171

The dialog box includes the following element:

GUI Element	Description
Available Pages **Selected Pages**	Select from the **Available** list, and use the upper, right arrow to move your selection(s) to the **Selected** list. Use the lower, left arrow to remove an entity from the filter. You can select multiple filters using the **CTRL** key.

Page Response Time Performance Dialog Box

Description	If you select the **Page performance - page response time for specified percentage of pages** trigger, HP Business Availability Center sends an alert if the percentage of users that attempt to access the page with a response time that is higher than the threshold has been reached, calculated over the selected time period. For details on setting up the threshold, see "Edit General Settings" in *Using End User Management*. **To access:** Click the link in **Page performance - page response time for specified percentage of pages** in the Trigger Criteria page of the Alerts wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Minimum number of pages for which condition is calculated: <pp>	Select the minimum number of pages to count. For example, select **50** to instruct HP Business Availability Center to send the alert only if there are at least 50 accessed pages over the calculated time period.
Page download time is <condition> <nn> seconds for <percent> percent of pages	Select the condition, the required response time and percentage criteria. For example, select **greater than**, **7 seconds**, and **50 percent** to instruct HP Business Availability Center to send the alert if the response time is greater than 7 seconds for 50 percent of accessed pages, over the calculated time period. For details about how to set the calculated time period, see "Calculated Time Period Dialog Box" on page 303. **Note:** The value of the percentage must be an integer.

Page Server Time Performance Dialog Box

Description	If you select this trigger, HP Business Availability Center sends an alert if the percentage of users that attempt to access the page located on a server and the server's response time that is higher than the threshold has been reached, calculated over the selected time period. For details on setting up the threshold, see "Configure General Settings" in *Using End User Management*. **To access:** Click the link in **Page performance - server response time for specified percentage of pages** in the Trigger Criteria page of the Alerts wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Minimum number of pages for which condition is calculated: <pp>	Select the minimum number of pages to count. For example, select **50** to instruct HP Business Availability Center to send the alert only if there are at least 50 accessed pages over the calculated time period.
Page server time is <condition> <nn> seconds for <percent> percent of pages	Select the condition, the required response time and percentage criteria. For example, select **greater than**, **7 seconds**, and **50 percent** to instruct HP Business Availability Center to send the alert if the response time is greater than 7 seconds for 50 percent of accessed pages located on the server, over the calculated time period. For details about how to set the calculated time period, see "Calculated Time Period Dialog Box" on page 303. **Note:** The value of the percentage must be an integer.

Page Volume Dialog Box

Description	If you select the Page Volume trigger, HP Business Availability Center sends an alert if the number of page hits is less than or greater than the specified number, calculated over the selected time period. **To access:** Click the link in **Page volume** in the Trigger Criteria page of the Alerts wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following element:

GUI Element	Description
Page volume <condition> <nn> hits	Select the required criteria. For example, select **less than** and **80** to instruct HP Business Availability Center to send the alert if there were fewer than 80 page hits, over the calculated time period. For details about how to set the calculated time period, see "Calculated Time Period Dialog Box" on page 303.

Response Time Dialog Box

Description	To send an alert if transaction response time is greater than or less than the selected number of seconds. Note that only completed transactions are considered. If a transaction fails—that is, is not completed successfully—no alert will be sent. **To access:** Click the link of **Transaction response time is <condition>** in the Alert Description area of the Trigger Criteria tab in the Alert wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following element:

GUI Element	Description
Response time is <condition> <X> seconds	Select **greater than** or **less than**, and enter the number of seconds in the appropriate boxes. For example, specify **greater than** and **10** to instruct HP Business Availability Center to send the alert if response time is greater than 10 seconds.

Response Time for Specified Percentage of Transactions Dialog Box

Description	To specify the transaction availability criteria. An alert is sent if response time is greater or less than the selected number of seconds, for the specified percentage of transactions, calculated over the selected time period. Only completed transactions are considered for this alert trigger. In addition, you can instruct HP Business Availability Center to count a minimum number of transactions over the calculated time period. For example, an alert is sent if transaction response time is greater than 10 seconds for 90 percent of all transaction instances that occur over the calculated time period (which you set in a separate dialog box). Further, the alert is only sent if at least 100 transactions occur during the calculated time period. **To access:** Click the link of **Transaction response time for specified percentage of transactions is <response_time_for_%_of_trans>** in the Alert Description area of the Trigger Criteria tab in the Alert wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Minimum number of transactions for which condition is calculated <nnn>	Select the minimum number of transactions to count. For example, select **50** to instruct HP Business Availability Center to send the alert only if there are at least 50 transaction instances over the calculated time period.
Response time is <condition> <n> seconds for <percentage> percent of transactions	Select the condition, the required response time and percentage criteria. For example, select **greater than**, **7 seconds**, and **50 percent** to instruct HP Business Availability Center to send the alert if response time is greater than 7 seconds for 50 percent of transaction instances, over the calculated time period. **Note:** The value of the percentage must be an integer.

Response Time Relative to Threshold Dialog Box

Description	If you select this trigger, HP Business Availability Center sends an alert if transaction response time is better or worse than the selected transaction threshold. Note that only completed transactions are considered. In addition, you can instruct HP Business Availability Center to treat the threshold value as better or worse than the set threshold, by a specified percentage. **To access:** Click the link of **Transaction response time relative to threshold is <response_time>** in the Alert Description area of the Trigger Criteria tab in the Alert wizard.
Important Information	For example, HP Business Availability Center sends the alert if response time for a given transaction is worse than the set Warning/Poor level threshold, but treats the threshold value as 10 percent better. Thus, if the Warning/Poor level threshold for the transaction is, for example, 10 seconds, HP Business Availability Center sends an alert if transaction response time is worse than 9 seconds (since 9 seconds is 10 percent better than 10 seconds). You configure transaction thresholds in System Availability Management. For details, see "Threshold Settings" in *Using End User Management*.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Response time is <condition> <threshold> threshold level	Select the condition criteria: **worse than** or **better than**, and the required threshold criteria: **OK/Warning** or **Warning/Poor**. the required threshold criteria. For example, select **worse than** or and **Warning/Poor** to instruct HP Business Availability Center to send the alert if response time is worse than the set Warning/Poor threshold.
Treat threshold value as <value> percent <threshold>	Specify whether HP Business Availability Center should treat the set threshold value as better or worse, and by what percentage. For example, select **10** percent and **better** to instruct HP Business Availability Center to treat the threshold value as 10 percent better than the value set in the Business Process profile. **Note:** Transaction thresholds for Business Process profiles are set in System Availability Management. For details, see "Setting Transaction Thresholds" in *Using End User Management*. **Note:** The value of the percentage must be an integer.

