Precise 10.3

Precise Report Manager User Guide

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Today more than ever, the success of your company depends on the delivery of information, on time, on reliability, and on reasonable cost. Information is a bottom-line issue, affecting both overall revenue and costs. A performance slowdown, that is, the inability to deliver information on time, is likely to expose you to serious business risks.

- Introducing Report Manager
- Precise Report Manager basics
- About Report Manager
- About the Report Manager reports
- Advanced features that can help you customize your reports
- Database mapping and definition files
- Report Manager report sets
- Importing, exporting, and copying your customized reports

Introducing Report Manager

This section includes the following topics:

Components of Report Manager

Report Manager employs a client/server architecture. The following figure illustrates the typical architecture of Report Manager.

Figure 1 Report Manager architecture
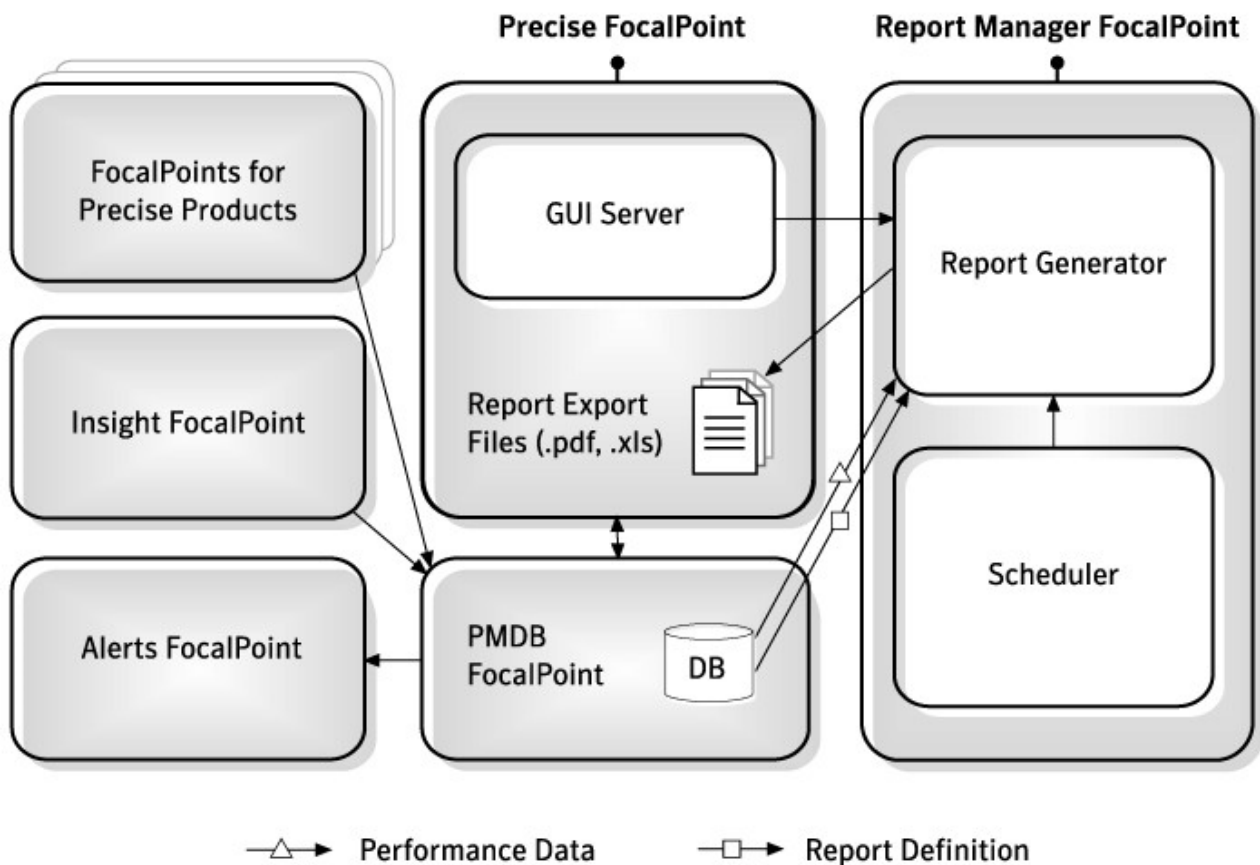
Report Manager consists of the following components:

- Precise FocalPoint that communicates with the client's browser.
- Report Manager FocalPoint that is installed on the system server (or a dedicated server).
- Performance Management Database (also known as PMDB).

About the Precise FocalPoint

Precise FocalPoint is the main FocalPoint of all Precise suite. It includes a Web Server that communicates with Internet browsers of Precise users. The exported report files (PDF and Microsoft Excel files) are stored in this Web Server.

About the Report Manager FocalPoint

Report Manager FocalPoint generates reports at predefined schedule and on demand. It consists of the following components:

- **GUI server**. The GUI Server listens to requests from Precise users, such as viewing and generating reports. In case the request is to generate a report, it delivers the request to the Report Generator component.
- **Scheduler**. The Scheduler reads the reports generation schedule. Based on this schedule, it requests the Report Generator component to generate reports.
- **Report generator**. The Report Generator receives report generation requests from the GUI Server and Scheduler components. To generate a report, the Report Generator performs the following:
  - Prepares the appropriate SQL SELECT statements.
  - Executes the SQL SELECT statements on the Performance Management Database.
  - Creates the report based on the retrieved information.
  - Exports the report as a PDF file (for predefined reports) or as a Microsoft Excel file (for customized reports).
  - Transfers the file to the Precise FocalPoint.

About the Performance Management Database

The Report Manager FocalPoint retrieves the sampled data, which is collected by the various Precise and Insight products, from the Performance Management Database. In addition, it stores all reports configuration data in the Performance Management Database.

How Report Manager works

Report Manager collects and organizes historical information to focus the IT team onto infrastructure hot spots. Report Manager is your performance surge protection against dangerous resource consumption trends. You can use Report Manager to compare period-to-period performance versus a baseline and identify response time problems at-a-glance, before they affect your system performance.

What you can do with Report Manager

Report Manager is a reporting tool that queries the Performance Management Database and displays the results in reports that are generated on a scheduled basis or on demand.

The reports are designed to help you:

- Identify problematic conditions that may have an impact on performance before they become performance problems.
- Track long-term performance, volume trends and patterns, and then plan for future growth accordingly - capacity planning.
- View availability problems over long periods of time at different levels.
- Compare the performance of similar systems, such as different Oracle instances and server machines.
- Correlate between performance metrics of different products, such as between the number of EJB executions and the Lock Wait Time of an Oracle Program.

- Generate customized reports according to your demands, without the need to understand the physical structure of the Performance Management Database.

Where to get more information

More information on Precise, its products, technical notes, and so on, can be found in the Precise Release Notes.

Precise Report Manager basics

This section includes the following topics:

- Introducing the Report Manager user interface
- How the Report Manager tab is structured
- Tasks common to most tabs
- About role management in Report Manager
- Launching Report Manager

Introducing the Report Manager user interface

Report Manager is a Web-enabled application. This means that you do not need to install any special software on your desktop to use Report Manager. Instead, the application opens in a browser.

Because Report Manager is Web-enabled, you can access it from almost any location that is connected to the World Wide Web as long as you can access your Report Manager server.

> ⓘ Although Report Manager opens in a browser window it is important to understand that it is an application rather than a Web site. To perform activities within Report Manager, use the Report Manager controls, not your browser controls. Do not open information in a New Window, and you should not use the Back or Refresh hot-keys. Use the Precise bar instead.

How the Report Manager tab is structured

Report Manager user interface consists of one main screen from which you can access the various Tier tabs. Report Manager main screen includes the following elements:

- About the Precise bar
- About the Tier selection bar
- About the View control
- About the Report set selector
- About the Report set description
- About the Reports table
- About the Data view
- About the Status view
- About the Command buttons

The following figure describes the Report Manager user interface elements.

Figure 1 How the Report Manager tab is structured
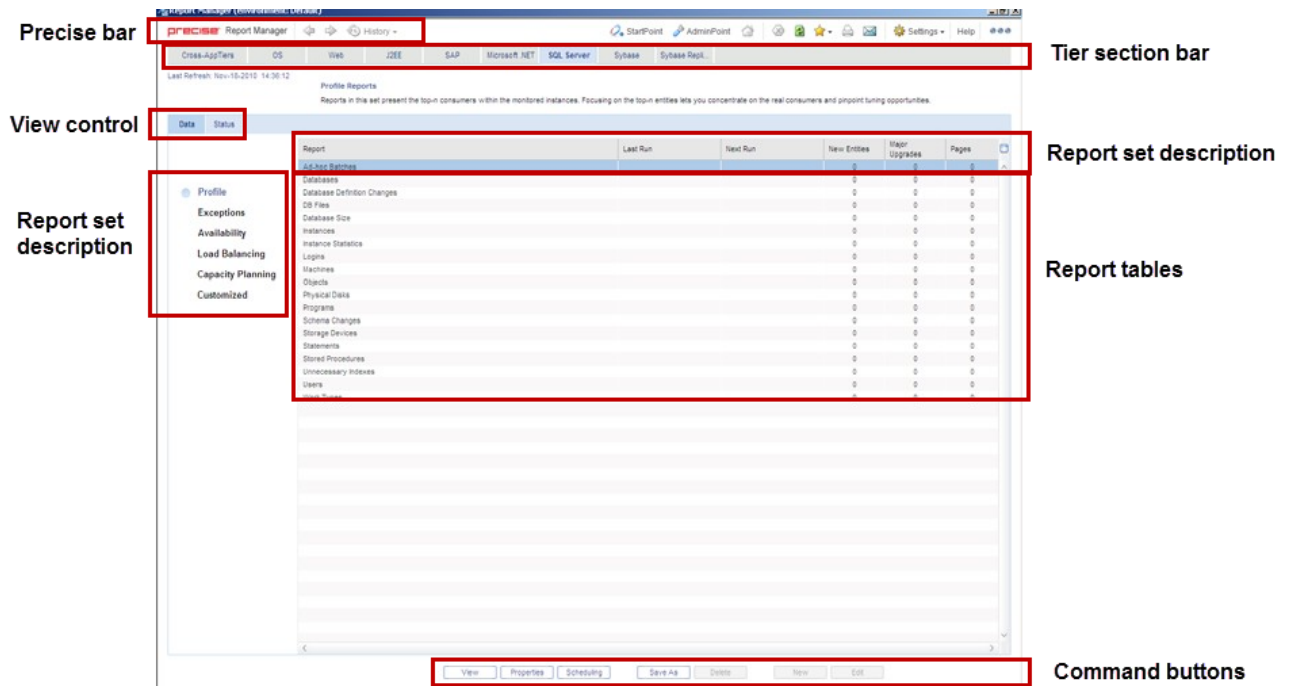
About the Precise bar

The Precise bar enables you to keep track of where you have been and provides various controls. The following table describes the function of each of the toolbar buttons

Table 1 Precise bar functions

Icon	Name	Description
	Backward	During a work session, keeps track of where you have navigated to. The Back button enables you to navigate between previously visited views. The Back control displays your previous view.
	Forward	Enables you to navigate to the next view. This button is only enabled if you clicked Back or if you chose a history option.

Icon	Name	Description
History	History	The History control displays your navigation paths signifying the various views you have already visited. Choose a navigation path from the pull-down menu to display a previous view. The history does not record changes to the selected view or tab. For example, in the Current tab, if you have an instance selected as the entity in the Main area and you change the association area from Active applications to Applications and then click the Back button, you will not be taken back to see the Active Applications. Instead, you will be taken back to see the previous entity in the Main area, which may be in a different tab.
StartPoint	StartPoint	Launches Precise StartPoint from your current Precise product. You can launch any Precise product from StartPoint.
AdminPoint	AdminPoint	Launches Precise AdminPoint.
Home	Home	Navigates to the highest level entity, usually the instance or Tier (all instances). The time frame settings remain the same.
Stop	Stop	Stops a request for information from the server.
Refresh	Refresh	Updates the data currently displayed.
Favorites	Favorites	Enables you to add or remove favorites in your Favorites list.
Print	Print	Opens the Print Option dialog where you can select the area of the screen you want to print.
Settings	Settings	Opens the General Settings and Time Frame Settings dialog boxes.
Actions	Actions	Depending on the tab you are viewing, it lets you perform different actions, including editing an existing statement or saving a statement with a new name.
Send	Send	Opens a new email message in your email program with the link to the current application in context.
Help	Help	Opens the online help in context.

Icon	Name	Description
●●●	Communications Indicators	Indicates whether or not the client is communicating with the server. Moving the cursor over this icon displays a ToolTip indicating the GUI server and port number.

About the Tier selection bar

Report Manager collects information and generates reports about the various Tiers in your application. The Tier Selection bar contains a button for each of these Tiers. When you select an Tier, Report Manager displays information relevant for that particular Tier in the tab. You can switch from one Tier to another at any time using these buttons. In addition, the Tier Selection bar contains the Cross-Tiers button that enables you to display high-level view of your application and generate integrated reports of more than one Tier.

About the View control

The View Control enables you to select the view of the Reports table. The following two views are available:

- **Data view**. Displays the reports list with statistical information about the report, such as the last run date of the report and number of pages in the report. See About the Data view.
- **Status view**. Displays the reports list with status information about the report, such as last run date and error description. See About the Status view.

About the Report set selector

Report Manager reports are grouped into six different sets as follows: Profile, Exceptions, Availability, Load Balancing, Capacity Planning, and Customized. When you select a report, Report Manager displays its assigned reports in the Reports Table.

In Cross-Tiers area, the Report Set selector is dimmed because the Cross-Tiers reports are assigned to a single report set.

About the Report set description

A short description of the report set, including few statistical information, which summarize the data available in the reports.

About the Reports table

The Reports Table, which is the main area of the user interface, contains a list of Report Manager reports that are assigned to the selected Tier and report set.

The Reports Table also displays statistical information according to the selected view: Data or Status.

About the Data view

In the Data view, the Reports Table shows a list of reports with statistical information displayed for each report. The statistical information includes columns that are common to all reports and additional columns that are specific to the selected report set.

> ⓘ The Customized reports set includes only the common columns: Report, Last Run, Next Run, and Pages.

The following table describes the information displayed in all reports.

Table 2 Information displayed in the Reports table

Column	Description
Report	Specifies the report name.
Last Run	Specifies the last time and date of generating the report.
Next Run	Specifies the next scheduled time and date for generating the report.
Pages	Specifies the number of pages in the report.

The following table describes the information that is specific to a specific report set.

Table 3 Information displayed according to specific report

Column	Description
Profile	Reports in this set present the top n consumers within the monitored instances. Focusing on the top n entities lets you concentrate on the real consumers and pinpoint tuning opportunities. The following information is displayed in the Profile column: • **New Entities**. Specifies the number of new entities in the Profile report. Entities are considered as new entities if they do not have a baseline or they are new in the top *n* entities list. • **Major Upgrades**. Specifies the number of entities that were upgraded by more than four places in the report.
Exceptions	This set of reports is intended to help you keep your application tuned. Any substantial deviation from normal behavior is reported. The following information is displayed in the Exception column: • **Exceptions**. Specifies the number of exceptions in the report. • **New Entities**. Specifies the number of new entities in the report. Entities are considered as new entities if they do not have a baseline. • **Deviation (Avg)**. Specifies the average deviation from the baseline in the report. • **Deviation (Max)**. Specifies the maximal deviation from the baseline in the report.
Availability	This set of reports informs you about failures, unavailability times, and similar events. The following information is displayed in the Availability column: • **Availability (Avg)**. Specifies the average availability percentage of the entities in the report. • **Availability (Min)**. Specifies the minimal availability percentage of the entities in the report.

Column	Description
Load Balancing	Reports in this set are intended to help you keep your application balanced. The following information is displayed in the Load Balancing column: • **Machines**. Specifies the total number of machines in the report. • **Overloaded**. Specifies the number of machines that were overloaded.
Capacity Planning	These reports analyze the performance of the monitored instances to predict future trends and assist in planning. The following information is displayed in the Capacity Planning column: • **Increase**. Specifies the additional consumption (%) that is predicted in the report. • **Forecasted Weeks**. Specifies the number of weeks included in the forecast.
Customized	This set contains new user-defined reports and copies of reports from other sets. The customized reports include data that is not provided in the pre-defined reports.

About the Status view

In the Status view, the Reports Table displays a list of reports along with their corresponding status information. The following table describes the information displayed in the Reports table in the Status view.

Table 4 Information displayed in the Reports table in the Status view

Column	Description
Report	Specifies the report name.
Last Run	Specifies when Report Manager started generating the last report.
Duration	Specifies how long it took Report Manager to generate the last report.
Error	Provides a description of the error that occurred while the report was last being generated.

Clicking Details or double-clicking on the selected report displays the status details of the selected report.

About the Command buttons

The Command buttons enable you to enable various functions for each report, such as opening the properties page or viewing its scheduling parameters. The following table describes the functions that can be carried out for each report.

