HP OpenView
Service Quality Manager

Reporting

Customization and User's Guide

Edition: 1.4

for the HP-UX and Microsoft Windows Operating Systems

March 2007

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Preface

HP OpenView Service Quality Manager **Reporting** is part of the Hewlett Packard solution for Service Quality Management. This manual explains how to use the Reporting in the context of the complete HP OpenView Service Quality Manager solution.

Intended Audience

This document is intended for personnel who use hp OpenView Service Quality Manager Reporting.

Supported Software

The supported software referred to in this document is as follows:

Product Version	Operating Systems
OpenView Service Quality Manager 1.4	Windows HP-UX 11i
Business Object 6.5.1 – desktop products	Windows
Web Inteligence 6.5.1	Windows 2003 Server HP-UX 11i

The term UNIX is used as a generic reference to the operating system, unless otherwise specified.

Typographical Conventions

`Courier` Font:

- Source code and examples of file contents.
- Commands that you enter on the screen.
- Pathnames
- Keyboard key names

Italic Text:

- Filenames, programs and parameters.
- The names of other documents referenced in this manual.

Bold Text:

- To introduce new terms and to emphasize important words.

Associated Documents

The following documents contain useful reference information:

- *OpenView Service Quality Manager SLA Monitoring User's Guide*

- *OpenView Service Quality Manager Reporting Installation and Configuration Guide*

- *OpenView Service Quality Manager DataMart User's Guide*

- *Getting Started with BusinessObject*s

- *BusinessObjects User's Guide*

- *BusinessObjects Designer's Guide*

- *BusinessObjects Supervisor's Guide*

Support

You can visit the HP OpenView support web site at:

http://support.openview.hp.com/support.jsp

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

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

- Search for knowledge documents of interest

- Submit enhancement requests online

- Download software patches

- Submit and track progress on support cases

- Manage a support contract

- Look up HP support contacts

- Review information about available services

- Enter discussions with other software customers

- Research and register for software training

Chapter 1

Overview

1.1 General Description of the hp OpenView Service Quality Manager Reporting

The two main functions of hp OpenView Service Quality Manager Reporting are:

- The consultation of Service Health and Performance data through WEBINTELLIGENCE reports.

- The creation of new WEBINTELLIGENCE reports.

1.1.1 Acronyms and Definitions

Administrating Client

Allows you to configure and administrate the BUSINESSOBJECTS environment.

Reporting Server

Provides Web Access to WEBINTELLIGENCE reports.

Reporting Clients

Allows you to view, refresh, modify and create WEBINTELLIGENCE reports.

Universe

BUSINESSOBJECTS abstraction layer providing objects to be used to build reports.

Strategy

BUSINESSOBJECTS database description file that helps object creation in the universe with minimal database structure knowledge.

Category

BUSINESSOBJECTS definition of group of reports to ease report organization.

1.1.2 Architecture

1.1.2.1 Consultation Architecture

The following figure presents the two possible ways to consult the OpenView Service Quality Manager Reporting reports.

The first way to access WEBINTELLIGENCE reports is through the OpenView Service Quality Manager SLA Monitoring UI, using specific menus. Only parts of the Documents are accessible, depending on the context.

The second way to access the reports is by using a Web Browser, which is connected to the WEBINTELLIGENCE server. In this case, the access is performed using BUSINESSOBJECTS InfoView, and all types of reports are accessible.