Response Time Relative to Threshold for Specified Percentage of Transactions Dialog Box

Description	If you select this trigger, HP Business Availability Center sends an alert if response time is better or worse than the selected transaction threshold, for the specified percentage of transactions, calculated over the selected time period. Only completed transactions are considered for triggering this alert. In addition, you can instruct HP Business Availability Center to: ➤ treat the threshold value as better or worse than the set threshold, by a specified percentage ➤ count a minimum number of transactions over the calculated time period **To access:** Click the link of **Transaction response time for specified percentage of transactions is <response_time_for_%_of_trans>** in the Alert Description area of the Trigger Criteria tab in the Alert wizard.
Important Information	For example, HP Business Availability Center sends the alert if response time is worse than the set Warning/Poor level threshold for 90 percent of all transaction instances that occur over the calculated time period (which you set in a separate dialog box). In addition, HP Business Availability Center treats the threshold value as 10 percent better, and the alert is only sent if at least 100 transactions occur during the calculated time period. Thus, if the Warning/Poor level threshold for the transaction is, for example, 10 seconds, and there are, for example, 120 transactions during the calculated time period, HP Business Availability Center sends an alert if transaction response time for at least 108 transactions (120 x 90%) is worse than 9 seconds (since 9 seconds is 10 percent better than 10 seconds). You configure transaction thresholds in System Availability Management. For details, see "Setting Transaction Thresholds" in *Using End User Management*.

Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Minimum number of transactions for which condition is calculated <nn>	Specify whether HP Business Availability Center should treat the minimum number of transactions to count. For example, select **100** to instruct HP Business Availability Center to send the alert only if there are at least 100 transaction instances over the calculated time period.
Response time is <condition> <threshold> threshold level for <nn> percent of transactions	Select the required threshold and percentage criteria. For example, select **worse than**, **Warning/Poor**, and **90 percent** to instruct HP Business Availability Center to send the alert if response time is worse than the set Warning/Poor threshold for 90 percent of transaction instances, over the calculated time period. **Note:** The value of the percentage must be an integer.
Treat threshold value as <nn> percent <condition>	Specify whether HP Business Availability Center should treat the set threshold value as better or worse, and by what percentage. For example, select **10 percent** and **better** to instruct HP Business Availability Center to treat the threshold value as 10 percent better than the value set in the Business Process profile. **Note:** The value of the percentage must be an integer.

Run Executable File Dialog Box

Description	To run an executable file (for example, an **.exe** or **.bat** file) when an alert is triggered. The executable file must not be interactive (no user response required) and should not have a user interface. HP Business Availability Center can run an executable file (**.exe** or **.bat** file) when an alert is triggered—either a predefined or custom executable. **To access:** Click the link in **Run executable file <as specified>** in the Alert definitions area in the Actions tab in the Alert wizard.
Important Information	You can customize and control the executable file by adding parameters to the string. For details, see "Control Alerts" on page 187. **Note to Windows users:** To use the predefined batch files that restart a service (including IIS) or server, you must provide the supervisor service running on the Gateway Server with permissions to restart a remote service or machine, as follows: open the **Windows Services** dialog box, right-click the **HP Business Availability Center** service, select **Properties**, click the **Log On** tab. In the Log On As section, select **This Account**, and specify the username and password of a user with administrator permissions on the HP Business Availability Center server machine. If the administrative user on the Gateway Server and on the remote machine are not the same, you must provide the Gateway Server machine administrator with permissions on the remote machine as follows: on the remote machine, open Windows User Manager, double-click **Administrators** in the Groups window to open the Local Group Properties dialog box, click **Add** to open the Add Users and Groups dialog box, and add the name of a user with administrator permissions on the Gateway Server.
Included in Tasks	"Control Alerts" on page 187

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
<command line>	If you select: ➤ any template except **User defined** the appropriate information is automatically displayed. ➤ the **User defined** template, use the following format for the command line that runs the executable file: **<path to program from Data Processing Server> <<program command line switches>>** where <<**program command line switches**>> includes the alert parameters—expanded before the command line is executed. For details about the parameters, see "Alert Parameter Categories" on page 189. **Note:** Because the server triggers the executable, the path to the executable must be available from the Data Processing Server.
Include output in alert e-mail	To include any output that results from the running of the executable file in e-mail alerts. HP Business Availability Center places this output in the section of the e-mail alert containing the **Actions Result** text parameter. For details, see "Notification Templates Page" on page 322
Use the following template	Select the type of template to use for running the file: ➤ **User defined** ➤ **ping** ➤ **Restart IIS** (not seen if the Gateway Server is on a Solaris platform) ➤ **Restart server** (not seen if the Gateway Server is on a Solaris platform) ➤ **Restart service** (not seen if the Gateway Server is on a Solaris platform)

Select Recipients Dialog Box

Description	Specify the recipients that receive alert notices. **To access:** When selecting recipients in: ➤ Alerts: ➤ **Profile alerts.** For details, see "Event-Based Alerts" on page 165. ➤ **SLA status alerts.** For details, see "SLA Alerts". ➤ **CI status alerts.** For details, see "CI Status Alerts". ➤ **Scheduled reports.** For details on defining scheduled reports, see "Scheduled Reports" in *Platform Administration*. ➤ **System notifications** (HP Managed Software Solutions only). For details on viewing current and archive system notifications, see "System Tickets for HP Managed Software Solutions" in *Platform Administration*. ➤ **Package information** (HP Managed Software Solutions only). For details on viewing package information, see "Package Information" in *Platform Administration*.
Included in Tasks	"Define the Actions Criteria" on page 176

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Available Recipients **Selected Recipients**	Select the recipient(s) to whom you want alert notifications sent from the **Available Recipients** list, and use the upper arrow to move your selection(s) to the **Selected Recipients** list. You can select multiple recipients using the CTRL key.
New Recipient	Click **New Recipient** to define a new recipient. For details on defining recipients, see "Recipient Properties Wizard" on page 350.

Server Filters Dialog Box

Description	To instruct HP Business Availability Center to limit the alert scheme to one or more specific server. **To access:** Click the link in **Limit to servers <as_specified>** in the Alerts definition area in the Filters tab in the Alert wizard.
Important Information	For the Real User Monitor, you can instruct HP Business Availability Center to limit the alert scheme to one or more specific pages, transactions, servers, depending on the type of alert you are configuring. For more information on Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166 "Define the Filter Criteria" on page 171

The dialog box includes the following element:

GUI Element	Description
Available Servers **Selected Servers**	Select from the **Available** list, and use the upper, right arrow to move your selection(s) to the **Selected** list. Use the lower, left arrow to remove an entity from the filter. You can select multiple filters using the **CTRL** key.