Table 5 Command buttons

Column	Description
View	Displays the content of the selected report. See Viewing a report.
Properties	Opens the Properties dialog box of the selected report. See Setting report properties.
Scheduling	Opens the Scheduling dialog box, which enables you to select the schedule for running he selected report. See Setting the schedule of a report generation.
Save As	Opens the Save As dialog box, which enables to create a copy the selected report. See Creating a copy of a selected report.
Delete	Deletes a selected report that is not original of Report Manager. For example, a new customized report or a Saved As report.
New	Creates a new customized report (this option is only available for the Customized reports set or the Cross-Tiers tab). See Creating customized reports.
Edit	This button enables to edit an existing customized report (available only for customized reports). See Editing an existing customized report.

Tasks common to most tabs

The following tasks are commonly performed in most tabs:

- Exporting to the Precise Custom Portal
- Adding, viewing, and deleting Favorites
- Printing and saving
- Sending an email message

Exporting to the Precise Custom Portal

The Export to the Precise Custom Portal Portlet feature enables you to export the view of the chosen table or graph and generate a portlet with that view in the Precise Custom Portal, so that it will provide you with another way of monitoring your application.

Prerequisites

To be able to use this feature, you need to have the following rights in Precise:

- View permissions to all Tiers in the application

If you do not have sufficient rights, you will get an error message when trying to execute this feature.

Exporting the information

You can either export a table view or a graph view.

> (i) The name field has the following restrictions: maximum 100 characters.

To export a table view

1. Click the Column Chooser icon.
2. Select **Export to the Precise Custom Portal Portlet**.
3. Insert a name in the name field that clearly describes the table view.
4. Click **OK**.

To export a graph view

1. Right-click the graph.
2. Select **Export to the Precise Custom Portal Portlet**.
3. Insert a name in the name field that clearly describes the graph view.
4. Click **OK**.

Adding, viewing, and deleting Favorites

The Favorites feature enables you to save a specific location in Precise and to retrieve the same location later without having to navigate to it.

About the Favorites feature

The new Favorites feature includes the following option:

- **Relative Time Frame**. Saving relative time frame instead of static date. For example, saving the last seven days will always display the last seven days, depending on the day entered.
- **One click to specific location**. Once you open Precise by launching a saved Favorite item, you will not have to enter a login credential nor click the login button.
- **IE Favorites support**. Adding a new Favorite item in Precise will also add it to the IE Favorites menu.
- **Auto Complete**. The Favorites dialog includes a new combo box which supports Auto Complete.
- **Auto Naming**. The Favorites dialog generates item names based on the current location.

UI description

A Favorites menu has been added to the Precise bar in each product including StartPoint. An Add/Delete Favorites option under the Favorites menu allows you to save the current location or delete an existing one.

To add a new Favorite location

1. On the Add/Delete Favorites dialog box, enter the name of the new Favorites entry.
2. Click **Add**. The dialog box is closed and the new Favorite is added to the list.

To view a Favorites location

1. On the Precise bar, click **Favorites**.
2. Select the Favorites location you want to view.

To delete an existing Favorite location

1. On the Add/Delete Favorites dialog box, select the Favorite location to be deleted.
2. Click **Delete**. The dialog box closes and the selected Favorite is deleted from the list.

> (i) The favorite address is displayed in the Address field and cannot be edited.

Printing and saving

The new Print feature enables user-friendly printing and/or saving of most of the screens displayed in Precise products. Emphasis has been made on Activity, Dashboard, and Database layouts since they cover the majority of the screens the user may want to print or save.

About the Print feature

The new Print feature includes the following options:

- Capability to export a page from Precise to an .htm format (Save option). The saved file will include all the information contained the original file but all mouse options will be grayed-out except for the Print option.
- Capability to save the print page to the local disk.
- User-friendly and resizable print functionality.

> ⓘ The Save option is only possible within the same network of the installation. When used outside the network it may include broken links to images (instead of the image a frame with an X may be displayed).

Recommended print settings

For best fit and presentation we highly recommend you make the following changes to your print settings:

- Configure print options to landscape page layout.
- With the Internet Explorer open, go to Tools > Internet Options > Advanced tab, and in the Printing section verify that the Print background colors and images check box is marked.

To print wide tables with many columns, resize table columns to fit the landscape layout. Columns that overflow the landscape width will not be printed.

Additional information

- Note that when saving a file with a graph, the graph image is saved as a separate .bmp file in the same folder. If you want to move the print file to a different folder you must also move the bmp file to that folder.
- New files are saved with a default name and path. To prevent inadvertently deleting a previously saved file, enter a different name and/or path for new files.

To print, save, or preview a currently displayed screen

1. Click **Print** on the Precise bar.
2. In the Print Option dialog, select the area(s) of the screen you want to print or save.
3. Click **OK**.
4. On the resizable preview screen, the dashed line on the right indicates the right margin. Change table column widths to ensure the information you want to print or save is within this margin.
5. Click the **Print** or **Save** icon at the top right-hand side of the screen, follow the displayed dialog box instructions and click **Print** or **OK**.

Sending an email message

You can send an email message to one or more recipients from the Precise toolbar. The default subject for the message will be "Link to a Precise application."

The email will include a link to the Precise product in the current context (time frame and selected entries). To send an email message

1. Click the email icon on the Precise toolbar. The default email program opens.
2. Fill in the required fields and click **Send**.

About role management in Report Manager

Use the role MONITOR.VIEW to view reports and MONITOR.FULL to manage reports.

Launching Report Manager

You can launch Report Manager user interface from the Precise StartPoint. The StartPoint is the opening screen, which provides a quick status overview of your application and start points for launching other Precise products.

You can also launch Report Manager for a specific Tier to display data in context with the specified Tier.

Report Manager displays information about the application selected on the StartPoint screen. If you use the Precise product suite to manage the performance of more than one application, verify that you select the required application within StartPoint before starting Report Manager.

> (i) You must have local administrator privileges on the server where the StartPoint is running.

To launch Report Manager from StartPoint, click the Application TPM drop-down menu at the top of StartPoint and select Report Manager. The Report Manager screen opens displaying the Cross-Tiers tab.

To launch Report Manager for a specific Tier (in context), from the StartPoint screen, right-click a specific Tier and from the pop-up menu select Report Manager. The Report Manager screen opens displaying the specified Tier tab.

About Report Manager

The section includes the following topics:

- Viewing a report
- Running a report
- Setting report properties
- Setting the schedule of a report generation
- Creating a copy of a selected report
- Creating customized reports
- Report Manager settings

Viewing a report

Report Manager displays generated reports in PDF format for pre-defined reports or in Microsoft Excel format for customized reports. You can view reports only in the Data view. The following procedure describes how to view reports that have already been generated at pre-scheduled times. See Creating customized reports and Running a report.

To view a report

1. From the Tier Selection bar, select the Tier for which you want to view a report.
2. From the Report Set Selector, select the Report Set that contains the required report. The Reports Table displays the reports of the selected report set.
3. From the Reports Table, select the report you want to view and click View (or double-click the report). If the report is not yet generated or does not contain data (the Pages column indicates 0), Report Manager displays a message that allows you to rerun the report.

If the report is already generated and contains data (the Pages column indicates a number greater than 0) the report content is opened.

Running a report

Report Manager generates a report according to the settings of its properties. You can rerun a selected report with different property settings for that particular run. For example, you can rerun the report to include only specific counters and a specific Time Frame. See Setting report properties and Introducing Report Manager reports.

To run a report

1. From a report view, click **Rerun**. The Properties for This Run dialog box is displayed. This dialog box contains similar tabs to the tabs of the report Properties dialog box (Description, General, Time Frame, and Filters).
2. In the Properties for This Run dialog box, set the properties according to your preferences.
   These settings affect only the current run of the report and do not affect the default properties of the report.
3. Click **OK**. Report Manager generates the report and then displays it.

Setting report properties

Report Manager keeps the properties for each report in the Performance Management Database. You can view and modify these parameters in the Properties dialog box.

The Properties dialog box includes the following tabs:

- **Description**. This tab contains the report description (read only).
- **General**. This tab includes parameters - specific to the selected report - that are neither time frame parameters nor filters. For example, you can specify the counters to include in the report and the number of entities to display.

- **Time Frame**. This tab contains parameters that define the time periods assigned to the various elements of the report.
- **Filters**. This tab includes parameters - specific to the selected report - that enables you to filter the data to include in the report, such as the instance filter and entity filter. A filter can include a list of wildcards, separated by commas, where a wildcard is a string, which may contain asterisks. The format used to filter Report Manager reports by instance is: `InstanceName(ServerName)`. For example: ORA92 (hp2).
- **Email**. This tab includes a list of addresses for emailing the selected report. Check the Email box to send copies of the selected report to the listed addresses.
  Type each address separately into the Address box and click **Add** to add the address to the Address list. The structure of the address is as follows: employee name@company address.
  Click **Remove** to remove an address from the Address list.

To set report properties

1. From the Reports Table, select a report and click **Properties**. The Properties dialog box is displayed.
2. Set the properties in the General, Time Frame, Filters, and Email tabs, according to your preferences.
3. Click **OK**.

The new settings are used the next time the report is generated.

Setting the schedule of a report generation

Report Manager runs reports, by default, on a daily basis at 6:00 AM, following the Performance Management Database daily summary process. You can modify the default schedule of a selected report through the Scheduling dialog box.

The Scheduling dialog box includes the following options:

- **Once**. Run only once in the selected date and time.
- **Hourly**. Run every hour at the specified minute, starting at the specified date.
- **Daily**. Run once a day at the specified time, starting at the specified date.
- **Weekly**. Run once a week at the specified day of the week and time, starting at the specified date.
- **Monthly**. Run once a month at the specified day of the month and time, starting at the specified date.
- **Never**. Never run the report.

To set the schedule of a report generation

1. From the Reports Table, select the report and click **Scheduling**.
2. Set the schedule for the selected report and click **OK**.

Creating a copy of a selected report

Each report is assigned with a set of properties and schedule. If you want to have more than one report of the same set (Profile, Exception, and so on) and the same entity, but with different properties and schedule, you can create a copy of the report, and then modify the properties and schedule of the report copy. See Setting report properties and Setting the schedule of a report generation.

To create a copy of a selected report

1. From the Reports Table, select the report and click **Save As**.
2. In the Report Name field, type a new name for the report copy.
3. From the Tier list, select the Tier for which you want to assign the report copy.
   You can assign the report copy either to the Tier of the original report or to the Cross-Tiers.
4. From the Set list, select the report set for which you want to include the report copy.
   If you have selected the Tier of the original report in the previous step, you can include the report copy either to the original report set or to the Customized set.
5. Click **OK**.

Creating customized reports

Report Manager enables advanced users who are familiar with the data logic of the Tier to create customized reports, which include data that is not provided in the pre-defined reports.

You can create a customized report only when the Customized set is selected, or when the Cross-Tiers tab is selected.

To create customized reports

1. On the Command buttons, click **New**.
2. Define a query.
3. Run and design a customized report.

After creating a customized report, you can modify and redesign it. See Editing an existing customized report.

Defining a query statement

Each report can execute multiple queries that determine the customized report data. A query definition - whose result is an SQL SELECT statement - includes the following elements:

- **Summary level**. Specifies the granularity level of the data: time slice, hourly, daily, weekly, and monthly.
- **Report fields**. Specifies the fields selected from the Data Tree to be included in the report.
- **Filter**. Specifies the filtering conditions that determine the data in the report.

You can add, rename, or remove queries using the buttons located to the right of the Query Selection box, in the customized report data selection page.

Table 1 Query selection icons

Icon	Description
	Click to add a new query.
	Click to rename an existing query.
	Click to remove an existing query.

To define a query statement:

1. Set the summary level of your query. From the Summary Level box, select the view level for your report. The Performance Management Database stores data in different levels of granularity: Time slice, Hourly, Daily, Weekly, and Monthly. This enables you to present a detailed view and progressively higher-level view of the same data in your customized report.
2. Select the fields you want to view in your report. The Data Tree on the left pane represents the fields of the monitored Tiers stored in the Performance Management Database. Each data field is mapped to an expression in the database, for example, Timestamp is mapped to a time of an event, and Program is mapped to a program name. From the Data Tree, select the required field and click the arrow near the Report Fields area. The field is added to the Report Fields area. Repeat this step as for every field you want to view.
3. If you want to remove a field from the report, select the field and then click **Remove**.
4. Click the up and down arrows to modify the order in which the fields will be displayed in the resulting SQL SELECT statement, and in the resulting Microsoft Excel spreadsheet.
5. Use the Sort option to determine whether the rows will be displayed in ascending (A) or descending (D) order in the resulting Microsoft Excel spreadsheet. To sort, first select the box for the selected field. A check

mark appears to show that this field was selected for sorting. Next click to set the order of the sort: ascending (A) or descending (D).

Setting filtering conditions

You can set filtering conditions to filter the data displayed in your customized report, through the Filter Table

The following figure shows how to set the filter conditions in your customized report.

Figure 1 Customized report data selection page - filtering conditions example
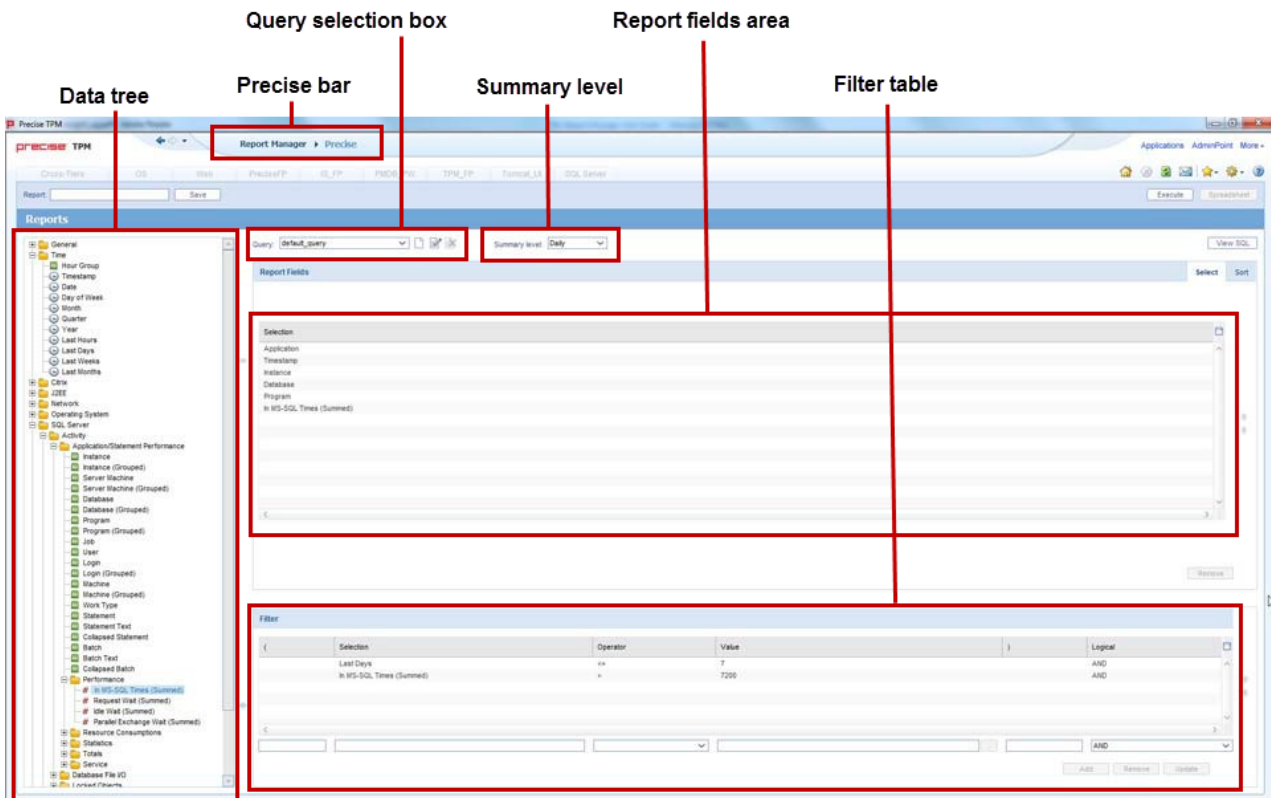
To set filtering conditions

1. From the Data Tree, select the field for which you want to create the condition, and then click (arrow) of the Filter Table. The selected field appears in the Field Selection box.
2. From the Operator box, select the required operator, such as **Like**, **=**, **<**, and **In**.
3. In the Value box, do one of the following:
   a. Type a value by which the data of the field is filtered.
   b. Click the List icon and choose a data field from the List of Values dialog box.
4. To remove a condition from the Selected Instances table, select it and then click **Remove**.
5. To update a condition, select it from the Selected Instances Table, modify the condition parameters, and then click **Update**.
6. To modify the order of the conditions, select the required condition from the Selected Instances Table and click **UpArrow** or **DownArrow** (located to the right of the Selected Instances Table).

Viewing and editing the SQL SELECT statement of a query

Report Manager creates an SQL SELECT statement for each query that you define. Actually, this statement is used to retrieve the required data from the Performance Management Database.

You can display the SQL SELECT statement of the query and modify it directly. This feature allows users who have experience with SQL to create complex queries.