Figure 1   Consultation Architecture
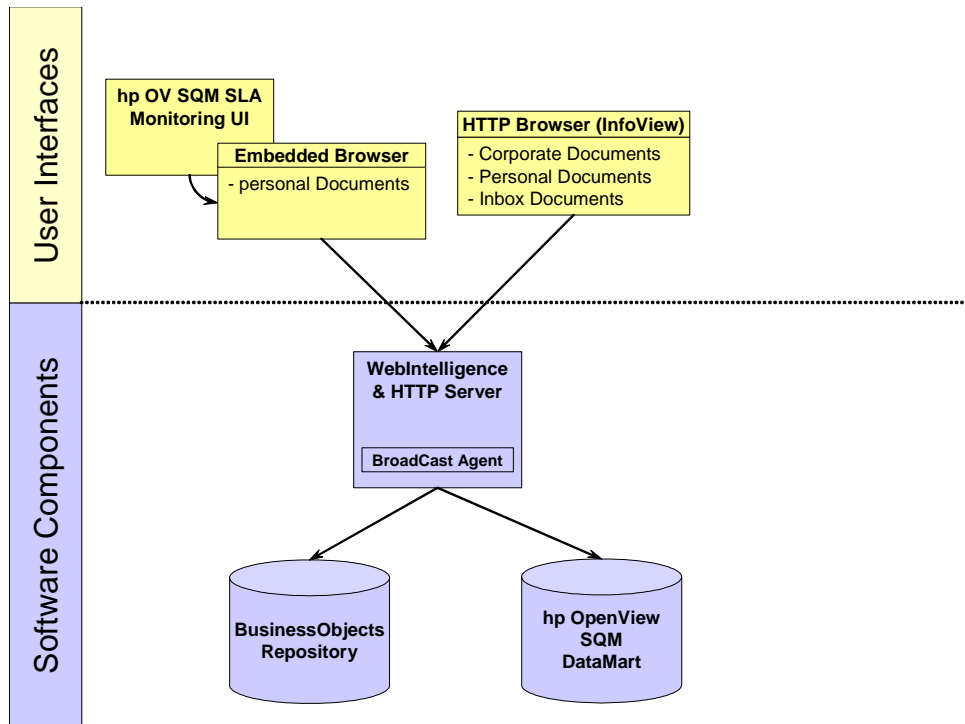
Required Knowledge

No specific BUSINESSOBJECTS knowledge is required to consult the reports.

1.1.2.2   Customization Architecture

Depending on the type of customization, three architectures are possible.

To create a new *universe*, users can use BUSINESSOBJECTS Designer. They access the OpenView Service Quality Manager DataMart database to create the universe, and can *export* their new universe in the BUSINESSOBJECTS Repository database.

To create a new *WEBINTELLIGENCE report*, users access InfoView through a Web Browser and choose to create a report based on one of the available universes, which allow them to access the OpenView Service Quality Manager DataMart data.

Figure 2   Customization Architecture
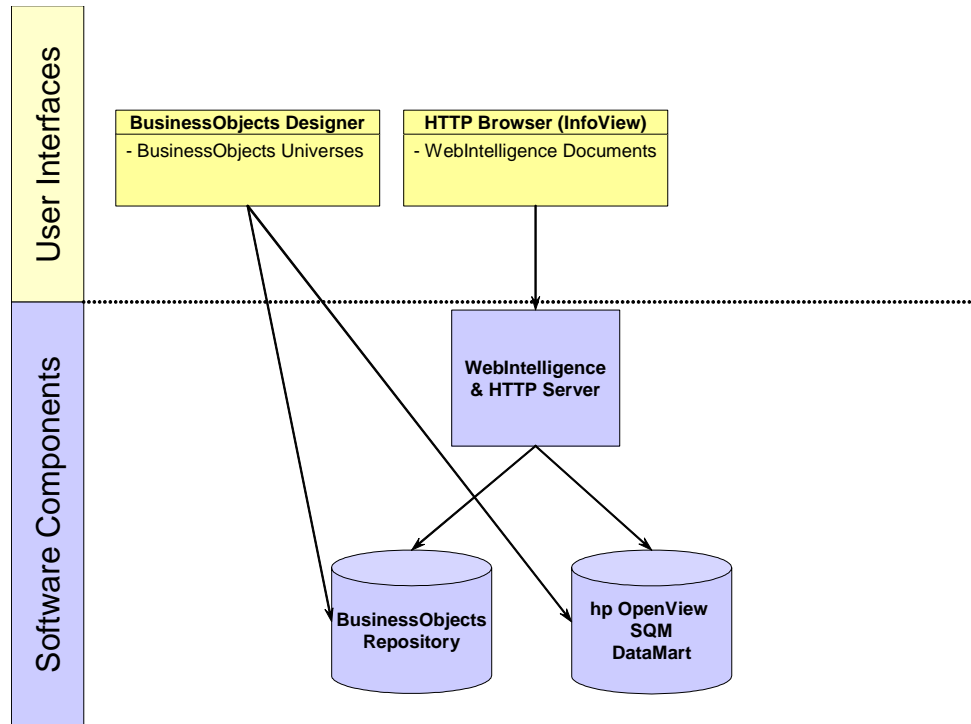
Required Knowledge