SNMP Servers Dialog Box

Description	Specify that you want HP Business Availability Center to send an SNMP trap when alert trigger criteria are met. The alert notice can then be seen via any SNMP management console in the organization. **Note:** HP Business Availability Center supports only SNMP V1 traps. For details on configuring the Alerts MIB in your SNMP management console, see "Configure the Alerts MIB" on page 198. **To access:** Click the link in **Send SNMP trap to <specified_IP(s)>** in the Alert definitions area in the Actions tab in the Alert wizard.
Included in Tasks	"Define the Actions Criteria" on page 176

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
	Click to open the SNMP Target IP dialog box. and modify the current address.
	Click to delete the relevant SNMP target IP.
Add	Click to open the SNMP Target IP dialog box. and specify the required address. Repeat to add multiple addresses.
Use custom SNMP target IPs	Select to define a custom SNMP server IP address.
Use global SNMP target IPs	Select to use the global SNMP server IP address. **Customizable:** For details, see "Control Alerts" on page 187.

SNMP Target IP Dialog Box

Description	Enables you to specify the IP address of the SNMP server. **To access:** Click the **Add** button in the SNMP Servers dialog box or click the Edit button in the SNMP Servers dialog box.

The dialog box includes the following element:

GUI Element	Description
Enter SNMP address	The IP address of the SNMP server.

Total Transaction Response Time Performance Dialog Box

Description	If you select the **Total transaction response time for specified percentage of transactions is <as specified>** trigger, HP Business Availability Center sends an alert if total transaction time is greater than or less than the selected number of seconds for no less than the selected percentage of transactions, calculated over the selected time period. You can also set a minimum number of transactions that must run in order for the alert conditions to be calculated. **To access:** Click the link in **Total transaction response time for specified percentage of transactions is <as specified>** in the Trigger Criteria page of the Alerts wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Minimum number of transactions for which condition is calculated: <nn>	Select a minimum number of transactions that must run in order for the alert conditions to be calculated.
Total transaction time is <condition> <nn> seconds for <percent> percent of transactions	Select the required criteria. For example, select **greater than**, enter a value of **8** seconds, and select **90** percent to instruct HP Business Availability Center to send the alert if total transaction response time exceeds 8 seconds for at least 90 percent of the transactions that were run, over the calculated time period. For details about how to set the calculated time period, see "Calculated Time Period Dialog Box" on page 303. **Note:** The value of the percentage must be an integer.

Total Transaction Volume Dialog Box

Description	If you select the **Total volume is <condition> transactions** trigger, an alert is sent if the number of transaction runs is less than or greater than the specified number, calculated over the selected time period. **To access:** Click the link in **Total volume is <condition> transactions** in the Trigger Criteria page of the Alerts wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following element:

GUI Element	Description
Total volume is <condition> <nn> transactions	Select the required criteria. For example, select **less than** and **80** to instruct HP Business Availability Center to send the alert if there were fewer than 80 transactions run, over the calculated time period. For details about how to set the calculated time period, see "Calculated Time Period Dialog Box" on page 303.

Transaction Availability Dialog Box

Description	To specify the transaction availability criteria. HP Business Availability Center sends an alert if transaction availability is greater than or less than the selected percentage, calculated over the selected time period. Transaction availability is defined as the number of times that transactions succeed as a percentage of the total number of transaction instances. **To access:** Click the link of **Availability is <transaction_availability>** in the Alert Description area of the Trigger Criteria tab in the Alert wizard.
Important Information	You configure transaction thresholds in System Availability Management. For details, see "New/Edit Transaction" in *Using End User Management*.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following element:

GUI Element	Description
Transaction availability is <condition> <n> percentage	Select the required criteria. For example, select **less than** and **80** to instruct HP Business Availability Center to send the alert if transaction availability is less than 80 percent, over the calculated time period. **Note:** The value of the percentage must be an integer.

Transaction Filters Dialog Box

Description	To instruct HP Business Availability Center to limit the alert scheme to one or more specific transactions. **Note:** For the Real User Monitor, you can instruct HP Business Availability Center to limit the alert scheme to one or more specific pages, transactions, servers, depending on the type of alert you are configuring. For more information on Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168. **To access:** Click the link in **Limit to transactions <as_specified>** in the Alerts definition area in the Filters tab in the Alert wizard.
Important Information	For details on the options available when setting Real User Monitor alert filters, see "Configure Alert Triggers for the Real User Monitor" on page 168.
Included in Tasks	"Define the Filter Criteria" on page 171

The dialog box includes the following element:

GUI Element	Description
Available Transactions **Selected Transactions**	Select from the **Available** list, and use the upper, right arrow to move your selection(s) to the **Selected** list. Use the lower, left arrow to remove an entity from the filter. You can select multiple filters using the **CTRL** key.

Transaction Server Time Performance Dialog Box

Description	If you select the **Server response time for specified percentage of transactions is <as specified>** trigger, an alert is sent if transaction server time is greater than or less than the selected number of seconds for no less than the selected percentage of transactions, calculated over the selected time period. You can also set a minimum number of transactions that must run in order for the alert conditions to be calculated. **To access:** Click the link in **Server response time for specified percentage of transactions is <as specified>** in the Trigger Criteria page of the Alerts wizard.
Included in Tasks	"Define the Alert Trigger Criteria" on page 166

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Minimum number of transactions for which condition is calculated: <nn>	Select a minimum number of transactions that must run in order for the alert conditions to be calculated.
Server response time is <condition> <nn> seconds for <percent> percent of transactions	Select the required criteria. For example, select **greater than**, enter a value of **8** seconds, and select **90** percent to instruct HP Business Availability Center to send the alert if server response time exceeds 8 seconds for at least 90 percent of the transactions that were run, over the calculated time period. For details about how to set the calculated time period, see "Calculated Time Period Dialog Box" on page 303. **Note:** The value of the percentage must be an integer.