After editing the SQL SELECT statement directly, no additional changes are allowed on the query through the Customized Report Data Selection page. For example, you cannot add new fields or remove existing ones from the query, because an SQL statement that is modified directly may include elements that collide with the Report Manager database mapping and SQL generation mechanism.

If you want to return to the original SQL statement to be able to update the query through the Customized Report Data Selection page, click **Revert** in the View SQL dialog box.

To view and edit the SQL SELECT statement of a query

1. After completing the query definition in the Customized Report Data Selection page, click **View SQL** (located at the top right). The View SQL dialog box is displayed.
2. To edit the SQL SELECT statement, click **Edit** and then modify the statement in the query text area.
3. Click **OK**.

Running and designing a customized report

Report Manager generates the customized report using the query that you define in the Customized Report Data Selection page, and then displays the report in a Microsoft Excel file. The Microsoft Excel file consists of the following worksheets:

- One worksheet for each query that you have defined. These worksheets are protected so that no manual changes are allowed (Report Manager overrides these worksheets for each execution). The name of each worksheet is composed of the query name appended to the prefix FS-.
- A worksheet named report-design, in which you can design the customized report. That is, creating charts, tables or any additional elements that describe the data included in the protected worksheets. In addition, you can create new worksheets with additional elements. Report Manager does not override these worksheets in each execution.

> ⓘ Verify that you do not name the new worksheet with the FS- prefix, because then it will disappear the next time that the report is run or edited.

To run and design a customized report

1. From the Customized Report Data Selection page, click **Execute**. Report Manager generates and then displays the report in a Microsoft Excel file. There are two worksheets in the Microsoft Excel file: the report design worksheet (labeled "report_design") and the protected worksheet (labeled by query name).
2. In the Microsoft Excel file, select the report-design worksheet and design the customized report. When you complete the design, save the Microsoft Excel file.
3. In Report Manager, in the Customized Report Data Selection page, type a name for your customized report in the Report name box, and then click **Save** (located at the top left).

Editing an existing customized report

Report Manager enables you to modify the queries of existing customized reports and to redesign the report-design worksheet of the Microsoft Excel file.

To edit an existing customized report

1. From the Reports Table, select the customized report and then click **Edit**. The Customized Report Data Selection page opens including all the queries defined for the report.
2. To redesign the customized report, click **Spreadsheet** (located at the top right). Report Manager opens the Microsoft Excel file of the last executed customized report.
3. To modify the selected data, change the existing queries or add new ones as required, and then click **Execute**.
   Report Manager executes the queries and then displays the report in a Microsoft Excel file.
4. In the Microsoft Excel file, select the report-design worksheet and redesign the customized report. When you complete the design, save the Microsoft Excel file.
5. In Report Manager, in the Customized Report Data Selection page, click **Save**. Report Manager overrides the existing report.

Report Manager settings

Report Manager enables you to configure various settings through the Settings menu, located at the Precise bar.

Setting the General settings

The General Settings dialog enables you to set the following items:

- The subfolder in which Report Manager saves the PDF and Microsoft Excel files of executed reports. By default, the subfolder is not defined (Report Manager saves the PDF files in its server file system).
- An option that determines whether Report Manager generates links in the executed reports or not. These links enable users who read the reports to drill down from the reports to the exact location in the Precise or Insight products (depends on the selected entity location) for further investigation. By default, this option is enabled.

To set the General settings

1. From the Precise bar, click **Settings** and from the menu select **General Settings**. The General Settings dialog box is displayed. Check the desired settings.
2. To store PDF files in a specified subfolder in the Report Manager server, click the option box and type the path in the box, or open the Browse for Folder dialog box and then select the required subfolder.
3. In the Generate Launching Links option box, select **enable** (to enable) or **clear** (to disable) the links.

Setting the Display settings

The Display Settings dialog box enables you to set the reports that will be listed in the Reports Table when you launch Report Manager. Any settings you make in this dialog box affect only your display and do not affect the reports list when other users launch Report Manager. However, a user with administrator privileges can set the reports list also for other users.

To set the Display settings

1. From the Precise bar, click **Settings** and from the menu select **Display Settings**. The Display Settings dialog box is displayed. By default, all the pre-defined reports are selected.
2. From the Tier box, select the Tier for which you want to modify the reports list.
3. From the Listed to the User table, select the report that you do not want to display and then click **Left Arrow**.
   Repeat this step for all Tiers as required.

Setting the Multi settings

When you launch Report Manager, the Multi Settings dialog box enables you to set parameters and scheduling times for multiple Report Manager reports. You can select one of the Tiers installed in your application, Cross-Tiers, or ALL (Tiers).

There are various sets of Report Manager reports. With the Multi Settings dialog box you can select one or all sets of Report Manager reports. The sets of Report Manager reports you can select are as follows:

- All (sets)
- Profile
- Exceptions
- Availability
- Load Balancing
- Capacity Planning
- Customized

To set the Multi settings

1. From the Precise bar, click **Settings** and from the menu select **Multi Settings**. The Multi Settings dialog box is displayed.
2. From the Tier box, select the Tier (or all Tiers) you want listed in the Multi Settings reports table.
3. From the Set box, select the report set (or all sets) you want listed in the Multi Settings reports table.
4. To change report parameters and/or scheduling, Press **Ctrl+Shift** to select a range of reports.
5. Click **Properties** to set report properties. See Setting report properties.
6. Click **Schedule** to set the time schedule for the reports. See Setting the schedule of a report generation.
7. Click **Close** to close the Multi Settings dialog box.

Setting the Mail settings

The Mail Settings dialog box enables you to email Report Manager reports. The Mail Settings dialog box enables you to define the following:

- Enable/Disable the integration of Report Manager with an Email server.
- The name of the mail server.
- The name of the person the Report Manager messages are sent by.

To set the Mail settings

1. From the Precise bar, click **Settings** and from the menu select **Mail Settings**. The Mail Settings dialog box is displayed.
2. Select Integrate Report Manager with an Email server to enable the mail utility.
3. Insert the Email server name and originator of the mail messages.

About the Report Manager reports

The section includes the following topics:

Introducing Report Manager reports

Report Manager provides pre-defined reports divided into the following report sets:

- **Profile reports set**. These reports provide information about the top n consumers of your application and thus enables you to pinpoint tuning opportunities.

  > (i) A new subset of the Profile reports set is the Geographical reports.

  These profile reports provide information about the top n consumers of your application, based on where they are located geographically; whether a state or city in the U.S.A., or a country shown on a two-dimensional world map. These graphic reports enable you to pinpoint tuning opportunities by geographic region.

- **Exception reports set**. These reports provide information about any substantial consumption deviating from normal behavior. This information assists you with maintaining your application well tuned.
- **Availability reports set**. These reports provide information about failures and downtime of the servers.
- **Load balancing reports set**. These reports provide information about servers that are loaded more or less than others, so that you can maintain the load balance of your application.
- **Capacity planning reports set**. These reports provide a forecast about future consumption of the current servers. This information is essential for planning your application evolution. For example, you can plan to acquire new hardware or to restrain the consumption.

All the reports are arranged according to the hierarchy of the Tier as shown in the following general example:

- Tier (level 1)
  - Instance (level 2)
    - Entity (level 3)
    - Entity (level 3)

  - Instance (level 2)
    - Entity (level 3)
    - Entity (level 3)

Reports of a Tier-level, for example, provide a performance comparison between the various Tiers of your application. These reports can contain data of several Tiers, for example, Cross-Tiers Availability reports.

Reports of an Instance-level provide information about the complete instance that is the whole system, such as a Web Server, an Oracle Instance, or a Java Virtual Machine.

The structure of each report, in general, contains the following sections:

- **Opening Page**. The opening page is similar for all reports. It contains the following information:
  - Report name
  - Report description

- Summary about the report content
- Report execution date-and-time
- Report properties of the last execution

- **Summary**. The Summary pages include comparison graphs (where applicable) or a Summary Heat Matrix (overview information), from which you can determine which instance you should start to investigate. Also available are comparison graphs displayed on a map of a geographic region, such as the United States, or on a world map.
- **Heat Matrix**. The Heat Matrix is a table that summarizes the report information using a color code to indicate problematic entities or instances. The Heat Matrix differs for each type of report. The Heat Matrix Table is not displayed in reports where this information is not relevant (such as Availability and Exception reports).
- **Detailed Information**. The detailed information, which relates to each reported entity, includes tables that list the events and Behavior Overtime graphs.

Report Manager generates all the reports and displays them in PDF format, which enables you to navigate within the report using bookmarks (Navigation pane) on the left and links.

There are two types of links: internal links and launching links. For example, the Heat Matrix contains internal links, which you can click to display its detailed information in the report. The launching links enable you to launch the relevant Precise or Insight product - for further investigation - in context with the information displayed in the report page (same entity, Time Frame, etc.).

> ⓘ You can save a copy of a report in your file system and display them later using Adobe Acrobat Reader.

Launching links are available only for reports where this option is enabled. To launch a Precise or Insight product, click the link on the upper right-hand corner of the window. See Setting the General settings.

About the Profile report set

The Profile reports provide information about the top *n* consumers of the application. The consumers can be either Entities such as programs and users, or Instances such as JVMs, SAP Systems, and Oracle Instances.

Using the Profile reports, you can focus on the hot spots, where performance improvement probably can be most effective for the overall behavior of your application.

For each Profile report, Report Manager calculates the top *n* consumers based on counters, such as In MS-SQL Times and Sessions. You can select the counters by which Report Manager calculates the top *n* consumers through the Standard profile report - general tab of the report properties dialog box. Each type of report may include a different list of counters.

For each Tier, Report Manager provides the following report types:

- A Profile report at the Instance-level.
- Profile reports at the Entity-level for the entities in the Tier.

The Instance-level report provides a comparison between the top *n* instances and displays over time information for each one of the top *n* instances.

The Entity-level report provides a comparison between the top n entities of each instance in the Tier-level. (This comparison applies in case you chose the Same entity option for the Consider Identically Named Entities in Different Instances property in the Standard profile report - general tab.)

The Profile report set includes reports that have similar structure and properties (standard reports). In addition, the Profile reports set includes reports that have different structures and properties.

About the standard profile report structure

The standard Profile report structure consists of the following sections:

- About the Profile report - opening page
- About the Profile report - summary heat matrix
- About the Profile report - entity heat matrix
- About the Profile report - entity mapping table
- About the Profile report - comparison graphs
- About the Profile report - overtime graphs

The following information is displayed:

- **For each instance**. Entity Heat Matrix and Entity Mapping Table
- **For each counter**. Comparison graphs
- **For each entity**. Overtime graphs

About the Profile report - opening page

The opening page of the Profile report is similar to all the pre-defined reports except that the summary section provides information related to the specific report as follows:

- Number of new entities among the top *n* consumers. A new entity means that the Performance Management Database did not yet calculate a baseline for the entity.
- Number of entities that normally are not among the top *n* consumers, and also are not new.

About the Profile report - summary heat matrix

The Summary Heat Matrix indicates, in a tabular format, the top instances with the most consuming entities for each of the reported counters. Each row of the table specifies an instance, and each column specifies a counter. The cell color-code and the left number, in each column, indicates the rank (order in the top *n*) of the instance for the specific counter. The right number specifies the normal rank, based on its baseline (for instances with no baseline, a dash sign is displayed instead of the right number).

From this page, you can determine which instance you should start to investigate. Normally, you would choose the instance with the highest value for a selected counter. However, the value of the selected counter for the entire instance does not always point to the significance of the top *n* consumers. Therefore, the instances are ranked by the combined counter value of the top *n* consumers, and not by the counter value of the entire instance. For example, in an application that runs two instances, HR and CRM, the top-10 users of the HR instance consume 800 hours out of 1,000 hours of the entire HR instance. The top-10 users of the CRM instance consume 500 hours out of 2,000 hours of the entire CRM instance. Even though the CRM instance consumes more than the HR instance, the CRM instance will be ranked the second, while the HR instance will be the first.

The Summary Heat Matrix applies only if the report meets all the following conditions:

- The report is an Entity-level Profile report.
- The report contains more than one instance.
- You chose the Different entity option for the Consider Identically Named Entities in Different Instances property. See Setting Profile report properties - general tab.

About the Profile report - entity heat matrix

The Entity Heat Matrix page indicates, in a tabular format, the main consumers of each reported counter. For Instance-level reports, a single Heat Matrix is displayed. For Entity-level reports, an Entity Heat Matrix is displayed for each instance.

Each row of the table specifies an entity, and each column specifies a counter. The cell color-code and the left number, in each column, indicates the rank (order in the top *n*) of the entity for the specific counter. The right number specifies the normal rank, based on its baseline (for entities with no baseline, a dash sign is displayed instead of the right number).

From this page, you should choose the entity with the highest rank. Each entity name links to the Entity Overtime Behavior graphs.

About the Profile report - entity mapping table

The Entity Mapping Table is displayed in reports whose entity names are too long to display in the detailed information pages. Report Manager generates the Entity Mapping Table only for the Statements reports, such as Oracle or SQL Server Profile Report - Statements and SQL Server Profile Report - Ad-hoc Batches.

In these reports, the detailed information pages display the statement IDs instead of the Statement Text (also a link to the Entity Mapping Table). See About the Profile report - overtime graphs.

> ⓘ You can specify the maximum number of characters in the Statement Text.

About the Profile report - comparison graphs

Report Manager generates a set of Comparison graphs for each of the reported counters. These graphs compare the top n entities of the counter. Instance-level reports have a single set of Comparison graphs for each counter, and Entity-level reports have a set of Comparison graphs for each instance.

Each graph includes a color coded legend. In addition, the legend below the graphs is common to all graphs in the page. This legend maps the number specified in the x-axis of the graph to the entity name (this number is the entity rank). You can click the entity name to display the Entity Overtime Behavior graphs.

> ⓘ Although an entity may be displayed in the Heat Matrix, it is omitted in the comparison charts of counters that are not part of their top *n* consumers.

About the Profile report - overtime graphs

Report Manager generates Behavior Overtime graphs for each of the reported entities. Unlike the comparison graphs, all reported entities have the same graph set, regardless of the entities consumption.

The Behavior Overtime graphs contain a launching link to the related Precise or Insight product. You can click the launching link for further investigation in context of the displayed entity. In addition, if the entity name is too long, such as in the Statements report, a link to the Statement Text (Mapping Table) is available.

About standard profile report properties

The Properties dialog box for standard Profile reports contains properties that are specific to the selected report. In general, the properties are similar for all the standard Profile reports. However, you may find some differences according to the relevancy of the property to the report.

The Properties dialog box contains three tabs in which you can set the properties:

- Setting Profile report properties - general tab
- Setting Profile report properties - time frame tab
- Setting Profile report properties - filters tab

In addition to these three tabs, the Description tab displays a textual description of the report structure and contents.

Setting Profile report properties - general tab

The General tab contains the following properties:

- **Calculate top *n* entities according to the following counters**. This property includes an option box for each counter of the entity (note that the entity is a variable, such as statement, program, and so on). Select the counters, by which Report Manager calculates the top *n* consumers.
- **Consider identically-named entities in different instances to be**. This property is available only for entity-level reports.
  Select the **Same entities** option when the same entities run on different instances, such as in Clustering Systems.
  Select the **Different entities** option to distinguish between the entities of the different instances.
- **Consider identically-named entities in different databases to be**. This property is available only in reports that relate to the SQL Server Tier. It is similar to the previous one, except that it relates to SQL databases instead of instances.
- **Report top n entities**. This property determines the number of top consumers to include in the report.
- **Display statement text up to n characters**. This property is available for SQL Statement, Ad-hoc Batches, and Stored Procedures Entity reports. It specifies the maximum number of characters of the Statement Text in the Entity Mapping Table. The default value is 1000 characters. Note that "statement" is a variable.

To set Profile report properties - general tab

1. Select the counters for the entity.
2. If available, you can select an option for each of the drop-down menus.
3. Type the number of top consumers to be included in the report.
4. If available, type the maximum number of characters for the Statement Text in the Entity Mapping table.
5. Click **OK** to approve.

Setting Profile report properties - time frame tab

The Time Frame tab contains the following properties:

- **Detailed overtime graphs will show**. Specifies the period for the Overtime graphs.
- **Calculate top consumers**. Specifies the period by which Report Manager calculates the top entities. This property affects also the summary data in the comparison graphs. Set this period to the same or as part of the period specified in the Detailed Overtime graphs property.
- **Analyze the following hour groups only**. Specifies the hour groups (for example, All, Night, Day, and Weekend) to include in the report.

To set Profile report properties - time frame tab

1. Select the time period for the Overtime graphs.
2. Select the time period by which Report Manager will calculate the top entities.
3. Select the hour group to include in the report.
4. Click **OK** to approve.

Setting Profile report properties - filters tab

The Filters tab contains the following properties:

- **Analyze only the following instances**. Format: wildcard1, wildcard2, … where a wildcard is a string that may contain asterisks.
- **Analyze only the following databases**. This property is available only for SQL server reports. Its format is the same as in the first property.