To use the Designer and create new universes, basic SQL (Structured Query Language) and ORACLE knowledge are required. Moreover, the knowledge of some BUSINESSOBJECTS Designer concepts is required, such as the concept of the *universe*, the loop resolution with alias tables and contexts

To use InfoView to create new reports, basic WEBINTELLIGENCE knowledge is needed.

Chapter 2

Accessing the Reports

There are two kinds of possible consultation accesses:

- From BUSINESSOBJECTS InfoView, through a Web browser.

- From the OpenView Service Quality Manager SLA Monitoring UI.

Reports are organized in categories to better identify them when using the InfoView portal.

There are five generic categories, containing the generic reports. These categories are: "**Compliance**", "**Health**", "**Incident**"", "**Model knowledge**" and "**Inventory**".

2.1 Using BUSINESSOBJECTS InfoView

Using BUSINESSOBJECTS InfoView, the user launches a Web browser and points it to the WEBINTELLIGENCE Server URL (for example, if the server name is "thalassa", the URL would be "http://thalassa:8081/wijsp"). To connect, the user has to enter a valid BUSINESSOBJECTS user name and password. The user is then connected to BUSINESSOBJECTS InfoView, and the user can access all authorized reports. Categories allow the user to select a subset of reports depending on the search.

To refresh a report, if authorized, the user may have to specify some prompt values on which the report focuses.

The user can also access their "*BusinessObjects Inbox Documents*" which have been sent by the Broadcast Agent or by another BUSINESSOBJECTS user.

2.2 Using the OpenView SQM SLA Monitoring UI

When accessing reports from the OpenView SQM SLA Monitoring UI, an embedded Web browser is in charge of the display. The login is automatic if the OpenView SQM SLA Monitoring UI user has been configured for the Reporting: refer to the *OpenView Service Quality Manager Reporting Installation, Configuration and Administration Guide*. Otherwise, users have to enter their BUSINESSOBJECTS user name and password.

The chosen report is refreshed for the entity the user has selected. For this case in fact, all the report input parameters are automatically filled, depending on the selected entity on the OpenView SQM SLA Monitoring UI.

 However, if the report needs more precise data (for example if users selected an SLA on the OpenView SQM SLA Monitoring UI, and they want to see Services data) to be refreshed, they will have to fill the additional prompts themselves.

Chapter 3

Description of the Predefined Reports

This chapter describes the WEBINTELLIGENCE report contents, their prompts and the way to access them.

Note

BUSINESSOBJECTS users might be affected by a filter on Customers that determines for which Customer they are authorized to access data. Most of the generic reports make use of this filter. However, some reports do not support this filter.

For further details on how to configure BUSINESSOBJECTS filters, refer to the *OpenView Service Quality Manager Reporting Installation and Configuration Guide*.

3.1 Overview

Several types of information are available in dedicated reports. They are organized in multiple BusinessObject categories.

- SLA Compliance reports

- Service Health reports

- Status History reports

- Inventory reports

- SLA Monitoring Embedded reports

Each category can contain reports to ease navigation between multiple reports.

Reports are linked by a navigation schema. From a high level report you can drill on time, change the time grain (hourly detail, daily detail…) or switch to another category of information. Each time you use a link you pass the selected data as input scope of the target report.