View Dominating Alerts Dialog Box

Description	Enables you to view the dominating alerts for the current alert. **To access:** Select **Make specified alert subordinate to this alert** in the Alert definitions area in the Actions tab in the Alert wizard and click the link in **This alert is subordinate to the alert(s): <alert_name>**.
Included in Tasks	"Define Alert Dependency" on page 181

The dialog box includes the following elements (listed alphabetically):

GUI Element	Description
Alert	The name of the subordinate alert. If you are editing a current subordinate alert definition, or if you have clicked **New**, in the **Alert** list, select the alert that you want to be subordinate to the alert you are defining.
Profile	The profile corresponding to the subordinate alert.
Time Limit	The time limit of the subordinate alert. If you are editing a current subordinate alert definition, or if you have clicked **New**, in the **Time Limit** list, select the time limit of the subordinate alert.

19

Recipients User Interface

This chapter includes the pages and dialog boxes that are part of the Recipients user interface.

This chapter describes:	On page:
Recipients Page	349
Recipient Properties Wizard	350

Recipients Page

Description	Enables you to create new recipients or edit the properties of existing recipients. **To access:** Select **Admin** > **Alerts** > **Recipients**
Included in Tasks	"Configure Recipients" on page 209 "Manage Recipients" on page 210

The page includes the following elements (listed alphabetically):

GUI Element	Description
	Click the button beside the recipient whose properties you want to modify. The Recipient Properties wizard opens. For details, see "Recipient Properties Wizard" on page 350.
	Click the required button to select all options, clear all options, or reverse the current selection.

GUI Element	Description
<check box>	Select when you want to perform the same action on several recipients simultaneously.
E-mail	The e-mail address of the recipient.
New Recipient	Click to define a new recipient. For details, see "Recipient Properties Wizard" on page 350.
Pager	The pager of the recipient.
Recipient Name	The provider and number of the recipient.
SMS	The SMS provider and telephone number of the recipient.

Recipient Properties Wizard

Description	Enables you to define recipients and how notices are sent to those recipients in the Recipients page of Platform Administration. **To access:** Select **Admin > Alerts > Recipients**
Included in Tasks	"Configure Recipients" on page 209
Wizard Map	**Recipient Properties Wizard**: General Tab > Email > Pager Messages > SMS

General Tab

Description	Enables you to define a recipient general properties.
Wizard Map	Recipient Properties Wizard: **General Tab** > Email > Pager Messages > SMS

The tab includes the following elements (listed alphabetically):

GUI Element	Description
Alert Notification Template	Select an alert notification template: ➤ **Per notification method** if you want the recipient's alert notification template to differ for each notification method; for example, if you want to use the LONG template for e-mail alerts and the SHORT template for pager alerts. ➤ **Same for all** if you want the recipient's alert notification template to be identical for all notification methods. Choose **LONG**, **SHORT**, or any custom template already created. For details on alert notification templates and creating custom templates, see "Configure Alert Notification Templates" on page 178. **Note:** You must select the alert notification template and specify an alert notices schedule for recipients who are to receive alerts and you do not have to for recipients who are to receive only scheduled reports.

GUI Element	Description
Offset from GMT	Select the time zone according to which HP Business Availability Center sends alert notices and HP Managed Software Solutions notifications to the selected recipient. The GMT offset selected for the recipient is the time zone specified in the alert notifications that the recipient receives. For example, if an alert is triggered anywhere in the world and a notification is sent, the date and time of the alert is converted to the time zone in the GMT offset selected for the recipient. If you defined a schedule for the recipient to receive notifications, the GMT offset selected for the recipient is also the time zone that HP Business Availability Center uses for calculating when to send the recipient notifications. For example, if you configure a recipient to receive pager alerts from 9:00 AM - 9:00 PM, and choose a GMT offset of -5 hours, the recipient will receive alerts via pager only from 9:00 AM - 9:00 PM Eastern Time. **Note:** Scheduled reports are sent based on the schedule configured in the Scheduled Reports page and not on the schedule configured for the recipient. For details, see "Scheduled Reports" in *Platform Administration*. For a reference list of GMT time zones for locations throughout the world, see "GMT Time Zones" in *Reference Information*.
Recipient Name	The name of the recipient.

GUI Element	Description
Schedule for Receiving Alerts	Specify a schedule for receiving notifications. The schedule enables you to control exactly at what hours of the day a recipient receives notices. Select: ➤ **Per notification method** if you want the recipient's schedule to differ for each notification method, for example, if you want a recipient to receive notices via e-mail from 9:00 AM to 5:00 PM, and via pager from 5:00 PM to 7:00 PM. ➤ **Same for all** if you want the recipient's schedule to be identical for all notification methods. Select also one of the following: ➤ **All Day.** to instruct HP Business Availability Center to send messages any time of the day. ➤ **From... to.** Select the time range option, and specify a time range, to limit the time of day that HP Business Availability Center sends messages.

Email

Description	Enables you to specify multiple e-mail addresses for the recipient, the type of notification template, the schedule for sending e-mail notifications, and the security certificate if necessary.
Wizard Map	Recipient Properties Wizard: General Tab > **Email** > Pager Messages > SMS

The tab includes the following elements (listed alphabetically):

GUI Element	Description
Address(es)	Enter one or more e-mail addresses. Separate multiple entries with a semi-colon (;).

GUI Element	Description
Alert Notification Template	This is enabled if you selected the **Per notification method** alert notification template option for the recipient in the **Alert Notification Template** in the General tab. Select the template you want to use: **LONG**, **SHORT**, or any custom template already created. For details on alert notification templates and creating custom templates, see "Configure Alert Notification Templates" on page 178.
Schedule for Receiving Alerts	Enabled if you selected the **Per notification method** scheduling option for the recipient in the **Schedule for Receiving Alerts** in the General tab. Select: ➤ **All Day.** If you want the recipient to receive e-mail messages all day. ➤ **From... to.** Specify the time range when you want the recipient to receive e-mail messages. The time range will be calculated based on the GMT offset selected for the recipient. Scheduled reports are sent based on the schedule configured in the Scheduled Reports page and not on the schedule configured for the recipient. For details, see "Scheduled Reports" in *Platform Administration*.
Secure Mail	Select **Enabled** if you want the recipient to receive encrypted mail. In such a case, copy into the text box the contents of the certificate that the recipient used to secure incoming e-mail messages. **Note:** ➤ The encrypted mail option is supported only for alerts. Encrypted mail is not supported for scheduled reports or subscription and package notifications (HP Managed Software Solutions customers only). ➤ The encrypted mail option is supported only when the HP Business Availability Center Gateway Server is installed on a Windows machine.