- **Analyze only the following entities**. The format is the same as in the first property.
- **Ignore entities with total time less than *n* hours**. This property is available only for Oracle and SQL Server reports. It filters entities that are considered not important for reporting.

To set Profile report properties - filters tab

1. In the appropriate fields, type the name of the instances, databases, statements, and etc. to be analyzed. (For instances you can click the browse button and select an instance from the list.)
2. If available, type the number of hours for filtering entities.
3. Click **OK** to approve.

About the Application Profile report

The Application Profile report is a Cross-Tiers report that provides information related to all the installed Tiers in the application. The Tiers are compared in terms of total time, average execution time, and the number of executions.

About the Application Profile report structure

The Application Profile report structure consists of the following sections:

- About the Opening page
- About Tier comparison graphs
- About Cross-Tiers behavior overtime graphs
- About Tier-specific behavior overtime graphs

About the Opening page

The summary section provides the number of installed Tiers in the application.

About Tier comparison graphs

The Tier Comparison graphs display summarized values and baselines of the Total Time, Average Time, and Executions for all the Tiers installed in the application.

About Cross-Tiers behavior overtime graphs

Report Manager generates a Cross-Tiers Behavior Overtime graph for each counter. The counters include the Total Time, Average Time, and Number of Executions. These graphs provide a behavior comparison over time between all installed Tiers.

About Tier-specific behavior overtime graphs

Report Manager generates a Behavior Overtime graph for each installed Tier and each counter within the Tier. The counters include the Total Time, Average Time, and Number of Executions. Each graph also contains the counter baseline.

Setting Application Profile report properties - time frame tab

The Properties dialog box of the Application Profile report contains one tab in which you can set the time frame properties, as follows:

- **Detailed Overtime graph will show**. This property determines the report period in the Overtime graphs.
- **Analyze the following hour groups only**. This property determines the hour groups (for example, All, Night, Day, and Weekend) to include in the report.

In addition, there is a Description tab which displays a textual description of the report structure and contents.

To set Application Profile report properties - time frame tab

1. Select the report period for the Overtime graphs.
2. Select the hour groups.
3. Click **OK** to approve.

About the Response time report

Report Manager only generates the Response Time report for SAP Tier (client-side technologies). This report provides information about the response times of your system.

For the SAP Tier, the graph displays for each response time the percentage of SAP transactions accordingly that have a lower response time than a maximum value specified in the report properties - Response time report (general tab).

About the Response time report structure

The Response Time report structure consists of the following sections:

- About the Response time report - opening page
- About the Response time distribution graph

About the Response time report - opening page

The summary section provides the number of instances included in the report.

About the Response time distribution graph

Report Manager generates a Response Time Distribution graph for each instance running in the Tier. The graph displays a bar for each response time step. Each bar indicates the cumulative percentage and the actual number of executions (SAP transactions in the SAP Tier) that their response time is less or equal to the response time step.

Executions of which the response time is greater than the specified maximal value, are not included in the graph, and therefore the percentage of the total executions may not add up to 100 percent.

About Response time report properties

The Properties dialog box contains three tabs in which you can set the Response Time report properties:

- Setting Response time report properties – general tab
- Setting Response time report properties – time frame
- Setting Response time report properties – filters tab

In addition to these three tabs, there is a Description tab which displays a textual description of the report structure and contents.

Setting Response time report properties - general tab

The General tab contains the following properties:

- **Start the graph with a minimal response time of**. Specifies the starting response time of the x-axis for which the cumulative response time bar will be calculated.
- **End the graph with a maximal response time of**. Specifies the ending response time of the x-axis for which the cumulative response time bar will be calculated.

- **Display response time in steps of**. Specifies the response time distribution of the x-axis.

To set Response time report properties - general tab

1. In the appropriate fields, type the number of seconds to start and end the response time.
2. Type the number of seconds for response time distribution.
3. Click **OK** to approve.

Setting Response time report properties - time frame tab

The Time Frame tab contains the following properties:

- **Detailed Overtime graph will show**. Specifies the report period for the Overtime graphs.
- **Analyze the following hour groups only**. Specifies the hour groups (for example, All, Night, Day, and Weekend) to include in the report.

To set Response time report properties - time frame tab

1. Select the time period for the Overtime graphs.
2. Select the hour group to include in the report.
3. Click **OK** to approve.

Setting Response time report properties - filters tab

The Filters tab contains the following property:

- **Analyze only the following instances**. Format: wildcard1, wildcard2, … where a wildcard is a string that may contain asterisks.

To set Response time report properties - filters tab

1. Type the name of the instances to be analyzed.
2. Click **OK** to approve.

About the Schema Changes report

Report Manager only generates the Schema Changes report for Oracle and SQL Server Tiers (database technologies). This report displays a chronological log of all changes in the database schema and definition in a tabular format. You can use this report to identify the relations between changes in the database schema and definition to trends in database performance.

To generate this report, Report Manager compares the status of the database at two points in time. Therefore, changes made after the first point in time of which the effect does not remain till the second point in time, will not be shown in the report. For example, a table that was created after the first point in time but was dropped before the second point in time will not appear in the report.

About the Schema Changes report structure

The Schema Changes report structure consists of the following sections:

- About the Schema Changes report - opening page
- About Database Definition changes
- About Schema changes

> ⓘ For the SQL Server Tier, the report only displays the schema changes. The database definition changes are displayed in a separate report named Database Definition Changes.

About the Schema Changes report - opening page

The summary section provides the total number of changes detected in the report period.

About Database Definition changes

For the Oracle Tier, the Database Definition Changes Table is part of the Schema Changes report, and the report displays a table for each instance.

For the SQL Server Tier, the Database Definition Changes Table is displayed in a separate report named Database Definition Changes, and the report displays a table for each instance and database.

About Schema changes

For the Oracle Tier, the report displays a table for each instance. For the SQL Server Tier, the report displays a table for each instance and database.

About Schema Changes report properties

The Properties dialog box contains two tabs in which you can set the Schema Changes report properties:

- Setting Schema Changes report properties - time frame tab
- Setting Schema Changes report properties - filters tab

In addition to these tabs, there is a Description tab which displays a textual description of the report structure and contents.

Setting Schema Changes report properties - time frame tab

The Time Frame tab contains the following property:

- **Analyze information**. Specifies the report period.

To set Schema Changes report properties - time frame tab

1. Select the time period for the schema changes report.
2. Click **OK** to approve.

Setting Schema Changes report properties - filters tab

The Filters tab contains the following properties:

- **Analyze only the following instances**. Format: wildcard1, wildcard2, … where a wildcard is a string that may contain asterisks.
- **Analyze only the following databases**. This property is available only for SQL Server reports. Its format is the same as in the first property.
- **Analyze only the following owners**. The format is the same as in the first property.

To set Schema Changes report properties - filters tab

1. In the appropriate fields, type the name of the instances and owners to be analyzed.
2. Click **OK** to approve.

About the Exception Reports set

The Exception reports provide information about any substantial consumption deviating from the normal behavior. This information assists you with maintaining your application well-tuned.

For each Tier, Report Manager provides the following Exception report types:

- Instance-level report type, which provides information about any deviation of the total instance's consumption.
- Entity-level report type, which provides information about any deviation of the entity's consumption. Most of the Exception reports are Entity-level reports.

The counters set may be different for each Tier. In addition, the counters may be different between the various reports in the same Tier. You can set the counters for each report.

For each report, you can set a threshold. When an entity counter consumption deviates from its baseline by more than the threshold, the exception is reported. You can specify up to two thresholds that will escalate the exception severity level.

You can define filters to eliminate negligible exceptions. Two filter types are available, an absolute filter, which defines a minimal total consumption of an entity over the period, and a relative filter, which defines a minimal consumption percentage of an entity from its instance's total consumption.

When Report Manager generates an Exception report, it also sends an alert to Alerts. Likewise, when working in Alerts, you can drill down to the relevant Exception report from the Alerts user interface. For more information, see the Precise Alerts User's Guide.

The Exception reports set includes reports that have similar structure and properties (standard reports) described in the following topics:

- About the Standard Exception report structure
- About Standard Exception report properties

In addition, the Exception reports set includes a report named Unused objects report that has different structure and properties.

About the Standard Exception report structure

The standard Exception report consists of the following sections:

- About the Exception report – opening page
- About the Exception report – summary heat matrix
- About the Exception report – entity heat matrix
- About the Exception report – new entities table
- About the Exception report – entity mapping table
- About the Exception report – summary table and overtime graphs

An instance for a standard Exception report displays the following tables:

- Entity Heat matrix
- New Entities table
- Entity Mapping table

The following information is displayed for each entity:

- Exception Summary Table
- Overtime Behavior Graphs

About the Exception report - opening page

The opening page of the Exception report is similar to all the pre-defined reports except that the summary section provides information related to the specific report as follows:

- Number of entities that met the exception criteria, with their mean deviation and maximal deviation from the baseline.

- Total number of exceptions and their distribution among the various counters.
- Number of new entities within the Tier. A new entity means that the Performance Management Database did not yet calculate a baseline for the entity.

About the Exception report - summary heat matrix

The Summary Heat Matrix indicates, in a tabular format, the top instances with the most severe exceptions for each of the reported counters. It summarizes the number of deviating entities that are detected and their severity level.

In Entity-level reports, each row in the Summary Heat Matrix represents a different instance. Each column represents a different counter. The cell color indicates the average deviation severity of all the reported entities of the instance. The number in the cell indicates the number of entities having exceptions. The instance name is a link to the Related Entity Heat Matrix.

In Instance-level reports, the Summary Heat Matrix displays a single row that indicates the average deviation severity and exceptions number in the entire Tier. (This also applies if you chose the Same entity option for the Consider Identically Named Entities in Different Instances property in the Standard exception report - general tab.)

About the Exception report - entity heat matrix

The Entity Heat Matrix page indicates, in a tabular format, the most problematic entities that have the most significant deviations. Each row in the Entity Heat Matrix represents a different entity. Each column represents a different counter. The cell color indicates the severity of the counter deviation from its normal behavior (baseline). The entity name is a link to the Entity Overtime Behavior graphs.

About the Exception report - new entities table

The New Entities Table lists new entities in the current instance (or Tier in Instance-level reports), which met the report filtering criteria of the minimal consumption amount. Entities are considered new if the Performance Management Database did not calculate a baseline for the entity yet.

For each new entity the table displays its total time value and the percentage that its total time occupies from the entire instance consumption (or Tier consumption in case of Instance-level reports).

About the Exception report - entity mapping table

The Entity Mapping Table is displayed in reports whose entity names are too long to display in the detailed information pages. Report Manager only generates the Entity Mapping Table for Statements reports, such as the Oracle or SQL Server Exception Report - Statements and the Oracle or SQL Server Exception Report - Ad-hoc Batches.

In these reports, the detailed information pages display the statement IDs instead of the Statement Text (also a link to the Entity Mapping Table). See About the Exception report - summary table and overtime graphs.

About the Exception report - summary table and overtime graphs

Report Manager generates an Exception Summary Table and Behavior Overtime graphs for each of the reported entities. Each row in the Exception Summary Table includes a deviated counter, with its most recent exception details, including: the Exception Time, the Actual Counter Value, its Baseline Value, and the Percent of Change.

Following the Exception Summary Table, a set of Overtime graphs is displayed, one for each counter. Each graph displays the Actual Counter Behavior, the Counter Baseline, and the Exception Threshold.

This page contains a launching link to the related Precise or Insight product. You can click the launching link for further investigation in context of the displayed entity. In addition, if the entity name is too long, such as in the Statements report, a link to the Statement Text (Mapping Table) is available.

About Standard Exception report properties

The Properties dialog box for Standard Exception reports contains properties that are specific to the selected report. In general, the properties are similar for all the Standard Exception reports. However, you may find some differences according to the relevancy of the property to the report.

The Properties dialog box contains three tabs in which you can set the properties:

- Setting Exception report properties - general tab
- Setting Exception report properties - time frame tab
- Setting Exception report properties - filters tab

In addition to these three tabs, there is a Description tab which displays a textual description of the report structure and contents.

Setting Exception report properties - general tab

The General tab contains the following properties:

- **Report the following exceptions**. This property includes an option box for each counter of the entity. Select the counters, by which Report Manager detects the exceptions. The counters and their default selections are different for each Tier and each report within the same Tier.
- **Report an exception when baseline is exceeded by more than *n* percent**. This property determines the percentage by which Report Manager reports the first level exception. One color-code represents this exception in the Heat Matrix.
- **Then, escalate exception when baseline is exceeded by more than *n* percent**. This property determines the percentage by which Report Manager reports the second level exception. This property is optional, that is, if you set it, a second color-code represents this exception in the Heat Matrix.
- **Then, escalate exception when baseline is exceeded by more than *n* percent**. This property is enabled only if the previous one is set. It determines the percentage by which Report Manager reports the third level exception. This property is optional, that is, if you set it, a third color-code represents this exception in the Heat Matrix.
- **Consider identically-named entities in different instances to be**. This property is available only for entity-level reports. Select the Same entities option when the same entities run on different instances, such as in Clustering Systems. Select the Different entities option to distinct between the entities of the different instances.
- **Consider identically-named entities in different databases to be**. This property is available only in reports that relate to the SQL Server Tier. It is similar to the previous one, except that it relates to SQL databases instead of instances.
- **Display Statement Text up to *n* characters**. This property is available only for SQL statement entity reports. It specifies the maximum number of characters of the Statement Text in the entity mapping table. The default value is 1000 characters.

To set Exception report properties - general tab

1. Check the desired exceptions.
2. Type the desired percent number by which Report Manager reports the first level exception.
3. Check and type the percent number if you want Report Manager reports for second level and third level exceptions.
4. If available, you can select an option for each of the drop-down menus.
5. If available, type the maximum number of characters for the Statement Text in the Entity Mapping table.
6. Click **OK** to approve.

Setting Exception report properties - time frame tab

The Time Frame tab contains the following properties:

- **Detailed Overtime graphs will show**. Specifies the period for the Overtime graphs.
- **Detect exceptions**. Specifies the period by which Report Manager detects exceptions. Set this period to the same or as part of the period specified in the detailed Overtime Graphs property.
- **Analyze the following hour groups only**. Specifies the hour groups (for example, All, Night, Day, and Weekend) to include in the report.

To set Exception report properties - time frame tab

1. Select the time period for the Overtime graphs.
2. Select the time period by which Report Manager detects exceptions.
3. Select the hour group to include in the report.
4. Click **OK** to approve.

Setting Exception report properties - filters tab

The Filters tab contains the following properties:

- **Analyze only the following instances**. Format: wildcard1, wildcard2, … where a wildcard is a string that may contain asterisks.
- **Analyze only the following databases**. This property is only available for SQL Server reports. Its format is the same as in the first property.
- **Analyze only the following entities**. The format is the same as in the first property.
- **Ignore entities with total time less than *n* hours**. This property filters exceptions that are not considered important for reporting.
- **Ignore entities with total time less than *n* percent of their instance**. This property provides an additional filtering condition (to the previous one). It uses relative values to filter exceptions that are not considered important for reports that the previous filter did not eliminate. For example, using the previous property, one hour per week may be sufficient for some applications but for others may not.

To set Exception report properties - filters tab

1. In the appropriate fields, type the names of the instances, databases, statements, and etc. to be analyzed. (For instances you can click the browse button and select an instance from the list.)
2. If available, type the number of hours for filtering exceptions.
3. If desired, type the percent number for an additional filter to exceptions.
4. Click **OK** to approve.

About the Unused Objects report

This report is applicable for database technologies, such as Oracle and SQL Server. The report lists the objects that were not used during the specified time frame of the report. You can use this report to identify cases such as forgotten tables and redundant indices. These cases are frequent in data warehouse applications, which may contain tables and clusters that are not accessed by statements. By dropping these unused objects, you can free disk space without affecting the database performance.

About the Unused Objects report structure

The unused objects report structure consists of the following sections:

- About the Unused Objects report - opening page
- About the Unused Objects table

About the Unused Objects report - opening page

The summary section provides the number of unused objects in the report.

About the Unused Objects table

Report Manager generates tables of unused objects as follows:

- For the Oracle Tier, one table for each instance and schema owner.
- For the SQL Server Tier, one table for each instance, database, and schema owner.

The table lists all the unused objects detected during the report period, their owner, and their type.

About the Unused Objects report properties

The Properties dialog box contains two tabs in which you can set the Unused Objects report properties:

- Setting Unused Objects report properties - time frame tab
- Setting Unused Objects report properties - filters tab

In addition to these tabs, there is a Description tab which displays a textual description of the report structure and contents.

Setting Unused Objects report properties - time frame tab

The Time Frame tab contains the following property:

- **Analyze information**. Specifies the report period by which Report Manager detects unused objects.

To set Unused Objects report properties - time frame tab

1. Select the time period by which Report Manager detects unused objects.
2. Click **OK** to approve.

Setting Unused Objects report properties - filters tab

The Filters tab contains the following properties:

- **Number of blocks greater than _n_** . This property specifies the minimum number of blocks of objects that Report Manager reports. This eliminates reporting of small objects.
- **Consider only the following object types**. This property determines the type of objects to report so that you can concentrate only on a specific object type: Table, Index, or Cluster.
- **Analyze only the following instances**. Format: wildcard1,wildcard2 ... where a wildcard is a string that may contain asterisks.
- **Analyze only the following databases**. This property is only available for SQL Server reports. Its format is the same as in the previous property.
- **Analyze only the following owners**. The format is the same as in the previous property.