When launched from the SQM Monitoring, the reporting takes the monitoring context as inputs to fill required prompts. When used directly from the Business Object Infoview portal it is a recommended to first open high level information report and then drill to more detailed information. Starting with low level data reports would require an important set of input prompts.

3.2 Time drill principle

The reports are designed to provide flexible time focus. When used in the Business Object InfoView portal you will be prompted for a reporting start and end time. You can specify dates or select one of the predefined periods (last month, last quarter, past 12 weeks…). You will also be prompted for a granularity which specifies the level of detail you'd like to see (daily, weekly…)

These features are available in the SQM Monitoring browser in a more convenient way: Above the report themselves a header provides granularities as multiple tabs of a unique report and the time frame can be set on demand. You can even store the time frame in a report to focus on an interesting time zone and then apply the saved time frame to any already opened report.

Beside that time navigation you can also zoom in time within a specified report. That feature is described in related report sections but basically by clicking on a displayed monthly point you can access its week information and so on down to the finest available detail level.

Figure 3   Embedded reporting header
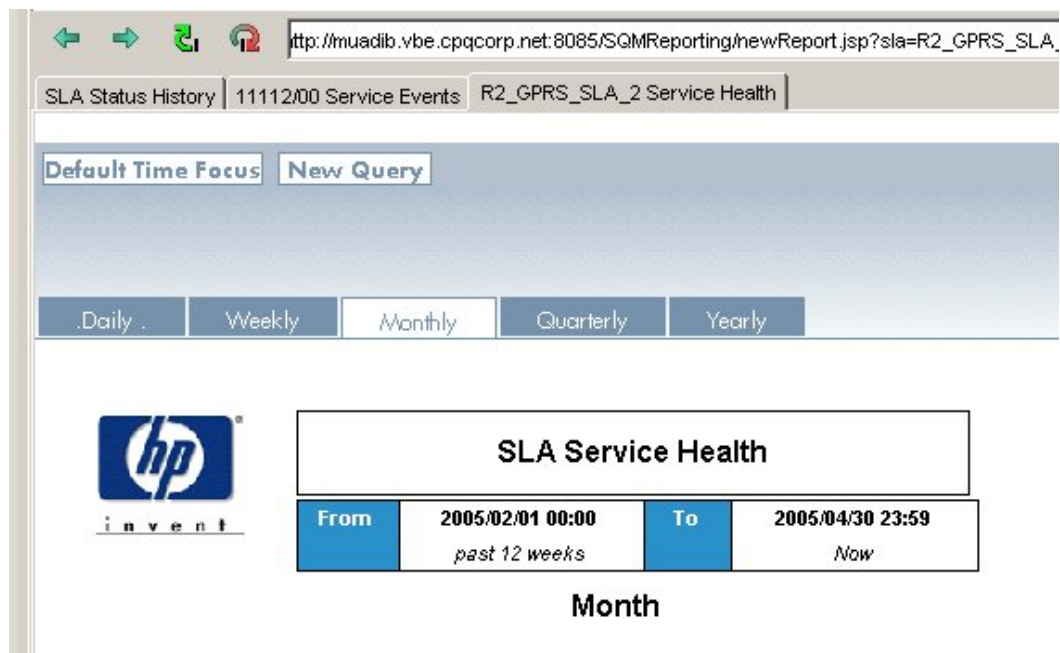
- The report starts below the tab line and provides time scope information in the header

- Tabs are created according to the granularities available for the report

- By clicking on new query all report prompts will be available to define a new scope

- When you pass the mouse over the 'Default Time Focus' button you can change the time zone you are interested in. This is independent from the granularity controlled by the tabs

- Click on Set to store the current start time, end time and time grain as the default one for any new report

- Click on apply to apply the stored time focus to the opened report.

3.3　Entities drill down/throw principle

Reports are organized in sections, hosting data in the scope of an entity (SLA, service…). The entities you want to see are prompted by BusinessObject or passed as an input context by the SLA monitoring GUI. All entities can be fully wilcarded to retrieve all available information.