Pager Messages

Description	Enables you to specify the pager service provider, the pager numbers, the type of notification template and the schedule for sending alert notification to the pager.
Wizard Map	Recipient Properties Wizard: General Tab > Email > **Pager Messages** > SMS

The tab includes the following elements (listed alphabetically):

GUI Element	Description
Alert Notification Template	If you selected the **Per notification method** alert notification template option for the recipient, choose the template you want to use. Choose **LONG**, **SHORT**, or any custom template already created. For details on alert notification templates and creating custom templates, see "Configure Alert Notification Templates" on page 178.
Number(s)	Enter one or more pager access numbers. Separate multiple entries with a semi-colon (;).
Schedule for Receiving Alerts	If you selected the **Per notification method** scheduling option for the recipient, choose whether you want the recipient to receive pager messages all day, or only between the specified time range.
Type	Select a pager service provider. The following providers are supported: **MetroCall**, **PageNet**, **PageOne**, **PageMci**, **Arch**, **Nextel**, **PageMart**, **AmeriPage**, **btpaging**, **Att**, **SkyTel**, **AirTouch**.

SMS

Description	Enables you to specify the SMS (short message service) service provider, the SMS numbers, the type of notification template and the schedule for sending alert notification to the SMS.
Important Information	SMS is a text messaging service provided by most GSM-based cellular phone providers. SMS messages are useful to notify staff who are mobile, or who do not have e-mail or pager access. Note that the maximum message length of SMS text messages is generally 160 characters.
Wizard Map	Recipient Properties Wizard: General Tab > Email > Pager Messages > **SMS**

The tab includes the following elements (listed alphabetically):

GUI Element	Description
Alert Notification Template	If you selected the **Per notification method** alert notification template option for the recipient, choose the template you want to use. Choose **LONG**, **SHORT**, or any custom template already created. For details on alert notification templates and creating custom templates, see "Configure Alert Notification Templates" on page 178.
Number(s)	Type one or more SMS access numbers in the box. Separate multiple entries with a semi-colon (;).
Provider	Select an SMS service provider from the list.
Schedule for Receiving Alerts	If you selected the **Per notification method** scheduling option for the recipient, choose whether you want the recipient to receive SMS messages all day, or only between the specified time range.

Part III

Send Alerts to Third-Party Applications

20

Introducing HP Business Availability Center EMS Adapters

EMS adapters enable you to integrate alerts generated by HP Business Availability Center into your EMS console. These alerts can then be used in the standard alert-processing procedure used in the EMS application.

Note to HP Managed Software Solutions customers: For details on acquiring EMS adapters, contact HP Managed Software Solutions Support.

You can send HP Business Availability Center alerts to EMS applications with the following adapters:

- **BMC PATROL Adapter.** For details, see Chapter 21, "Send HP Business Availability Center Alerts to BMC PATROL."
- **CA Unicenter Adapter.** For details, see Chapter 22, "Send HP Business Availability Center Alerts to CA Unicenter."
- **HP Openview VantagePoint Operations (OVO) Adapter.** For details, see Chapter 23, "Send HP Business Availability Center Alerts to HP Openview VantagePoint Operations."
- **IBM Tivoli Enterprise Console (TEC) Adapter.** For details, see Chapter 24, "Send HP Business Availability Center Alerts to Tivoli TEC."

Note: For details on assigning alerts in HP Business Availability Center, see "Set Up an Alert Delivery System" in the *HP Business Availability Center Deployment Guide* PDF.

21

Send HP Business Availability Center Alerts to BMC PATROL

This chapter explains how to configure HP Business Availability Center to send alerts to BMC PATROL.

This chapter describes:	On page:
About Sending HP Business Availability Center Alerts to BMC PATROL	361
Installing the HP Business Availability Center SNMP Adapter on the BMC PATROL Agent(s)	362
Installation Troubleshooting	362

About Sending HP Business Availability Center Alerts to BMC PATROL

You install the HP Business Availability Center SNMP Adapter on the BMC PATROL Agent(s) to which you want to send alerts. You then direct SNMP traps generated by the Gateway Server to the BMC PATROL Agent(s). For details on directing SNMP traps, see "Configure SMTP Mails" on page 203.

You do not have to install the SNMP Adapter on every BMC PATROL Agent in the BMC PATROL domain: a single agent per domain should suffice. However, if required, you can install the SNMP Adapter on several agents, to achieve higher availability.

Installing the HP Business Availability Center SNMP Adapter on the BMC PATROL Agent(s)

Once installed, the SNMP Adapter receives alerts (in the form of SNMP traps) from HP Business Availability Center and forwards them to the event management engine of the BMC PATROL Agent(s) on which the SNMP Adapter operates.

To install the HP Business Availability Center adapter on BMC PATROL:

1. Copy the HP Business Availability Center SNMP Adapter Knowledge Module (TOPAZ_SNMP_ADAPTER.km) to the knowledge module location of both the BMC PATROL Console and BMC PATROL Agent(s).

   TOPAZ_SNMP_ADAPTER.km is included in the Adapter files. The file is located on the HP Business Availability Center Documentation and Utilities DVD in the \tools_and_utilities\EMS\BmcPatrol\TSA folder. Once the knowledge module is loaded into BMC PATROL, TOPAZ_SNMP_ADAPTER.km is accessible via the BMC PATROL developer console.

2. Load the HP Business Availability Center SNMP Adapter on the BMC PATROL Agent(s) using the BMC PATROL Developer Console. For exact details, see the BMC PATROL documentation.

Installation Troubleshooting

BMC PATROL Agent(s) output(s) the following system message (number(s) on the left may vary): 20040502153419 SNMP NOT ACTIVE.

The SNMP Trap service is not enabled on the BMC PATROL Agent on which the SNMP Adapter is installed. Enable the SNMP Trap service on that agent, or use a different BMC PATROL Agent. See the BMC PATROL documentation for details on installing and enabling the SNMP trap service on BMC PATROL Agents.

BMC PATROL Agent(s) output(s) the following system message (number(s) on the left may vary): 20040502154044 SnmpListener, Line# 130: snmp_trap_listen: cannot open socket for listening 20040502154044 Listen status = ERR, Errno = 94.

Another SNMP trap service is using the SNMP trap port. Disable that service or change the UDP port that is used for trap reception (in that case, you must reconfigure HP Business Availability Center).

BMC PATROL Agent(s) output(s) the following system message (number(s) on the left may vary): 20040502154044 Error: Can't recognize Alert Type Id X (where X is a number).

The HP Business Availability Center SNMP Adapter receives an SNMP trap that is not recognized as a valid HP Business Availability Center alert. This is normal behavior.