To set Unused Objects report properties - filters tab

1. Type the minimum number of blocks for objects that Report Manager reports.
2. Select the type of objects to report.
3. In the appropriate fields, type the name of the instances, databases, and owners to be analyzed.
4. Click **OK** to approve.

About the Availability reports set

The Availability reports provide information about failure and downtime of Tiers in your application. For most Tiers, Report Manager tracks only the Instance availability. However, for some Tiers, such as SAP and SQL Server, Report Manager also tracks the availability of other entities.

Report Manager provides the following Availability report types:

- Instance-level Availability report type for all Tiers except OS. This report type provides information about the availability of all the instances in the Tier.
- Entity-level Availability report type for entities other than Instance-level, whose availability is being tracked.
- Availability Overview report type for Tiers that include Entity-level reports. The Overview report provides a summary of the Tier availability, by combining the availability information of the Instance-level and Entity-level in one table.
- Cross-Tiers Availability report that summarizes the availability information of all Tiers in one report.

The availability percentage calculation takes into account planned down time, which can be configured through Precise AdminPoint. For more information, see the Precise Administration Guide.

When Report Manager generates an Availability report, it checks if an instance availability falls below its availability threshold, unless there is no information (regarding availability) for the Tier. For example, a newly installed Tier may not have data currently available regarding availability; in this case a bar labeled Unknown appears on the graph. If an instance availability falls below its availability threshold, Report Manager sends an alert to Alerts. Likewise, when working in Alerts, you can drill down to the relevant Availability report from the Alerts user interface. For more information, see the *Alerts User's Guide*.

About the Instance-level Availability report structure

The Instance-level Availability report structure consists of the following sections:

- About the Instance-level Availability report - opening page
- About the Tier Availability table
- About the Instance-level Availability Overtime graphs

About the Instance-level Availability report - opening page

The opening page of the Instance-level Availability report is similar to all the pre-defined reports except that the summary section provides information related to the specific report as follows:

- Number of reported instances, and their average and minimal availability within the report period.

About the Tier Availability table

The Tier Availability Table displays the availability details of each instance of the Tier. These details include the Average and Minimal Availability Percentage, and the Availability Threshold. The Availability Threshold can be configured through Precise AdminPoint. If the Instance Availability is below the threshold, Report Manager indicates its data in red. If there is no data currently available regarding availability, Report Manager indicates no data as Unknown and in blue.

By default, Report Manager generates Overtime graphs only for instances whose availability is below their threshold. Therefore, only for these instances, the names in the Instance column of the table are links, while the others are not links. You can change this default setting so that all the names will be links. See Setting Availability report properties - filters tab.

About the Instance-level Availability Overtime graphs

Report Manager generates, by default, Overtime graphs for each instance that its availability is below the threshold. The Availability Overtime graphs include the following:

- An Availability graph that displays the availability percentage of the instance along with the threshold. For a Tier where no data is currently available, the bar appears as Unknown in the graph.
- An Unavailability graph that displays the duration of the instance unavailability.

To generate Overtime graphs of instances with availability above the threshold, modify the report properties and rerun it. See Setting Availability report properties - filters tab.

The Availability Overtime graphs contain a launching link to the related Precise or Insight product. You can click the launching link for further investigation in context of the displayed instance.

About the Entity-level Availability report structure

The Entity-level Availability report structure consists of the following sections:

- About the Entity-level Availability report - opening page
- About the Entity-level Availability report - summary table

The following information is displayed for each instance:

- About the Entities Availability table
- About the Entities Availability Overtime graphs

About the Entity-level Availability report - opening page

The opening page of the Entity-level Availability report is similar to all the pre-defined reports except that the summary section provides information related to the specific report as follows:

- Number of Reported Entities
- Their Average and Minimal Availability within the report period

About the Entity-level Availability report - summary table

This Summary Table compares all the instances of the Tier by the availability of their entities. The Summary table contains a row for each reported instance that displays:

- Its Total Amount of Entities
- The Number of Entities with Availability Problems
- The Average Entities Availability within the report period

About the Entities Availability table

The Entities Availability Table displays the availability details of each entity in the current instance. These details include the Average and Minimal Availability Percentage, and the Availability Threshold. The Availability Threshold can be configured through Precise AdminPoint. If the entity availability is below the threshold, Report Manager indicates its data in red.

By default, Report Manager generates Overtime graphs only for entities whose availability is below their threshold. Therefore, only for these entities, the names in the System column of the table are links, while the others are not links. You can change this default setting so that all the names will be links. See Setting Availability report properties - filters tab.

About the Entities Availability Overtime graphs

Report Manager generates, by default, Overtime graphs for each entity that its availability is below the threshold. The Availability Overtime graphs include the following:

- An Availability graph that displays the availability percentage of the entity along with the threshold.
- An Unavailability graph that displays the duration of the entity unavailability.

To generate Overtime graphs of entities with availability above the threshold, modify the report properties and rerun it. See Setting Availability report properties - filters tab.

The Availability Overtime graphs contain a launching link to the related Precise or Insight product. You can click the launching link for further investigation in context of the displayed entity.

About the Availability Overview report structure

The Availability Overview report structure consists of the following sections:

- About the Availability Overview report - opening page
- About the Availability Overview table

About the Availability Overview report - opening page

The opening page of the Availability Overview report is similar to all the pre-defined reports except that the summary section provides information related to the specific report as follows:

- For each reported entity type, Number of Entities and their Average and Minimal Availability within report period.

About the Availability Overview table

The Availability Overview Table lists for each instance of the Tier the availability information for each level, that is, instance-level and any entity for which availability information is being collected.

The table contains a row for each reported instance that displays the Instance Availability Percentage, the Total Amount of Entities for each entity type and their Average Availability Percentage.

About the Cross-Tiers Availability report structure

The Cross-Tiers Availability report structure consists of the following sections:

- About the Cross-Tiers Availability report - opening page
- About the Application Availability table
- About Availability Overtime graphs

About the Cross-Tiers Availability report - opening page

The opening page of the Cross-Tiers Availability report is similar to all the pre-defined reports except that the summary section provides information related to the specific report as follows:

- Number of reported Tiers and their Average and Minimal Availability within the report period.

About the Application Availability table

The Application Availability table displays the availability details of each Tier in the application. These details include the Average and Minimal Availability Percentage, and the Availability Threshold. The Availability Threshold can be configured through Precise AdminPoint. If the instance availability is below the threshold, Report Manager indicates its data in red.

By default, Report Manager only generates Overtime graphs for Tiers whose availability is below their threshold. Therefore, only for these Tiers, the names in the Tier column of the table are links, while the others are not links. You can change this default setting so that all the names will be links. See Setting Availability report properties - filters tab.

About Availability Overtime graphs

Report Manager generates, by default, Overtime graphs for each Tier of which its availability is below the threshold. The Availability Overtime graphs include the following:

- An Availability graph that displays the availability percentage of the Tier along with the threshold.
- An Unavailability graph that displays the duration of the Tier unavailability.

To generate Overtime graphs of Tiers with availability above the threshold, modify the report properties and rerun it. See Setting Availability report properties - filters tab.

About Availability report properties

The Properties dialog box for the Availability reports contains two tabs in which you can set the properties:

- Setting Availability report properties - time frame tab
- Setting Availability report properties - filters tab

In addition to these tabs, there is a Description tab which displays a textual description of the report structure and contents.

Setting Availability report properties - time frame tab

The Time Frame tab contains the following properties:

- **Report on events**. Specifies the period by which Report Manager calculates the availability percentage and determines the events to display in the Overtime graphs.
- **Analyze the following hour groups only**. Specifies the hour groups (for example, All, Night, Day, and Weekend) to include in the report.

To set Availability report properties - time frame tab

1. Select the time period by which Report Manager calculates the availability percentage and determines the events to display in the Overtime graphs.
2. Select the hour groups to include in the report.
3. Click **OK** to approve.

Setting Availability report properties - filters tab

The Filters tab contains the following properties:

- **Analyze only the following instances**. Format: wildcard1,wildcard2,... where a wildcard is a string that may contain asterisks.
- **Analyze only the following entities**. The format is the same as in the first property.
- **Generate Overtime graphs only for entities which did not comply with their availability threshold**. Clear this option box to display Availability Overtime graphs also for entities that their availability is above the threshold.

To set Availability report properties - filters tab

1. In the appropriate fields, type the names of the instances and databases to be analyzed.
2. Clear this option box to display Availability Overtime graphs.
3. Click **OK** to approve.

About the Load Balancing Reports set

Load Balancing reports assist you to maintain the application balanced, by providing information about servers that are loaded more or less than others.

Report Manager provides two types of Load Balancing reports:

- **Cross-Tiers Load Balancing Report**. This report type compares all the servers installed in the application, and displays a high level balancing view of the entire application.
- **Tier Load Balancing Report**. This report type assists you only to balance the machines in which instances of the Tier are currently running.

Report Manager compares the servers' load using the operating system counters. Therefore, these reports are only available when Insight's OS Tier is installed.

For more information, see the **Precise Installation Guide**. The operating system counters include:

- CPU usage (%)
- CPU load - average number of processes waiting for CPU
- Paging

Report Manager compares the servers also by the Tier's Total Time, Volume, and Average Time. To overcome the differences among the servers' power (such as, CPU and memory), the different servers are assigned with weights. By default, a UNIX server is weighted 7 and a PC is weighted 4. The Total and Average Times are multiplied by the weight. The weights of the servers are stored in the Performance Management Database and can be updated using appropriate SQL UPDATE statements.

In the report properties, you can set the deviation percentage from the average, by which Report Manager determines if the server is loaded. If the server is overloaded or below the average load, Report Manager sends an event to Alerts.

Report Manager generates the Tier Load Balancing report for all the servers that run instances of the specified Tier (Report Manager does not generate the Tier Load Balancing report for Tiers that contain a single server).

About the Cross-Tiers Load Balancing report structure

The Cross-Tiers Balancing report structure consists of the following sections:

- About the Cross-Tiers Load Balancing report - opening page
- About Cross-Tiers Balancing - heat matrix

About the Cross-Tiers Load Balancing report - opening page

The opening page of the Cross-Tiers Load Balancing reports is similar to all the pre-defined reports except that the summary section provides information related to the specific report as follows:

- Number of servers that are overloaded, and number of servers whose load is significantly under the average load (the number of servers that have one of the OS counters significantly above or under the average value).
- For each OS counter, the number of servers overloaded and underloaded related to the counter's average value.

About Cross-Tiers Balancing - heat matrix

The Cross-Tiers Balancing Heat Matrix summarizes the load of each server in the application. Each row in the Balancing Heat Matrix represents a different server, and each column represents one of the balanced OS counters: CPU Usage, CPU Load, and Paging.

The color of the cell indicates the balancing state of the selected OS counter for the current server. Red indicates an overloaded server and orange indicates that the server load is under average.

The Heat Matrix also introduces technologies indicating where instances are installed on each server.

About the Tier Load Balancing report structure

The Tier Load Balancing report structure consists of the following sections:

- About the Tier Load Balancing report - opening page
- About OS Summary graphs
- About OS Overtime graphs
- About Tier Overtime graphs
- About Tier Consumption Summary graphs

About the Tier Load Balancing report - opening page

The opening page of the Tier Load Balancing reports is similar to all the pre-defined reports except that the summary section provides information related to the specific report as follows:

- Number of servers that are overloaded and number of servers whose load is significantly under the average load (the number of servers that have one of the OS counters significantly above or under the average value).
- For each OS counter, the number of servers overloaded and underloaded related to the counter's average value.

About OS Summary graphs

Report Manager generates an OS Summary graph for each balanced OS counter, such as CPU Usage and CPU Load and Paging. This graph displays the Counter Summarized Value versus the Average Load, for each reported machine.

About OS Overtime graphs

Report Manager generates an OS Overtime graph for each balanced OS counter, such as CPU Usage, CPU Load and Paging. This graph displays an Overtime Behavior graph of the Top n and Bottom m Servers compared to the Counter Average Value.

About Tier Overtime graphs

This graph displays a Summary of the Overtime Behavior of the reported Tier. It displays the Actual Values of the counters for the Top n and Bottom m Servers.

Report Manager generates a Tier Overtime graph for each of the following counters:

- Total Time
- Average Time
- Volume

About Tier Consumption Summary graphs

This graph displays a Summary of the Counter Values for each installed Tier on the Top n and Bottom m Servers. Report Manager generates a Tier Consumption Summary graph for each of the following counters:

- Total Time
- Average Time
- Volume

About Load Balancing report properties

The Properties dialog box of the Load Balancing report contains three tabs in which you can set the properties:

- Setting Load Balancing report properties - general tab
- Setting Load Balancing report properties - time frame tab
- Setting Load Balancing report properties - filters tab

In addition to these three tabs, there is a Description tab which displays a textual description of the report structure and contents.

Setting Load Balancing report properties - general tab

The General tab contains the following properties:

- **Report an exception when a counter exceeds average by more than _n_ percent**. This property determines the threshold percentage that Report Manager considers the server consumption as overloaded.
- **Report an exception when a counter falls below the average by more than _n_ percent**. This property determines the threshold percentage that Report Manager considers the server consumption as under the average consumption. This property is optional. If you disable this property, Report Manager does not report on server whose consumption is less than the average
- **Report top _n_ servers**. This property determines the number of servers that are most overloaded.
- **Report bottom _m_ servers**. This property determines the number of servers that are most underutilized.

To set Load Balancing report properties - general tab

1. Type the desired percent number threshold that Report Manager will use to report servers whose consumption is overloaded.
2. If desired, check the option and type a percent number if you want Report Manager to report on servers whose consumption is less than the average.
3. Type the desired number of servers to report that are most overloaded.
4. Type the desired number of servers to report that are most underutilized.
5. Click **OK** to approve.

Setting Load Balancing report properties - time frame tab

The Time Frame tab contains the following properties:

- **Detailed Overtime graph will show**. Specifies the period for the Overtime graphs. (This property is not available for the Cross-Tiers report.)
- **Detect exceptions**. Specifies the period by which Report Manager detects exceptions. Set this period to the same or as part of the period specified in the Detailed overtime graph will show property.
- **Summary graphs depict**. This property determines the period, which is used for a Summary graph calculation. This period should be included within detailed Overtime graph period. This property is not presented in Cross-Tiers report.
- **Analyze the following hour groups only**. Specifies the hour groups (for example, All, Night, Day, and Weekend) to include in the report.

To set Load Balancing report properties - time frame tab

1. Select the time period for Overtime graphs.
2. Select the time period by which Report Manager detects exceptions.
3. Select the time period to be used for a Summary graph calculation.
4. Select the hour groups to include in the report.
5. Click **OK** to approve.

Setting Load Balancing report properties - filters tab

The Filters tab contains the following properties:

- **Analyze only the following instances**. Format: wildcard1,wildcard2,... where a wildcard is a string that may contain asterisks. (This property is not available for the Cross-Tiers report.)
- **Analyze only the following servers**. The format is the same as in the first property.

To set Load Balancing report properties - filters tab

1. In the appropriate fields, type the names of the instances and servers to be analyzed.
2. Click **OK** to approve.

About the Capacity Planning reports set

The Capacity Planning report provides a forecast about future consumption of the current instances. This information is essential for planning your application evolution. For example, you can plan to acquire new hardware or to restrain the consumption (If you choose to restrain the consumption, you can use the Profile reports set to detect the top consumers of the specific resource).

Capacity Planning reports take into consideration only the current active systems, and do not assume any new programs and enhancements, which may be applied in the future.

When Report Manager generates a Capacity Planning report, it checks if the expected increase in a forecasted counter exceeds the baseline by more than the increase threshold. In this case, it sends an alert to Alerts. Likewise, when working in Alerts, you can drill down to the relevant Capacity Planning report from the Alerts user interface. For more information, see the Precise Alerts User Guide.

About the Capacity Planning report structure

A Capacity Planning report structure consists of the following sections:

- About the Capacity Planning report - opening page
- About the Capacity Planning report - heat matrix
- About Behavior and Forecast overtime graphs

About the Capacity Planning report - opening page

The opening page of the Tier Capacity Planning reports is similar to all the pre-defined reports except that the summary section provides information related to the specific report as follows:

- For each forecasted counter, the average increase of the counter consumption at the end of the forecast period.

About the Capacity Planning report - heat matrix

The Heat Matrix page indicates, in a tabular format, the most significant consumption increase of the forecasted counters. Each row in the Heat Matrix represents a different instance. Each column represents a different forecasted counter. The cell color indicates the increase level of the counter related to its increase thresholds. You can set the increase thresholds through the Capacity planning report - general tab of the report Properties dialog box. The instance name is a link to the instance's Overtime Behavior graphs.

About Behavior and Forecast overtime graphs

Report Manager generates - for each instance - a Behavior and Forecast Overtime graph for each predicted counter. Each Overtime graph presents the past behavior, baseline, and forecast of the counter.