Note

Entities wildcarding can lead to huge volume of data retrieval with substantial impact on report usability and response time. Wildcarding inputs should be used only on reasonable scopes.

In reports several images and text are clickable to navigate to more detail or related kind of information. When using these links you provide to the target document the surrounding context accessing to more detail only for the selected time slice and/or entity.

3.4　Report categories

In the next section the categories are introduced with their navigation

3.4.1　Service Health Reports

These reports provide an operational analysis for service Health Indicators (SHI). All indicators are computed against the time grain shown by the report: A daily grain will show SHI based on a pure daily period and so on up to the yearly aggregation level. In other words, the SLA Reference Period is not taken into account for computing the indicators displayed in Service Health Reports.

- The usual service health data is analyzed over time and deviation from period to period is computed to provide trends.

- In addition numbers of degradation and violation events are aggregated over each shown period.

3.4.1.1　Navigation

The Service Health Overview report can be used as an entry point for the hierarchy of Service Health reports. From it, you can navigate either hierarchically in Overview reports or go into details with the SLA Service Health report. Both overviews and detailed Service Health reports can be navigated by following the model hierarchy of a given SLA.

The lowest level of details, Service Incidents, is accessed through detailed Service Health reports.

Figure 5   **Service Health report navigation**
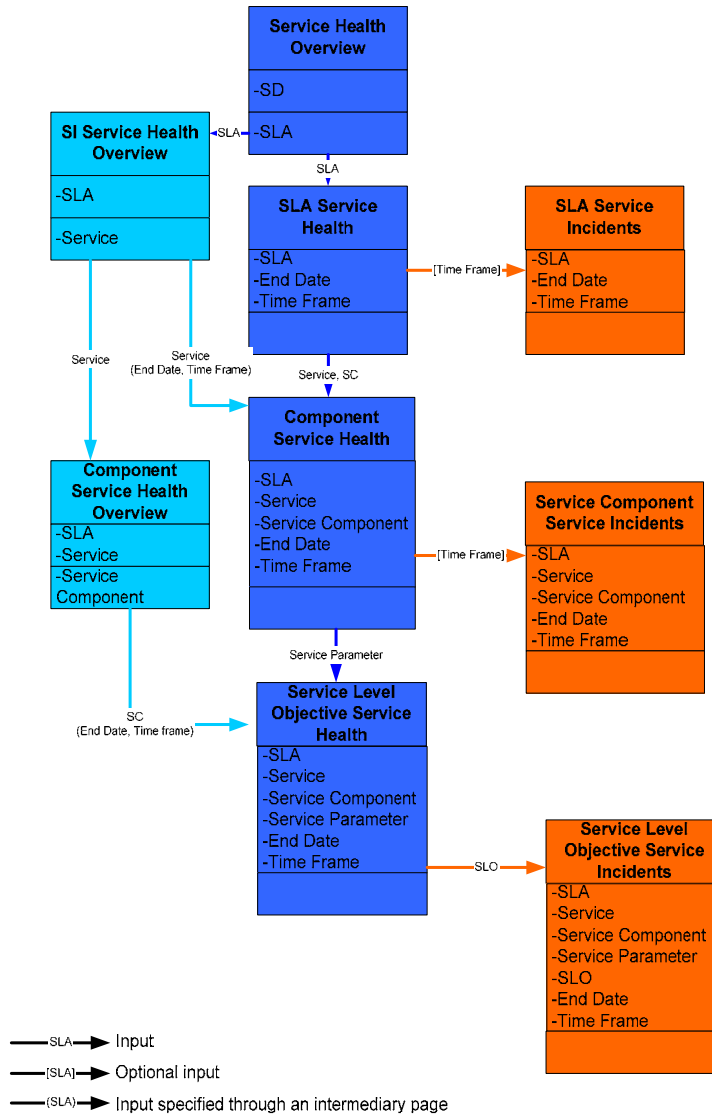
3.4.1.2 Examples

This section provides screenshots. Not all available levels of details are illustrated; the one with identical data shown at distinct levels are merged.