Note: For testing purposes, you may want to enable auxiliary SNMP traps to be processed. This can be achieved by changing the KM environment variable **RAW_DATA** to **TRUE**.

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Send HP Business Availability Center Alerts to CA Unicenter

This chapter explains how to configure HP Business Availability Center to send alerts to CA Unicenter.

This chapter describes:	On page:
About Sending HP Business Availability Center Alerts to CA Unicenter	365
Sending an HP Business Availability Center Alert as an SNMP Trap	366
Sending an HP Business Availability Center Alert Using the Unicenter cawto Command	367
Configuration Troubleshooting	369

About Sending HP Business Availability Center Alerts to CA Unicenter

To send alerts to the CA Unicenter application, you can use one of the following methods:

- Sending an HP Business Availability Center Alert as an SNMP Trap to the Unicenter Management server
- Sending an HP Business Availability Center Alert Using the Unicenter cawto Command

For details on directing SNMP traps, see "Configure SMTP Mails" on page 203.

Sending an HP Business Availability Center Alert as an SNMP Trap

The following procedure explains how to configure Unicenter to pick up the SNMP traps sent to the Event Management host.

To configure Unicenter:

1 Enable the Unicenter **CATrapD** (SNMP trap daemon) to pick up the raw SNMP traps.

2 Configure Event Management (Message Records and Actions) to format the traps according to the HP Business Availability Center MIB. This requires knowledge of the HP Business Availability Center MIB that is part of the Gateway Server installation. The file resides on the HP Business Availability Center Documentation and Utilities DVD in the \tools_and_utilities\SNMP_MIBS\amAlerts5.mib folder.

To configure the Management Server host:

You must create a message record to fit the SNMP trap sent by HP Business Availability Center.

1 Create a **[file name].def** file and save the following line in it:

```
define msgrec msgid="%CATD_I_060, SNMPTRAP: -c * 5233 * * 6 1 * *" type="MSG"
msgnode="*" desc="AM Alert Transaction Response Time" cont='N' msgact='Y'
wcsingle='?' wcmany='*' case="y" regexp="n"
```

2 Load the file as part of the message records in Event Management by using the command:

```
cautil –f [file name].def
oprcmd opreload
```

3 To receive and display SNMP traps from third party devices in the Unicenter Event Console, you must enable the SNMP Trap Service. Select **Unicenter Enterprise Management** > **Configuration** > **Settings**. Change the **SNMP Trap Server Activated** flag to **Yes**.

To configure HP Business Availability Center:

1 To configure the alerts that are to be sent to the Unicenter Event Management host, access the Alert Wizard: Select **Admin** > **Alerts** > **Event Based Alerts** > **Event Based Alerts configuration**.

2 Create an alert according to the instructions in "Create Alert Schemes" on page 166.

3 Select the **Send SNMP trap** check box and define the EMS IPs. For details, see "Configure Alert Actions" on page 174.

Sending an HP Business Availability Center Alert Using the Unicenter cawto Command

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Note to HP Managed Software Solutions customers: This procedure is not relevant for HP Managed Software Solutions customers. Instead, HP Managed Software Solutions customers should use the SiteScope command line monitor. To use that monitor, consult HP Managed Software Solutions Support.

This command line utility is available after you install the Unicenter Event Management Agent on the HP Business Availability Center machine.

Note: You use the **cawto** command to send a message to the Windows console or the system console without waiting for a reply. To send a message and wait for a reply, use the Event Management **cawtor** command.

To configure the CA Unicenter Console:

You do not need to configure the Unicenter Event Management host. Verify that the **cawto** command is sent to the Unicenter Event Management node which must handle it: open the Event Management Console and look for the event that was sent with the **cawto** command.

To configure HP Business Availability Center:

1. To configure the alerts that are to be sent to the Unicenter Event Management host, access the Alert Wizard: Select **Admin** > **Alerts** > **Event Based Alerts** > **Event Based Alerts configuration**.
2. Create an alert according to the instructions in "Create Alert Schemes" on page 166.
3. Continue to the section "Run Executable File Dialog Box" on page 336. During this procedure, you must select the **Run executable file** check box and define the alert action in the Alert Wizard. When asked to enter the command line required to run the executable file, use the Unicenter **cawto** command line.

Note: Consult the Unicenter documentation about the parameters for the **cawto** command line and how they can be activated.

The following example shows how to create a **cawto** command that sends the HP Business Availability Center alert to Unicenter:

```
C:\tng\bin\cawto.exe –s "" –v W –n <node> "Alert <AlertName> for <ProfileName> was triggered because: <TriggerCause>"
```

where:

-s <source> – Identifies the application that is the source of the event. In the above example, **<source>** is **HP Business Availability Center**.

-v <value> – Severity of the event. When viewing events in the CA Message console, icons are displayed to the left of the events indicating the severity status. In the above example, **<value>** is **W** (Warning). Severity values can be one of the following:

Informational	I
Success	S
Warning	W

Error	E
Failure	F

You can set up the translation from HP Business Availability Center severity to Unicenter severity according to the following rules:

	Unicenter
Informational	I
Warning	W
Minor	E
Major	E
Critical	F

-n <node> – Node to which the message is directed if the node is not the node the user is on.

<AlertName>, **<ProfileName>**, **<TriggerCause>** are HP Business Availability Center alert variables.

Configuration Troubleshooting

I have a custom or third party MIB. What exactly will loading it on the DSM, using the LDMIB command, enable me to do?

Products:

➤ Unicenter NSM

Version: 3.0

OS: WIN/NT, WIN2000, HP, AIX, SUN, LINUX, SCO, SINIX, TRU64

➤ Unicenter TNG

Version: 2.2, 2.4, 2.4.2

OS: WIN/NT, WIN2000, HP, AIX, SUN, LINUX, SCO, SINIX, TRU64

Solution:

Run **ldmib** on a custom MIB to give the following functionality:

➤ the ability to run **objectview** against that MIB. This requires that the MIB also be copied into the **%AGENTWORKS_DIR\services\config\mibs** directory on the machine from which **objview** is being run.

➤ the ability to run **mibbrowse** against that MIB.

Please note that no trap translation automatically occurs by loading an MIB. This requires DSM policy. You could use message records and actions to translate the **CATrapD** messages on the EM console to work around the need for DSM policy. This would then require enabling **CATrapD** by accessing the EM settings and turning on **SNMP trap server activated**.

I have been receiving many messages on the event console that have an unreadable format, such as '%CATD_I_060, SNMPTRAP: -c public 791 172.20.0.18 mail.npc.net 2 0.' What are they?

