

# About the Report Manager reports

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## 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.



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 the 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.

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