The Behavior and Forecast Overtime graphs page contain a launching link to the related Precise or Insight product. You can click the launching link for further investigation in context of the displayed instance.

About Capacity Planning report properties

The Properties dialog box of the Capacity Planning report contains three tabs in which you can set the properties:

- Setting Capacity Planning report properties - general tab
- Setting Capacity Planning report properties - time frame tab
- Setting Capacity Planning report properties - filters tab

In addition to these three tabs, there is a Description tab which displays a textual description of the report structure and contents.

Setting Capacity Planning report properties - general tab

The General tab contains the following properties:

- **Forecast the following counters**. This property includes an option box for each counter of the instance. Select the counters, by which Report Manager calculates the forecast.
- **Escalate the increase when current consumption is exceeded by more than *n* percent**. This property determines the threshold percentage that Report Manager considers as the first level increase in instance's consumption (appears yellow in the Heat Matrix Table).
- **Then, escalate increase when the current consumption is exceeded by more than *n* percent**. This property determines the threshold percentage that Report Manager considers as the second level increase in instance's consumption (appears orange in the Heat Matrix Table). This property is optional. If you do not select it and specify the percentage, only one color will be presented in the Heat Matrix Table.
- **Then, escalate increase when the current consumption is exceeded by more than *n* percent**. This property determines the threshold percentage that Report Manager considers as the third level increase in instance's consumption (appears red in the Heat Matrix Table). This property is optional. If you do not select it and specify the percentage, only two colors will be presented in the Heat Matrix Table.

To set Capacity Planning report properties - general tab

1. Check the desired number of counters by which Report Manager will calculate the forecast.
2. Type the threshold percent number that Report Manager will consider as the first level increase in instance consumption.
3. If desired, check this option and type the threshold percent number that Report Manager will consider as the second level increase in instance consumption.
4. If desired, check this option and type the threshold percent number that Report Manager will consider as the third level increase in instance consumption.
5. Type the percent number to define the probability that the forecast is correct.
6. Click **OK** to approve.

Setting Capacity Planning report properties - time frame tab

The Time Frame tab contains the following properties:

- **Detailed Overtime graph will show**. Specifies the period for the Overtime graphs.
- **Base the forecast on information from**. Specifies the history period by which Report Manager calculates the forecast. Set this period to the same or as part of the period specified in the Detailed Overtime graph will show property.
- **Extrapolate over the next**. Specifies the forecast period. To get accurate forecasting results, it is recommended to set the forecast period at most half of the history period.
- **Analyze he following hour groups only**. Specifies the hour groups (for example, All, Night, Day, and Weekend) to include in the report.

To set Capacity Planning report properties - time frame tab

1. Select the time period for Overtime graphs.
2. Select the history time period by which Report Manager calculates the forecast.
3. Type the number of weeks for the forecast period.
4. Select the hour groups to analyze.
5. Click **OK** to approve.

Setting Capacity Planning report properties - filters tab

The Filters tab contains the following property:

- **Analyze only the following instances**. Format: wildcard1, wildcard2,... where a wildcard is a string that may contain asterisks.

To set Capacity Planning report properties - filters tab

1. Type the name of the instances to be analyzed.
2. Click **OK** to approve.

Advanced features that can help you customize your reports

This appendix includes the following topics:

About customizing your reports

Similar to predefined reports (Profile, Exceptions, and so on), customized reports can have property definitions set through the Properties dialog box. However, this is currently not supported by the Report Manager User Interface and must be implemented manually.

Retrieving over time information from the Performance Management Database may result in gaps (missing information). These are specific timestamps for which no data is available. To fill in these gaps, Report Manager FocalPoint supports holes filling. However, the current version of the Report Manager User Interface does not support the holes filling definition.

To implement these features, a few manual changes must be made to the tables and XML files of Report Manager FocalPoint. These changes should only be carried out by a person who is experienced with SQL and familiar with XML.

> ⓘ These two features are supported by Report Manager FocalPoint, but are not supported by the Report Manager User Interface.

About defining properties for a customized report

Defining properties for a Customized report enables the user to rerun a report with its preferred property values. This procedure enables you to add new properties to the General, Filtering, and Time Frame tabs in the Properties dialog box.

After you complete this procedure, do not edit the Customized report by clicking Edit, because Report Manager will override the newly defined properties. If you have to edit the report, you will have to carry out this procedure again to restore these properties.

Defining new properties for a Customized report includes the following stages:

About creating a customized report

Set a filter condition that includes a fixed valid value for each new property, (the value should be distinguishable, so that you can easily recognize it later when you replace it with the new property name in the generated report's .xml file).

When you complete the filter condition settings for all the new properties, execute the customized report and then save it. Report Manager creates two files, the report's Microsoft Excel file and .xml file. See Creating customized reports.

About updating Report Manager tables in Performance Management Database

The following changes should be made to the Report Manager tables of the Performance Management Database, in order that the new properties you defined for your customized report can be supported:

- About adding a new property to the Report Parameters table
- About locating the report identifier
- About associating a new property to the customized report

> ⓘ Check with your Precise administrator about the location of the Performance Management Database and user permission details.

About adding a new property to the Report Parameters table

Open the Report Parameters Table, named `PS_FSRA_REPORT_PARAMETERS`, using a database tool, such as SQL*Plus or Microsoft SQL Server Enterprise Manager (depending on your Performance Management Database type).

Add the new property to the Report Parameters Table as described in the following table. Verify that the property identifier (`FSRA_ID`) and name (`FSRA_NAME`) are unique in this table.

The following table describes the properties that can be added to the Report Parameters table.

Table 1 Additional properties that can be added to the Report Parameters table

Column	Description
FSRA_ID	Specifies the property identifier. Set a unique and consecutive number, starting from 100000 (enables you to easily distinguish between the new properties you added and the existing pre-defined properties).
FSRA_NAME	Specifies a unique property name.
FSRA_IS_DISPLAYABLE	Specifies whether or not to display the property through the Properties dialog box. Valid values are: • T - True • F - False Set this value to 'T.'
FSRA_IS_CONVERTIBLE	Specifies whether or not to convert the % (wildcard sign) to * in the Properties dialog box. The valid values include: • T - True • F - False If the property value contains wildcards, set this value to 'T.'

Column	Description
FSRA_DEFAULT_VALUE	Specifies the default value of the property. Set this value to NULL, since you will later define the default value when you associate the new property to the customized report.
FSRA_PROMPT_TEXT	Specifies the text that is displayed with the property box in the Properties dialog box. Enter a description.
FSRA_TAB_ID	Specifies the tab ID - of the report Properties dialog box - in which this property is displayed. Set to one of the following valid values according to your property: • G - General • F - Filters • T - Time Frame
FSRA_INDEX	Specifies the property index in the tab, indicating its order.

If you use a database tool such as Microsoft SQL Server Enterprise Manager, you can use the following INSERT statement as an example, to add a new parameter to the PS_FSRA_REPORT_PARAMETERS table.

```
INSERT INTO PS_FSRA_REPORT_PARAMETERS
 (FSRA_ID, FSRA_NAME, FSRA_IS_DISPLAYABLE,
FSRA_IS_CONVERTABLE, FSRA_DEFAULT_VALUE,
FSRA_PROMPT_TEXT, FSRA_TAB_ID, FSRA_INDEX)
VALUES (100000, 'ProgramFilter', 'T', 'T', NULL, '
 Analyze only the following programs:', 'F', 10)
```

About locating the report identifier

Open the Reports Table (named PS_FSRP_REPORTS) and search for the Report Identifier of the new report that you created in the FSRP_ID column. You can search for it according to the FSRP_NAME column, which contains the report name you specified when saving the report, or according to the FSRP_GENERATOR_NAME column that contains the string 'excel'.

About associating a new property to the customized report

To associate the new property to the Customized report, set the property values in the Parameter Values Table (named PS_FSPV_PARAMETER_VALUES).

The following table describes the parameters values which can be customized.

Table 2 Parameter Values

Column	Description
FSPV_FSRA_ID	Specifies the property identifier. Set the number as you specified in the FSRA_ID column of the Report Parameters Table. See About adding a new property to the Report Parameters table.

Column	Description
FSPV_FSPG_ID	Specifies the group identifier.
	Set to NULL.
FSPV_FSRP_ID	Specifies the report identifier.
	Set the number that you found in the Reports Table. See About locating the report identifier.
FSPV_CTX_ID	Specifies the context identifier.
	To find the context identifier of the new property, run the following query:

	<pre>SELECT FSPV_CTX_ID
	FROM PS_FSPV_PARAMETER_VALUES
	WHERE (FSPV_FSRP_ID = report_id) AND
	(FSPV_FSRA_ID = parameter_id)</pre>

	Where `report_id` is the report identifier that you found in the Reports Table and `parameter_id` is the report parameter that you added in the Report Parameters Table. See About adding a new property to the Report Parameters table.
	The query result includes the required value for `FSPV_CTX_ID`. Set the resulted value accordingly.
FSPV_VALUE	Specifies the default value of the new property.
FSPV_PROMPT_TEXT	Specifies the text that is displayed with the property box in the Properties dialog box.
	You can set to NULL to apply the text that you already set in the `FSRA_PROMPT_TEXT` column of the Report Parameters Table, or you enter a new text to override it. See About adding a new property to the Report Parameters table.

If you use a database tool such as Microsoft SQL Server Enterprise Manager, you can use the following example to add a new parameter to the PS_FSPV_PARAMETER_VALUES Table:

```
INSERT INTO PS_FSPV_PARAMETER_VALUES
(FSPV_FSRA_ID, FSPV_FSPG_ID, FSPV_FSRP_ID,
FSPV_CTX_ID, FSPV_VALUE, FSPV_PROMPT_TEXT) VALUES
(100000, NULL, 100086, 10, 'Scheduler', NULL)
```

Updating the .xml file with the report

When you create a Customized report, Report Manager creates two files: a Microsoft Excel file that contains the report details, and a .xml file that contains the report definition. This procedure provides step-by-step instructions for updating the definitions of the query tag in the .xml file. See About creating a customized report and About adding a new property to the Report Parameters table.

The following example shows the query tag before modification:

```
<query updated_manually="false">SELECT SQPN_STRING_VALUE "SQProgram"
FROM (SELECT SQSS_PROGRAM_ID FROM PW_SQSS_SESSIONS_STATS_D,
PS_INAP_APP_TIER, PW_SQPN_PROGRAM_NAMES_N, PS_INCE_INSTANCE,
 PS_INEN_ENVIRONMENT

WHERE SQSS_PWII_INSTANCE_ID=INCE_ID AND INCE_INAP_ID=INAP_ID AND
INAP_INEN_ID=INEN_ID AND SQSS_PROGRAM_ID = SQPN_ID AND SQPN_ID
<>0 AND SQPN_STRING_VALUE LIKE 'My Program' AND INEN_ID = 10
GROUP BY SQPN_STRING_VALUE, SQSS_PROGRAM_ID) intab,
PW_SQPN_PROGRAM_NAMES_N WHERE SQSS_PROGRAM_ID = SQPN_ID AND SQPN_ID
<>0</query>
```

The following example shows the query tag after modification:

```
<query updated_manually="true">SELECT SQPN_STRING_VALUE "SQProgram"
FROM (SELECT SQSS_PROGRAM_ID FROM PW_SQSS_SESSIONS_STATS_D,
PS_INAP_APP_TIER, PW_SQPN_PROGRAM_NAMES_N, PS_INCE_INSTANCE,
PS_INEN_ENVIRONMENT

WHERE SQSS_PWII_INSTANCE_ID=INCE_ID AND INCE_INAP_ID=INAP_ID AND
INAP_INEN_ID=INEN_ID AND SQSS_PROGRAM_ID = SQPN_ID AND SQPN_ID
<>0 AND SQPN_STRING_VALUE LIKE '$P{ProgramFilter}' AND INEN_ID = 10
GROUP BY SQPN_STRING_VALUE, SQSS_PROGRAM_ID) intab,
PW_SQPN_PROGRAM_NAMES_N WHERE SQSS_PROGRAM_ID = SQPN_ID AND SQPN_ID
<>0</query>
```

To update the report's .xml file

1. Open the .xml file of your Customized report from the following folder in the server where Report Manager FocalPoint is installed:
   `<precise_root>`/products/foresight/etc/reports/udr/storage
   The file name format consists of the Context Identifier (FSPV_CTX_ID) concatenated with the Report Identifier (FSRP_ID). For example, in the 10_100086.xml Customized report file, the context identifier is 10 and the report identifier is 100086 (you can also check the file's modification date to identify your report's .xml file).
2. In the .xml file, search for the fixed value that you have specified in the filter conditions when creating the report.
   The fixed value can be found in both the filter and query tags. Update the query tag as follows:
   - Change the value of the updated_manually attribute to true.
   - Replace the fixed value of the filter condition with the string '$P{parameter_name}', where parameter_name is the new property name (FSRA_NAME) that you defined in the Report Parameters Table.
3. Save the .xml file.
4. Click **Scheduling** or **View** followed by Rerun to rerun the report.
   Do not rerun the report by clicking **Edit**.

Filling in gaps in a customized report

Retrieving information collected over time from the Performance Management Database may result in missing information. These are specific timestamps for which no data is available. For example, an Oracle program may not include data for a specific timestamp, if the program was not invoked during the interval that started with this timestamp. In this case, you may want, for example, to fill in the number of executions counter with a zero value.

To fill in gaps in a customized report

1. Create a customized report

2. Modify the report's .xml file

After filling in gaps in a customized report, don't click **Edit** to modify the report. If after filling in gaps in a customized report you mistakenly click **Edit**, Report Manager will override your modifications. If you must edit the Customized report, fill in the gaps again so as to restore the properties you modified.

About creating a customized report

The selected data fields in the report must contain one or more identifiers and a single timestamp data field, which must be a full timestamp data field and not a partial time data field, such as Date and Month.

You should also sort the identifiers followed by the timestamp. The timestamp must be sorted in ascending order, while the identifiers can be sorted in ascending or descending order.

After completing report settings, execute the customized report and then save it. Report Manager creates two files, the report's Microsoft Excel file and .xml file. See Creating customized reports.

Modifying the .xml file with the report

When you create a Customized report, Report Manager creates two files: a Microsoft Excel file that contains the report details, and a .xml file that contains the report definition.

The following example shows the report's .xml file before modification. The bold text indicates the value that should be replaced.

```
<report>
    <subreport name="default_query" sum_level="Daily" id="47">
        <selection>
            <object id="4000" name="Instance" />
            <object id="4003" name="User" />
            <object id="21" name="Timestamp" />
            <object id="4181" name="Sessions" />
        </selection>
        <order>
            <object id="4000" name="Instance" order="asc" />
            <object id="4003" name="User" order="asc" />
            <object id="21" name="Timestamp" order="asc" />
        </order>
        <filter />
        <query firstLoad="true" updated_manually="false">SELECT intab.c2
        "SQInstance", SQUN_STRING_VALUE "SQUser", intab.c3 "Timestamp",
        intab.c0 "SQSessions" FROM (SELECT SQSS_TIMESTAMP c3, SQSS_USER_ID ,
        SUM(SQSS_NUM_OF_ENDED_SESSIONS_SUM) c0, INCE_NAME c2
        FROM PW_SQSS_SESSIONS_STATS_D, PS_INAP_APP_TIER, PS_INCE_INSTANCE,
        PS_INEN_ENVIRONMENT WHERE SQSS_PWII_INSTANCE_ID=INCE_ID AND
        INCE_INAP_ID=INAP_ID AND INAP_INEN_ID=INEN_ID AND
        SQSS_PWII_INSTANCE_ID=INCE_ID AND INCE_INTE_CODE='SQ' AND
        INCE_DELETED='F' AND INEN_ID = 10 GROUP BY INCE_NAME,
        SQSS_USER_ID, SQSS_TIMESTAMP) intab, PW_SQUN_USER_NAMES_N
        WHERE SQSS_USER_ID = SQUN_ID AND SQUN_ID <>0 ORDER BY
        "SQInstance" asc, "SQUser" asc, "Timestamp" asc
        </query>
    </subreport>
</report>
```

The following example shows the report's .xml file after modification:

```
<report>
    <subreport name="default_query" sum_level="Daily" id="47">
        <selection>
            <object id="4000" name="Instance" />
            <object id="4003" name="User" />
            <object id="21" name="Timestamp" />
            <object id="4181" name="Sessions" />
        </selection>
        <order>
            <object id="4000" name="Instance" order="asc" />
            <object id="4003" name="User" order="asc" />
            <object id="21" name="Timestamp" order="asc" />
        </order>
        <filter />
        <query firstLoad="true" updated_manually="true">SELECT intab.c2
        "SQInstance", SQUN_STRING_VALUE "SQUser", intab.c3 "Timestamp",
        intab.c0 "SQSessions"
        FROM (SELECT SQSS_TIMESTAMP c3, SQSS_USER_ID ,
        SUM(SQSS_NUM_OF_ENDED_SESSIONS_SUM)
        c0, INCE_NAME c2 FROM PW_SQSS_SESSIONS_STATS_D, PS_INAP_APP_TIER,
        PS_INCE_INSTANCE, PS_INEN_ENVIRONMENT WHERE
        SQSS_PWII_INSTANCE_ID=INCE_ID AND
        INCE_INAP_ID=INAP_ID AND INAP_INEN_ID=INEN_ID AND
        SQSS_PWII_INSTANCE_ID=INCE_ID AND INCE_INTE_CODE='SQ' AND
        INCE_DELETED='F' AND INEN_ID = 10 GROUP BY INCE_NAME, SQSS_USER_ID,
        SQSS_TIMESTAMP) intab, PW_SQUN_USER_NAMES_N
        WHERE SQSS_USER_ID = SQUN_ID AND SQUN_ID
        <>0 ORDER BY "SQInstance" asc, "SQUser" asc, "Timestamp" asc
        </query>
        <fill_holes fill="true">
            <object id="4181" name="Sessions" fill="const" const="666" />
            <timeframe start="2004-05-20 00:15:23.11" end="2004-06-10
22:35:23.11" />
        </fill_holes>
    </subreport>
</report>
```

This procedure provides step-by-step instructions for updating the report's .xml file, including updating the query tag and setting the `fill_holes` tag.