Products:

➤ Unicenter NSM

Version: 3.0

OS: WIN/NT, WIN2000

➤ Unicenter TNG

Version: 2.2, 2.4, 2.4.2

OS: WIN/NT, WIN2000

Solution:

These are raw SNMP traps that the **CATrapD** daemon picks up. They may be generated by any SNMP enabled device or agent. **CATrapD** is enabled when you access the EM settings and enable **SNMP trap server activated**. Normally the DSM interprets the important ones but others do not warrant a separate translated message in the console. The reference guide lists the numbers at the end of these traps and what they stand for.

They are:

0	Coldstart	The sending SNMP entity has reinitialized itself, indicating that the agent's configuration may be changed This is typically a restart due to a crash or major fault.
1	WarmStart	The sending SNMP entity has reinitialized itself, but the agent's configuration has not been altered. This is typically a routine restart.
2	linkDown	The communications link has failed.
3	linkUp	The communications link has come up.
4	Authentication	The agent has received an incorrect community name. Failure from a manager.
5	EGP Neighbor	The external gateway protocol (EGP) neighbor is down. Loss.
6	Enterprise	An enterprise-specific event has occurred. Specific (Requires a specific trap type to identify).

I want to receive and display SNMP traps from third party devices in the Event Console?

Products:

➤ Unicenter TNG

Version: 2.1, 2.2, 2.4

OS: WIN/NT, WIN2000

Solution:

To receive and display SNMP traps from third party devices in the Unicenter Event Console, you must enable the SNMP Trap Service. Select **Unicenter Enterprise Management** > **Configuration** > **Settings**. Change the **SNMP Trap Server Activated** flag to **Yes**.

23

Send HP Business Availability Center Alerts to HP Openview VantagePoint Operations

This chapter explains how to configure HP Business Availability Center to send alerts to HP Openview VantagePoint Operations.

This chapter describes:	On page:
About Sending HP Business Availability Center Alerts to HP Openview VantagePoint Operations	374
Verifying the Presence of the HP OVO Agent	374
Installing the HP OVO Agent on the Gateway Server Machine	376
Assigning and Distributing the opcmsg Template to the HP Business Availability Center Host	377
Sending an HP Business Availability Center Alert Using the HP OVO Agent opcmsg Command	378

About Sending HP Business Availability Center Alerts to HP Openview VantagePoint Operations

To send alerts to HP Openview VantagePoint Operations (OVO), you must install an HP agent on the Gateway Server. Preconfigure the agent to send events to the management server via **opcmsg**. In HP terminology this means that the agent should have the **opcmsg** template assigned and distributed to it.

To send alerts to HP OVO, verify the following:

➤ An HP agent is installed on your Gateway Server host. For details, see the next section.

If no HP agent is installed, you must install it. For details, see "Installing the HP OVO Agent on the Gateway Server Machine" on page 376.

➤ The HP agent is configured to send events to the HP OVO management server via **opcmsg**. For details, see "Assigning and Distributing the opcmsg Template to the HP Business Availability Center Host" on page 377.

Verifying the Presence of the HP OVO Agent

When sending alerts to the HP OpenView Management Server, HP Business Availability Center utilizes HP's **opcmsg** command. This is a command that is used by HP OVO agents to communicate with the management server. You verify that an HP OVO agent is installed on the HP Business Availability Center server by running **opcmsg**.

To verify the availability of the opcmsg command:

1 On the Gateway Server, open a command window.

2 In the command window write **opcmsg** and press **Enter**. The possible results of this command are as follows:

➤ **opcmsg** is not recognized as an internal or external command, operable program or batch file.

Reason and Solution: The HP OVO agent is not installed on the machine. Follow the steps in "Installing the HP OVO Agent on the Gateway Server Machine" on page 376 and "Assigning and Distributing the opcmsg Template to the HP Business Availability Center Host" on page 377.

➤ The following message is displayed:
The ITO Message Command is not configured on this system. Contact your ITO Administrator to configure it. (OpC30-913)

Reason and Solution: The HP OVO is installed on the machine but is not configured to send **opcmsg** messages. Follow the steps in "Assigning and Distributing the opcmsg Template to the HP Business Availability Center Host" on page 377.

➤ The following message is displayed:
The application parameter is required. (OpC30-903)
The object parameter is required. (OpC30-904)
The msg_text parameter is required. (OpC30-905)

Usage:
opcmsg [-help] [-id] severity=normal|warning|minor|major|critical] application=<application> object=<object> msg_text=<text> [msg_grp=<message group>] [node=<node>] [service_id=<svcid>] [-option <var>=<value>]* (OpC30-900)

Reason: The HP OVO is installed on the machine and is configured to send **opcmsg** messages.

Installing the HP OVO Agent on the Gateway Server Machine

Make sure that the Gateway Server machine host is a part of a node group in HP OVO or you will not be able to see any of the alerts.

To install the HP OVO Agent:

1. On the HP Business Availability Center server, verify that an FTP service is running with write permissions.
2. On the HP OVO Management Server, locate the host in the HP OVO ITO Node Bank window and select it. If the host is not defined, you must first define it.
3. From the Actions menu, select **Agents** and then **Install/Update SW & Config**.
4. Select the **Agent Software** check box in the Components area. Verify that the host you selected appears in the list box on the right and that the **Nodes in list requiring update** check box above it is selected. Click **OK**.
5. In the window that opens, provide HP OVO with a user name and password that has administrative privileges for the HP Business Availability Center host.
6. Follow the on-screen instructions. You will need to point to the location of the file.
7. On the HP Business Availability Center server, note that you have to manually run the **opc_inst.bat** file placed in a temporary directory in your FTP root directory.

Assigning and Distributing the opcmsg Template to the HP Business Availability Center Host

The following procedure explains how to assign and distribute the opcmsg template to an HP Business Availability Center host. Once you have performed this procedure, you can set up HP Business Availability Center to send alerts to HP OVO. For details, see "Sending an HP Business Availability Center Alert Using the HP OVO Agent opcmsg Command" on page 378.

To assign and distribute opcmsg:

1. On the HP OVO Management Server, locate the Gateway Server host in the HP OVO ITO Node Bank and select it. Select **Actions** > **Agents** > **Assign templates**.
2. Click **Add** and verify that the probe host appears in the list box to the left.
3. Click the **Open Template Window** button.
4. In the template window, select **Default**, double-click the appropriate operating system name, and select **opcmsg(1|3)**.
5. Return to the Add Configuration window and click **Get template selection**. You should now see **opcmsg(1|3)** appearing in the list box to the right.
6. Click the **OK** button in the Add Configuration and Define Configuration windows.
7. Return to the Node Bank window and select **Agents** > **Install/Update SW & Config** from the Actions menu. Verify that the HP Business Availability Center host is still selected.
8. Select the templates check box, and click **OK**.