Each available link is documented.

Figure 6   Service Health Overview
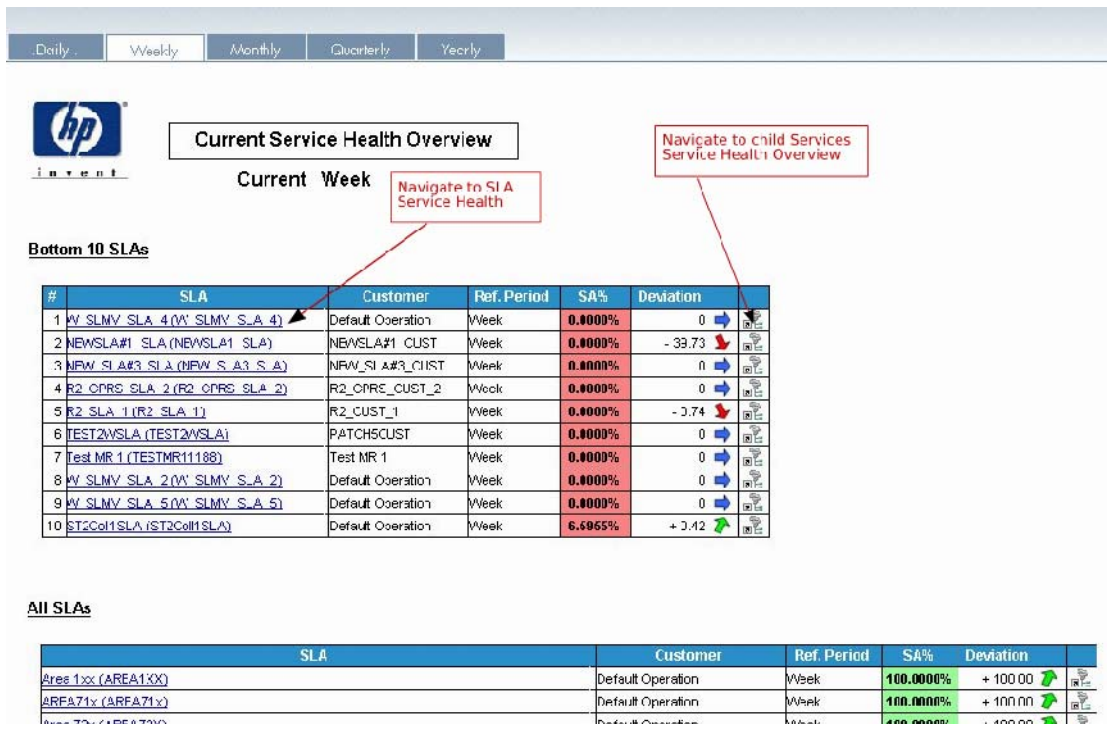
This report presents the current Service Availability of the SLAs in the selected time granularity. For exemple, if you select the Weekly time granularity, the Service Availability of SLAs is displayed for the current week. At the top of the report are presented the 10 SLAs with the worst Service Availability.