To modify the report's .xml file

1. Open the .xml file of your Customized report from the following folder in the server, where Report Manager FocalPoint is installed:
   <
   precise_root>/products/foresight/etc/reports/udr/storage
   The file name format consists of the Context Identifier (FSPV_CTX_ID) concatenated with the Report Identifier (FSRP_ID).
   For example, in the 10_100086.xml file, the context identifier is 10 and the report identifier is 100086. (You can also check the file's modification date to identify your report's .xml file.)
2. In the .xml file, do the following:
   • Search for the query tag.
   • Change the value of the updated_manually attribute to True.
   • Add the `fill_holes` tag after the query tag at the same level.

3. Set the fill attribute of the `fill_holes` tag to True to enable the data completion feature.
4. Add the object tag under the `fill_holes` tag level and set its attributes.
   For example, `<object id="4000" name="Instance" fill="const" const="666"/>`
   - **id**. Specifies the object identifier.
     Set to one of the objects ID defined in the selection tag at the beginning of the report's .xml file.
   - **name**. Specifies the data field name.
     This attribute is optional. You may set this attribute to add clarity to the report.
   - **fill**. Specifies the method of data completion.
     Possible values include:
     - **const**. The data is completed with a constant value. In this case, you must also set the const attribute.
     - **prev**. The data is completed with the value of the previous timestamp.
     - **next**. The data is completed with the value of the next timestamp.

   - **const**. Specifies the constant value that completes the missing data.
     Set the const attribute if you set the fill attribute to const.
     By default, Report Manager fills in counters with zeros, and strings with nulls. You can set the const attribute, together with the prev or next fill types, to specify a different value other than the default value (zero or null), so that Report Manager also completes the margins, where there is no previous or next value.

5. Add the timeframe tag under the fill_holes tag level and set its attributes.
   The timeframe tag defines the time frame for which the data completion applies. You can set the time frame using one of the following methods:
   - **Absolute date range**. Set the start and end attributes. For example, `<timeframe start="2004-05-20 00:15:23.11" end="2004-06-10 22:35:23.11" />`.
   - **Relative date time**. Set the lastNType, lastNStart, and lastNLen attributes.
     - **start**. Specifies the start date and time.
       The format is: yyyy-mm-dd hh24:mi:ss.ms
       You must apply the entire format, except the ms (milliseconds), which is optional. For example:
       `<timeframe start="2004-05-15 18:30:15.00" end="2004-05-20 23:59:59.59"/>`
     - **end**. Specifies the end date and time. See the format of the start attribute.
     - **lastNType**. Specifies the time units for the lastNStart and lastNLen attributes.
       Possible values include:
       - H - Hours
       - D - Days
       - W - Weeks
       - M - Months
         Set a value that is not lower than the report summary level resolution (that is, the report summary level must be at least as the lastNType value).
         For example: lastNType="D" can be used with a report summary level of H (hours).

   - **lastNStart**. Specifies the start of the time frame counting back from the current time (current time is always 0).
     For example, if lastNType="D", then a lastNStart="0" signifies that the start time of the time frame is today.
     If lastNStart="10" and lastNLen = "5", this signifies that the start time of the time frame was 15 days ago.
   - **lastNLen**. Specifies the length of the time frame counting back from the lastNStart time.
     The following example defines a start time of 15 days ago and end time of 10 days ago.
     `<timeframe lastNType="D" lastNStart="10" lastNLen="5"/>`

6. Save the .xml file.
7. Rerun the report by doing one of the following:
   a. Click **Scheduling**.

b. Click **View** and then **Rerun**.
    Do not click **Edit** to rerun the report

About importing and exporting customized reports

The following section describes how to export a customized report from one Precise system and import it to another Precise system.

> ⓘ Before you begin, find the source Tier ID and the destination Tier ID in the `PS_INAP_APP_TIER` or `PS_FSEC_ENV_CONTENTS` tables.

To export/import a customized report

1. In the source Precise system, create the ForesightExportRequest.xml file in the Precise root folder. For example:
    ```
    <root name="Export">
        <report-name>In Sybase Breakdown</report-name>
        <apptier>1201</apptier>
    </root>
    ```

    > ⓘ The report-name value is case-sensitive.

2. Run the following command:
    ```
    infra\bin\psin_http_requestor -dp -x fs-export-import FS <
    ForesightExportRequest.xml > out.xml
    ```
3. Check the out.xml file in the `<precise_root>`, to view the status.
4. Copy the exported report's .zip file from the source Precise root folder to the destination Precise installation in:

    `<precise_root>\distribution`

    > ⓘ The .zip file name consists of `<technology code>_<report name>` (SY_In Sybase Breakdown.zip). For cross-Tiers the Tech code is ALL (ALL_CA_Rep.zip).

5. In the destination Precise system, create the ForesightImportRequest.xml file in the Precise root folder. For example:

    ```
    <root name="Import">
        <report-name>SY_In Sybase Breakdown.zip</report-name>
        <apptier>1174</apptier>
    </root>
    ```
6. Run the following command:
    ```
    infra\bin\psin_http_requestor -dp -x fs-export-import FS <
    ForesightImportRequest.xml > out.xml
    ```
7. Check the out.xml file in the Precise root folder, to view the status.

About copying customized reports

The following section describes how to copy customized reports from one Tier to another with the CLI utility. To copy a customized report

1. Run the following commands from the Precise root folder:
    *   **Windows**

Database mapping and definition files

This appendix includes the following topics:

About database mapping and definition files

An understanding of database mapping and definition files is essential if you want to add internal proprietary information such as, user name and telephone number, to the reports generated by Report Manager.

> ⓘ Entering invalid strings into these files can cause the customized reporting mechanism to fail. Any modifications made to the xml files falls under the sole responsibility of the customer. Before modifying these files verify that you are experienced with the SQL language, familiar with XML, and that you have fully read and understood this section.

The database mapping and definitions for customized reports are stored in the following files:

- **db.xml**. Describes the database mapping.
- **def.xml**. Defines dependency conditions.
- **tree.xml**. Defines the hierarchical structure of the Data Tree.

These files are found located in: `<precise_root>/products/foresight/etc/reports/udr`

About the db.xml file

The db.xml file defines all Database Tables and Join conditions between tables, which are used by the customized reporting mechanism.

The db.xml file uses the following tags to define the database mapping:

About the Table tag

The Table tag defines the table and its attributes, as described in the following table. The Table tag is a top level element in the db.xml file.

Example:

<table name="PS_INEN_ENVIRONMENT" type="lookup"/>
<table name="PW_SPTS_TRAN_STAT_$sumlvl" type="statistics" summary_levels="T,H,D,W,M" >
</table>

The following table describes the table tag attributes.

Table 1 Table tag attributes

Attribute	Description
name	Specifies the table name as defined in the database schema. For a statistics table type, you can use the $sumlvl variable. In this case, you must set also the summary_levels attribute. When executing the customized report, the $sumlvl variable uses the value that you set in the summary_levels attribute.
type	Defines the table type, as follows: • **Lookup**. A lookup table maps between entity identifiers and entity names. • **Statistics**. A statistics table that includes statistics performance information and is summarized into various time intervals (such as, hourly, daily, and weekly). • **History**. History table that includes statistics performance information, but is not summarized into various time intervals.
summary_levels	This attribute is only relevant for a statistics table type. It lists the available summary levels for this table. These values include: • T. Time slice • H. Hourly • D. Daily • W. Weekly • M. Monthly
time_field	Defines the timestamp column name. Use this attribute only if the column name is different than the standard xxxx_timestamp column name, where xxxx indicates the name of the table (abbreviated).
noteable_name	A flag that enables or disables Join conditions. Set this flag to true for tables that contain Join conditions written in Java code. In this case, replace the table-name with the table name whose Join conditions you want to disable. For example, noPS_INSM_SERVER_MACHINE="true", will disable the Join conditions in table PS_INSM_SERVER_MACHINE.
alias	Defines an alias name for a table that is used frequently. For example, you can use the same lookup table again for different purposes.

About the Join tag

The Join tag is a second level element in the db.xml file, and is part of the table definition. The Join tag defines Join conditions between the current table and other specified tables. The Join tag defines a one-way connection from the current table to another table, but not in the opposite direction. Usually, lookup tables do not include a Join definition. Instead, they will be referenced inside a Join definition of Statistics Tables. You should not define a Join between two Statistics Tables, unless it is a One-to-one Join. The Join predicates are included in the tag contents.

Example:

```
<table name="PS_INCE_INSTANCE" type="lookup">
  <join toTable="PS_INEN_ENVIRONMENT" otherTables="PS_INAP_APP_TIER">
    INEN_ID = INAP_INEN_ID AND INCE_INAP_ID = INAP_ID
```

```
        </join>
    </table>
```

The following table describes the Join tag attributes.

Table 2 Join tag attributes

Attribute	Description
toTable	Specifies the table that is joined with the current table.
otherTables	Specifies the name of a connection table. This attribute is used if the Join is performed through another table.
normalization_field	Defines a Join condition for a Lookup Table, whose name ends with _N. You can use the normalization_field attribute to specify the name of the normalization column. In this case, the select will include a 'group by' with the normalization_field column and will be wrapped by another select, which joins with the Lookup Table specified in the toTable attribute. The reasons for applying this method are: • **Performance**. The Join with the Lookup Table is done only in the wrapping select and not in the inner select which retrieves more rows. • **Database limitations**. In Oracle it is impossible to apply any option on a column of a long data type, or to use it in the 'group by'.

About the Related tag

The Related tag is a second level element in the db.xml file, and is part of the table definition. This tag is only relevant for lookup tables. It defines the statistics table used for retrieving entity identifiers that depend on a specified condition (see the depend attribute).

A table can include more than one Related tag. Report Manager uses the first related table whose dependency condition is met. It is possible to define the last line without a depend attribute, so that if no previous dependency was met, this table is always selected. If you want an error message to be displayed when no dependency conditions are met, do not specify a related table with no dependency.

The Performance Management Database includes Snapshot Tables (for details about these tables, see the Performance Management Database documentation). To achieve optimal performance when using Snapshot Tables, it is recommended to define the smallest Snapshot Tables first, followed by the larger ones.

For example:

```
<table name="PW_SPLD_LOCALE_DIM" type="lookup">
    <related table="PW_SPTS_TRAN_STAT_LS_$sumlvl" depend="loc srv snapshot"/>
    <related table="PW_SPTS_TRAN_STAT_AOLS_$sumlvl" depend="org app loc srv snapshot"/>
</table>
```

The following table describes the Related tag attributes.

Table 3 Related tag attributes

Attribute	Description
table	Defines the name of the Statistics Table.

Attribute	Description
depend	Specifies the dependency condition identifier. This identifier is defined in the def.xml file. If the dependency condition is met, then the table specified in the table attribute is used to retrieve the list of entity identifiers.

About the def.xml file

The def.xml file is a configuration file that defines dependency conditions using a single tag called dependency. These definitions are used by the depend attribute of the db.xml file.

A special subset of these definitions are dependency conditions for Snapshot Tables. A Snapshot Table is used if all the selected data fields in the query exist in this snapshot.

The dependency tag contains a single attribute, called name. The value of this attribute is a character string that identifies the dependency. This character string must be unique in the def.xml file.

The dependency tag format contains dependency conditions, as follows:

<![CDATA[unary-operator{field-id,...}] logical-operator ...>

where:

- The field-id specified in the brackets is a numeric identifier of a data field in the Data Tree as defined in the tree.xml file.
  You can specify one or more data field identifiers inside the brackets according to the specified unary-operator.
- The unary-operator defines the relation between the data field identifiers specified in brackets and the SELECT list in the query.
  The value can be one of the following:
  - **a**. All. All the data field identifiers must exist in the SELECT list.
  - **na**. Not all. All of the data field identifiers must not exist in the SELECT list.
  - **o**. One. At least one data field identifier must exist in the SELECT list.
  - **no**. Not one. At least one data field identifier must not exist in the SELECT list.

- The logical-operator between dependency conditions can be one of the following:
  - **|**. OR
  - **&**. AND

Example:

<dependency name="form appl user snapshot and user"><![CDATA[na{2003,4} & a{2002}]]></dependency>
<dependency name="oa user"><![CDATA[a{2002}]]></dependency>

About the tree.xml file

The tree.xml file defines the hierarchical structure of the Data Tree. Each data field that is a leaf node, includes a unique numeric identifier. The data field identifiers are used in the def.xml file. For this reason you should not modify the existing data field identifiers, but you can add additional data field identifiers to the Data Tree. If you add new data field identifiers to the Data Tree, you must also add new data fields to the def.xml file.

The tree.xml file uses the following tags:

- Group
- Object
- Objref

- Alt

About the Group tag

This tag defines a group that is a non-leaf node. A group can contain data fields (leaf nodes) and other groups. Example:

```
<group name="General" desc="0">
<group isApptier="true" tech="SP" name="SP" desc="17" />
</group>
<group isApptier="true" tech="ST" installCode="SQ-SQCOL" name="ST" desc="1076" />
```

The following table describes the Group tag attributes.

Table 4 Group tag attributes

Attribute	Description
name	Defines a string representing the group name. Report Manager translates this string to a text defined in the udrTxtResource.xml resource file, and then displays the translated text in the Data Tree.
desc	Defines a unique numeric identifier that represents the description of the group. Report Manager translates this number into text defined in the udrTxtResource.xml resource file. Before adding a new identifier to the file, you must verify that this number is not already in use. (The numeric identifier at the end of the file list is not necessarily the highest one.)
isApptier	Defines whether the group is an Tier group or not.
tech	Defines a string that represents the technology of the Tier group. Report Manager translates this string into text defined in the udrTxtResource.xml resource file.
installCode	Defines a string that represents the installation code. Its format is a combination of the product code and init code. For example, IS-FP, where IS is the product code and FP is the init code.

Report Manager validates the installation code using the Infrastructure Installation Table named PS_INLL_INSTALLATION, to determine whether or not to display this group in the specific Precise application. (The Infrastructure Installation Table contains information regarding the application's system installations.)

About the Object tag

This tag defines a data field that is displayed as a leaf node in the Data Tree. It can be a column from a table or a formula.

Example:

```
<object id="1" type="id" data_type="string" name="Environment" desc="1">
<object id="1000" type="instance_id" name="SPSystem" desc="20">
<object id="21" type="time" data_type="time" xls_format="m/d/yy h:mm" name="Timestamp" desc="7">
```

The following table describes the Object tag attributes.

Table 5 Object tag attributes

Attribute	Description
id	Defines a numeric identifier of the data field.
type	Defines a string that represents the type of object. The value can be one of the following: • **id**. Identifier data field • **time**. Time data field • **instance_id**. Instance data field • **cnt**. Counter data field (in this case, also defined as an Aggregate function)
data_type	Describes the type of each data field. Default values include: • id and instance_id - string • cnt - double • time - time It is possible to override the default type of the data field type by defining the data_type attribute. Possible values include: string, time, int, and float.
xls_format	The format of each type of data field has a default value used by Microsoft Excel. By default, Microsoft Excel uses no special format for strings. For numeric data types, Microsoft Excel uses the floating decimal point format. For date/time data types, Microsoft Excel uses the numeric format. You can override the default format by defining the xls_format attribute. For example, you can override the format of the date/time data type with one of the following formats: m/d/yy, d-mmm-yy, d-mmm, mmm-yy, h:mm AM/PM, h:mm:ss AM/PM, h:mm, h:mm:ss, and m/d/yy h:mm.
name	Defines a string that represents the data field name. Report Manager translates this string into a text defined in the udrTxtResource.xml resource file, and then displays the translated text in the Data Tree.
desc	Defines a unique numeric identifier that represents the description of the data field. Report Manager translates this number into a text defined in the udrTxtResource.xml resource file. Before adding a new identifier to the file, you must verify that this number is not already in use. (The numeric identifier at the end of the file list is not necessarily the highest one.)