   A message should be displayed in your HP OVO message browser reporting that the templates have been distributed successfully to the host.

Sending an HP Business Availability Center Alert Using the HP OVO Agent opcmsg Command

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Note to HP Managed Software Solutions customers: This procedure is not relevant for HP Managed Software Solutions customers. Instead, HP Managed Software Solutions customers should use the SiteScope command line monitor. To use that monitor, consult HP Managed Software Solutions Support.

This command line utility is available after you install the HP OVO Agent on the HP Business Availability Center Gateway Server machine. For details, see "Installing the HP OVO Agent on the Gateway Server Machine" on page 376.

You use the opcmsg command to send a message to the Windows console or the system console without waiting for a reply.

To configure HP Business Availability Center alerts:

1. To configure the alerts that are to be sent to the HP OVO host, access the Alert Wizard: Select **Admin** > **Alerts** > **Event Based Alerts** > **Event Based Alerts Configuration**.
2. Create an alert according to the instructions in "Create Alert Schemes" on page 166.

3 Continue to the section "Run Executable File Dialog Box" on page 336. During this procedure, you must select the **Run executable file** check box and define the alert action in the Alert Wizard. When asked to enter the command line required to run the executable file, use the HP OVO Agent opcmsg command line:

```
opcmsg [-help] [-id] severity=normal|warning|minor|major|critical]
application=<application> object=<object> msg_text=<text>
[msg_grp=<message group>] [node=<node>] [service_id=<svcid>]
[-option <var>=<value>]* (OpC30-900)
```

The opcmsg command defines three mandatory parameters: object, application, and message text. In addition you can use:

- **severity.** Can be one of the following severities: normal, warning, minor, major, or critical.
- **msg_grp.** The name of the message group defined in HP OVO.
- **node.** Used to define the node from which this alert was sent.
- **service_id.** Used to assign the alert to a specific HP Service Navigator service.
- **-option <var>=<value>.** One or more key value pairs used by the OVO's automatic and operator-initiated actions.

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Send HP Business Availability Center Alerts to Tivoli TEC

This chapter explains how to configure HP Business Availability Center to send alerts to Tivoli TEC.

This chapter describes:	On page:
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Setting Up Tivoli TEC	382
Sending an HP Business Availability Center Alert Using the Tivoli End Point postemsg Command	383

About Sending HP Business Availability Center Alerts to Tivoli TEC

You can integrate alerts with the IBM Tivoli Enterprise Console (TEC) application.

To send alerts to the Tivoli TEC management server, HP Business Availability Center utilizes Tivoli's **postzmsg, postemsg, wpostzmsg, or wpostemsg** commands. For details on these commands, see the Tivoli Web site (http://publib.boulder.ibm.com/tividd/td/tec/SC32-1232-00/en_US/HTML/ecormst02.htm). The recommended command to use is **postzmsg** as it can be copied to and run from any machine and it buffers events if the TEC server is unavailable.

wpostzmsg and **wpostemsg** are commands used by the managed node to communicate with the management server. Therefore the HP Business Availability Center server must be a Tivoli End Point (that is, the Tivoli software agent must be installed on the machine).

The command used is called from the **run_exe** command.

Setting Up Tivoli TEC

To send alerts to Tivoli TEC, you must verify that:

- Tivoli End Point is installed on the Gateway Server host, if using the **wpostzmsg** or **wpostemsg** commands.
- An ACP profile has been distributed to the Tivoli End Point on the Gateway Server host.
- The command being used is located on the machine from which the alert is being sent.
  - If using the **postzmsg** or **postemsg** command, it can be located anywhere on the machine. You can verify that the command is present by running the following:

```
Usage: postzmsg { -S <server> | -f <config_file> } [-r <severity>]
[-m <message> ] [<slot_name=value>, ...] <class> <source>
```

- If using the **wpostzmsg** or **wpostemsg** command, it should be located under the directory **<Drive>:\Program Files\Tivoli\lcf\bin\<platform>\bin**. Using one these commands requires the Tivoli environment to be sourced, so the command must be run from a batch file.

To send an alert to Tivoli TEC:

1. Create a **baroc** file which describes the event class of the alert, and deploy it on your Tivoli Tec. For more information on the baroc file format, see the Tivoli TEC documentation.
2. Copy the **postzmsg** or **postemsg** command to the HP Business Availability Center server. If using the **wpostzmsg** or **wpostemsg** command, install a Tivoli End Point on the HP Business Availability Center server (the End Point brings the **wpostzmsg** and **wpostemsg** executables with it).

3 Run the command by creating the appropriate command line. For example, if using the **postzmsg** command:

```
postzmsg -S server -r CRITICAL description="<AlertDescription>"
triggerCause="<TriggerCause>" hostname="cookie"
topazProfileName="<ProfileName>" Topaz_Alert Topaz
```

You can create and use a configuration file to specify various parameters. For details on running the commands, see the Tivoli Web site (http://publib.boulder.ibm.com/tividd/td/tec/SC32-1232-00/en_US/HTML/ecormst02.htm).

Sending an HP Business Availability Center Alert Using the Tivoli End Point postemsg Command

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Note to HP Managed Software Solutions customers: This procedure is not relevant for HP Managed Software Solutions customers. Instead, HP Managed Software Solutions customers should use the SiteScope command line monitor. To use that monitor, consult HP Managed Software Solutions Support.

This command line utility is available after you install Tivoli End Point on the HP Business Availability Center Gateway Server machine.

You use the postemsg command to send a message to the Windows console or the system console without waiting for a reply.

To configure HP Business Availability Center:

1 To configure the alerts that are to be sent to the Tivoli TEC host, access the Alert Wizard: Select **Admin** > **Alerts** > **Event Based Alerts** > **Event Based Alerts Configuration**.

2 Create an alert according to the instructions in “Create Alert Schemes” on page 166.

3 Continue to the section "Run Executable File Dialog Box" on page 336. During this procedure, you must select the **Run executable file** check box and define the alert action in the Alert Wizard. When asked to enter the command line required to run the executable file, use the Tivoli End Point postemsg command line:

```
postemsg { -S <server> | -f <config_file> } [-r <severity>]
[-m <message> ] [<slot_name=value>, ...] <class> <source>
```

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