Attribute	Description
installApp	Defines a string that represents a Tier code.
	A specific data field may depend on a specific Tier, so if the Tier is not installed in the current application, the data field will not be displayed in the Data Tree.
	The Tier installation is verified against the Infrastructure Tier Table named PS_INAP_APP_TIER.
installCode	Defines a string that represents the installation code.
	Its format is a combination of the product code and init code.
	For example, IS-FP, where IS is the product code and FP is the init code.
	Report Manager validates the installation code using the Infrastructure Installation Table named PS_INLL_INSTALLATION, to determine whether or not to display this group in the specific Precise application. (The Infrastructure Installation Table contains information regarding the application's system installations.)
includeQ	Defines a new query used if the object returns no data (in this case, the data field is not displayed).
	For example:
	<object id="4026" type="id" name="SQSiebelView" desc="446" includeQ="SELECT INLI_INCE_ID FROM PS_INLI_LITE_INSTANCE, PS_FSEC_ENV_CONTENTS WHERE INLI_INTE_CODE = 'SQ' AND INLI_INCE_ID = FSEC_INSTANCE_ID AND INLI_DELETED = 'F' AND FSEC_ENV_ID = ?">

About the Objref tag

This tag defines a reference to another Object that is already defined in the Data Tree definition. Use the Objref tag if the data field you want to add to the Data Tree has the same attributes as an existing object (instead of repeating the entire definition of the object).

For example, the Instance ID object (data field) may appear under various groups of a Tier.

The following example creates a reference to an object 3 (Server) definition:

<objref id="3" />

About the Alt tag

The meaning of a data field can depend on its context, that is, on the other fields that are selected with it. The Alt tag defines an alternative selection of expression for its data field, based on the other fields selected. When the data field is selected, Report Manager scans the alternatives in the same order as they were listed in the file, and chooses the first alternative whose dependency is met.

Example:

```
<object id="5050" type="cnt" name="ORInOracleTimeSum" desc="825">
  <alt select="SUM(ORSS_IN_ORACLE_TIME_SUM)" table="PW_ORSS_STATEMENTS_STATS_$sumlvl"
depend="or stmnt no sess" />
```

```
        <alt select="SUM(ORSA_IN_ORACLE_TIME_SUM)" table="PW_ORSA_STMT_APPL_STATS_$sumlvl"
    depend="or stmnt and sess" />
        <altselect="SUM(ORAS_IN_ORACLE_TIME_SUM)" table="PW_ORAS_APPLICATION_STATS_$sumlvl" />
    </object>
```

In this example, if the user selects the In Oracle time data field:

- If the or stmnt no sess dependency is met (defined in the def.xml file), then Report Manager selects the SUM(ORSS_IN_ORACLE_TIME_SUM) expression from the PW_ORSS_STATEMENTS_STATS_$sumlvl Table.
- If the first dependency is not met, and the or stmnt and sess dependency is met (defined in the def.xml file), then Report Manager selects the SUM(ORSA_IN_ORACLE_TIME_SUM) expression from the PW_ORSA_STMT_APPL_STATS_$sumlvl Table.
- If the second dependency is not met, Report Manager selects the SUM(ORAS_IN_ORACLE_TIME_SUM) expression from the PW_ORAS_APPLICATION_STATS_$sumlvl Table.

The following table describes the Alt tag attributes.

Table 6 Alt tag attributes

Attribute	Description
select	Defines a table column name or an expression. For a counter (type="cnt"), an expression with an aggregated function is required. The expression can include the $timeFld string, which Report Manager replaces with the timestamp column of the table used in the query. In this case, the table attribute must be empty.
table	Specifies the name of the table as defined in the Performance Management Database.
depend	Specifies the name of the dependency condition as defined in the def.xml file. If the specified condition is met, Report Manager uses the alternative SELECT.
otherTables	Defines a name of a connection table. If you need to join one table to other tables for this data field only, you can specify its conditions in the alt tag and it is therefore not necessary to define this Join in the db.xml file.

Report Manager report sets

This appendix includes the following topics:

Report Manager Report sets

Report Manager is a reporting tool that queries the Performance Management Database and displays the results in reports that are generated on a scheduled basis or on demand.

Report Manager provides pre-defined reports divided as follows:

- Availability
- Capacity planning
- Exceptions
- Load Balancing
- Profile

Reports of an Tier-level, for example, provide a performance comparison between the various Tiers of your application.

Reports of an Instance-level provide information about the complete instance, that is the whole system, such as Web Server, an Oracle Instance, or a (J2EE) Java Virtual Machine.

Cross-Tiers Reports

Cross-Tier reports contain data for several Tiers, for example, Cross-Tiers Availability report. Application reports are also available for Cross-Tiers reports only.

The Report Manager Cross-Tiers Reports are as follows:

- Availability
- Load Balancing
- Application

Oracle

The following table lists report sets for Oracle.

Table 1 Report sets for Oracle

Report Set	Report Name
Availability	Instances
Load Balancing	OS Counters
Capacity Planning	Long Term
Capacity Planning	Short Term
Exceptions	Actions
Exceptions	Applications (Oracle Apps)
Exceptions	File Systems
Exceptions	Files
Exceptions	Forms (Oracle Apps)
Exceptions	Functions (SAP R/3)
Exceptions	Host Users
Exceptions	Instances
Exceptions	Logical Volume
Exceptions	Machines
Exceptions	Modules
Exceptions	Objects
Exceptions	Physical Devices
Exceptions	Programs
Exceptions	Rarely Used and Unused Objects
Exceptions	Requests (Oracle Apps)
Exceptions	Screens (SAP R/3)
Exceptions	Statements
Exceptions	Storage Devices
Exceptions	Transactions (SAP R/3)

Report Set	Report Name
Exceptions	Users
Profile	Actions
Profile	Applications (Oracle Apps)
Profile	Database Size
Profile	File Systems
Profile	Files
Profile	Forms (Oracle Apps)
Profile	Functions
Profile	Host Users
Profile	Instance Statistics
Profile	Instances
Profile	Logical Volume
Profile	Machines
Profile	Modules
Profile	Objects
Profile	Physical Devices
Profile	Programs
Profile	RAC Databases
Profile	Requests (Oracle Apps)
Profile	Schema Changes
Profile	Screens (SAP R/3)
Profile	Statements
Profile	Storage Devices
Profile	Transactions

Report Set	Report Name
Profile	Users

J2EE

The following table lists report sets for J2EE.

Table 2 Report sets for J2EE

Report Set	Report Name
Availability	JVMs
Load Balancing	OS Counters
Capacity Planning	Long Term
Capacity Planning	Short Term
Exceptions	Entry Points
Exceptions	JVMs
Profile	Entry Points
Profile	JVMs

Web

The following table lists report sets for Web.

Table 3 Report sets for Web

Report Set	Report Name
Load Balancing	OS Counters
Capacity Planning	Long Term
Capacity Planning	Short Term
Exceptions	Instances
Exceptions	Locations
Exceptions	Transactions
Exceptions	Users

Report Set	Report Name
Profile	Instances
Profile	Locations
Profile	Transactions
Profile	Users

Microsoft .NET

The following table lists report sets for Microsoft .NET.

Table 4 Report sets for Microsoft .NET

Report Set	Report Name
Availability	CLRs
Load Balancing	OS Counters
Capacity Planning	Long Term
Capacity Planning	Short Term
Exceptions	Entry Points
Exceptions	CLRs
Profile	Entry Points
Profile	CLRs

SQL Server

The following table lists report sets for the SQL Server.

Table 5 Report sets for SQL Server

Report Set	Report Name
Availability	Databases
Availability	Instances
Availability	Overview
Load Balancing	OS Counters

Report Set	Report Name
Capacity Planning	Long Term
Capacity Planning	Short Term
Exceptions	Ad-Hoc Batches
Exceptions	Applications (COM+)
Exceptions	Client Machines (PeopleSoft)
Exceptions	Components (COM+)
Exceptions	Databases
Exceptions	DB Files
Exceptions	Instances
Exceptions	Logins
Exceptions	Machines
Exceptions	Methods (COM+)
Exceptions	Objects
Exceptions	Physical Disks
Exceptions	Programs
Exceptions	Rarely Used and Unused Objects
Exceptions	Siebel Views
Exceptions	Statements
Exceptions	Storage Devices
Exceptions	Stored Procedures
Exceptions	Transactions (SAP)
Exceptions	User IDs (PeopleSoft)
Exceptions	Users
Exceptions	Work Types

Report Set	Report Name
Profile	Ad-Hoc Batches
Profile	Applications (COM+)
Profile	Client Machines (PeopleSoft)
Profile	Components (COM+)
Profile	Database Definition Changes
Profile	Database Size
Profile	Databases
Profile	DB Files
Profile	Instance Statistics
Profile	Instances
Profile	Logins
Profile	Machines
Profile	Methods (COM+)
Profile	Objects
Profile	Physical Disks
Profile	Programs
Profile	Schema Changes
Profile	Siebel Views
Profile	Statements
Profile	Storage Devices
Profile	Stored Procedures
Profile	Transactions (SAP)
Profile	Unnecessary Indexes
Profile	User IDs (PeopleSoft)

Report Set	Report Name
Profile	Users
Profile	Work Types

SAP

The following table lists report sets for SAP Systems.

Table 6 Report sets for SAP Systems

Report Set	Report Name
Availability	Application Servers
Availability	Locales
Availability	Organizations
Availability	Overview
Availability	Systems
Load Balancing	OS Counters
Capacity Planning	Long Term
Capacity Planning	Short Term
Exceptions	Application Servers
Exceptions	Applications
Exceptions	Locales
Exceptions	Organizations
Exceptions	Systems
Exceptions	Transactions
Exceptions	Users
Profile	Application Servers
Profile	Applications
Profile	Locales

Report Set	Report Name
Profile	Organizations
Profile	Response Time
Profile	Systems
Profile	Transactions
Profile	Users

Sybase

The following table lists report sets for Sybase.

Table 7 Report sets for Sybase

Report Set	Report Name
Capacity Planning	Long Term
Capacity Planning	Short Term
Exceptions	Ad Hoc Batches
Exceptions	Database Devices
Exceptions	Databases
Exceptions	Instances
Exceptions	Logins
Exceptions	Machines
Exceptions	Programs
Exceptions	Statements
Exceptions	Stored Procedures
Exceptions	Users
Profile	Ad Hoc Batches
Profile	Database Devices
Profile	Database Size

Report Set	Report Name
Profile	Databases
Profile	Instances
Profile	Logins
Profile	Machines
Profile	Programs
Profile	Statements
Profile	Stored Procedures
Profile	Users

Tuxedo

The following table lists report sets for Tuxedo.

Table 8 Report sets for Tuxedo

Report Set	Report Name
Load Balancing	OS Counters
Capacity Planning	Long Term
Capacity Planning	Short Term
Exceptions	Client IPs
Exceptions	Instances
Exceptions	Server Processes
Exceptions	Services
Exceptions	Users
Profile	Client IPs
Profile	Instances
Profile	Server Processes
Profile	Services

Report Set	Report Name
Profile	Users

WebSphere MQ

The following table lists report sets for WebSphere MQ

Table 9 Report sets for WebSphere MQ

Report Set	Report Name
Availability	Instances
Load Balancing	OS Counters
Capacity Planning	Long Term
Capacity Planning	Short Term
Exceptions	Instances
Exceptions	Queues
Exceptions	Reader Applications
Exceptions	Users
Exceptions	Writer Applications
Profile	Instances
Profile	Queues
Profile	Reader Applications
Profile	Users
Profile	Writer Applications

Oracle Applications

The following table lists report sets for Oracle Applications.

Table 10 Report sets for Oracle Applications

Report Set	Report Name
Availability	Instances

Report Set	Report Name
Load Balancing	OS Counters
Capacity Planning	Long Term
Capacity Planning	Short Term
Exceptions	Applications
Exceptions	Client IPs
Exceptions	Forms
Exceptions	Instances
Exceptions	Locations
Exceptions	Users
Profile	Applications
Profile	Client IPs
Profile	Forms
Profile	Instances
Profile	Locations
Profile	Users

OS

The following table lists report sets for OS (Operating System).

Table 11 Report sets for OS

Report Set	Report Name
Load Balancing	OS counters
Capacity Planning	Long Term
Capacity Planning	Short Term
Exceptions	Commands
Exceptions	Programs

Report Set	Report Name
Exceptions	Servers
Exceptions	Users
Profile	Commands
Profile	Programs
Profile	Servers
Profile	Users

EMC Storage

The following table lists report sets for EMC Storage.

Table 12 Report sets for EMC Storage

Report Set	Report Name
Capacity Planning	Long Term
Capacity Planning	Short Term
Exceptions	Devices
Exceptions	Front End Directors
Exceptions	Units
Profile	Devices
Profile	Front End Directors
Profile	Units

Citrix

The following table lists report sets for Citrix Servers.

Table 13 Report sets for Citrix Servers

Report Set	Report Name
Exceptions	Citrix Locations
Exceptions	Citrix Users

Report Set	Report Name
Exceptions	Client IPs
Profile	Published Applications
Profile	Citrix Locations
Profile	Citrix Users
Profile	Client IPs
Profile	Published Applications

DB2

The following table lists report sets for DB2 Servers.

Table 14 Report sets for DB2 Servers

Report Set	Report Name
Profile	Database Partitions
Profile	Programs
Profile	Statements
Profile	Machines
Profile	Modules
Profile	Actions
Profile	OS Users
Profile	DB Users
Profile	Work Types
Exception	Database Partitions
Exception	Programs
Exception	Statements
Exception	Machines
Exception	Modules

Report Set	Report Name
Exception	Actions
Exception	OS Users
Exception	DB Users
Exception	Work Types

Importing, exporting, and copying your customized reports

This appendix includes the following topics:

- About importing and exporting customized reports
- About copying customized reports

About importing and exporting customized reports

The following section describes how to export a customized report from one Precise system and import it to another Precise system.

> ⓘ Before you begin, find the source Tier ID and the destination Tier ID in the PS_INAP_APP_TIER or PS_FSEC_ENV_CONTENTS tables.

To export/import a customized report

1. In the source Precise system, create the ForesightExportRequest.xml file in the Precise root folder. For example:
   ```
   <root name="Export">
     <report-name>In Sybase Breakdown</report-name>
     <apptier>1201</apptier>
   </root>
   ```

   > ⓘ The report-name value is case-sensitive.

2. Run the following command:
   ```
   infra\bin\psin_http_requestor -dp -x fs-export-import FS < ForesightExportRequest.xml > out.xml
   ```
3. Check the out.xml file in the `<precise_root>` directory to view the status.
4. Copy the exported report .zip file from the source Precise root directory to the destination Precise installation in:
   ```
   <i3_root>\distribution
   ```

   > ⓘ The .zip file name consists of `<technology code>_<report name>` (`SY_In Sybase Breakdown.zip`). For cross-Tiers the Tech code is `ALL` (`ALL_CA_Rep.zip`).

5. In the destination Precise system, create the ForesightImportRequest.xml file in the Precise root directory. For example:
   ```
   <root name="Import">
     <report-name>SY_In Sybase Breakdown.zip</report-name>
     <apptier<1174</apptier>
   </root>
   ```
6. Run the following command:
   ```
   infra\bin\psin_http_requestor -dp  x fs-export-import FS < ForesightImportRequest.xml > out.xml
   ```
7. Check the out.xml file in the Precise root folder to view the status.

About copying customized reports

The following section describes how to copy customized reports from one Tier to another with the CLI utility.

To copy a customized report

1. Run the following commands from the Precise root folder:
   - Windows

     ```
     <i3_root>\infra\bin\psin_cli.bat –i3-user <user> {-i3-clear-password <i3 clear
     password> | –i3-encrypted-password <i3 encrypted password>}
     –action fs-copy-foresight-custom-report-parametersfile <parameters-file.xml>
     ```

   - UNIX

     ```
     ./infra/bin/psin_cli.sh –i3-user <user> {-i3-clear-password <i3 clear password> |
     –i3-encrypted-password <i3 encrypted password>}
     –action fs-copy-foresight-custom-report
     –parametersfile <parameters-file.xml>
     ```

   - Example:

     ```
     <i3_root>\infra\bin\psin_cli.bat –i3-user admin –i3-clear-password admin
     –action fs-copy-foresight-custom-report –parametersfile my_parameters_file.xml
     ```

2. Create the parameters-file.xml file in the Precise root folder and make sure it contains the following:

   ```
   <parameters>
           <parameter name="source-environment" value="Default"/>
           <parameter name="source-apptier" value="SQL Server"/>
           <parameter name="source-report" value="My_report"/>
           <parameter name="destination-environment" value="Default"/>
           <parameter name="destination-apptier" value="SQL Server"/>
   </parameters>
   ```

   and make sure to apply the information in the following notes.

   > ⓘ The parameter values are case-sensitive.

   > ⓘ The "source-report" name must not contain blanks.

   > ⓘ The new report name will have a suffix with a serial number (for example: "My_report_1").

   > ⓘ To copy a Cross-Tier report, use the "Cross-AppTier" string for both the "source-apptier" and
   > "destination-apptier" parameters.