Figure 7   Synthetical health view of impacted service
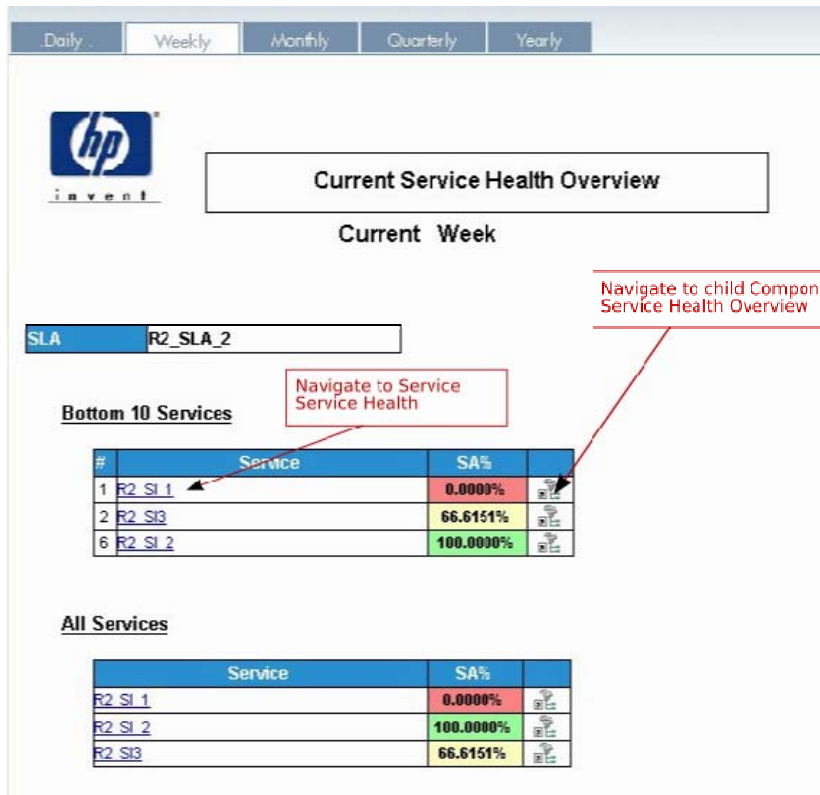
This report gives an overview of the Service Availability of the child Services of a given SLA. The ten Services with the worst Service Availability are sorted out on top of the report.

Figure 8   **Synthetical health view of impacted components**
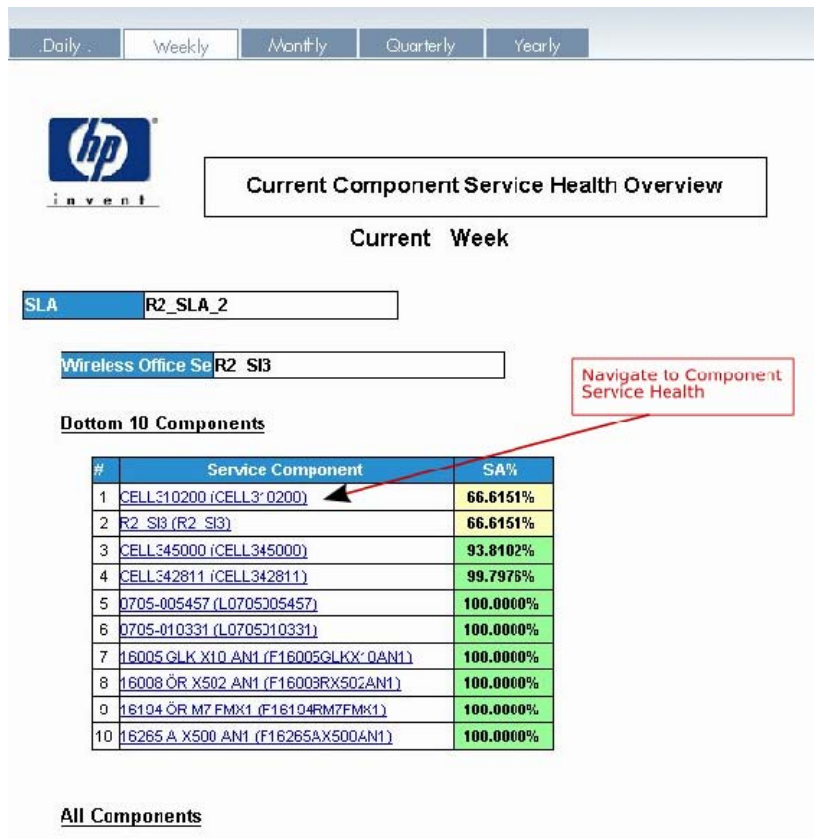
This report gives an overview of the Service Availability of the child Service Components of a given SLA. The ten Service Components with the worst Service Availability are sorted out on top of the report.

Figure 9   SLA health
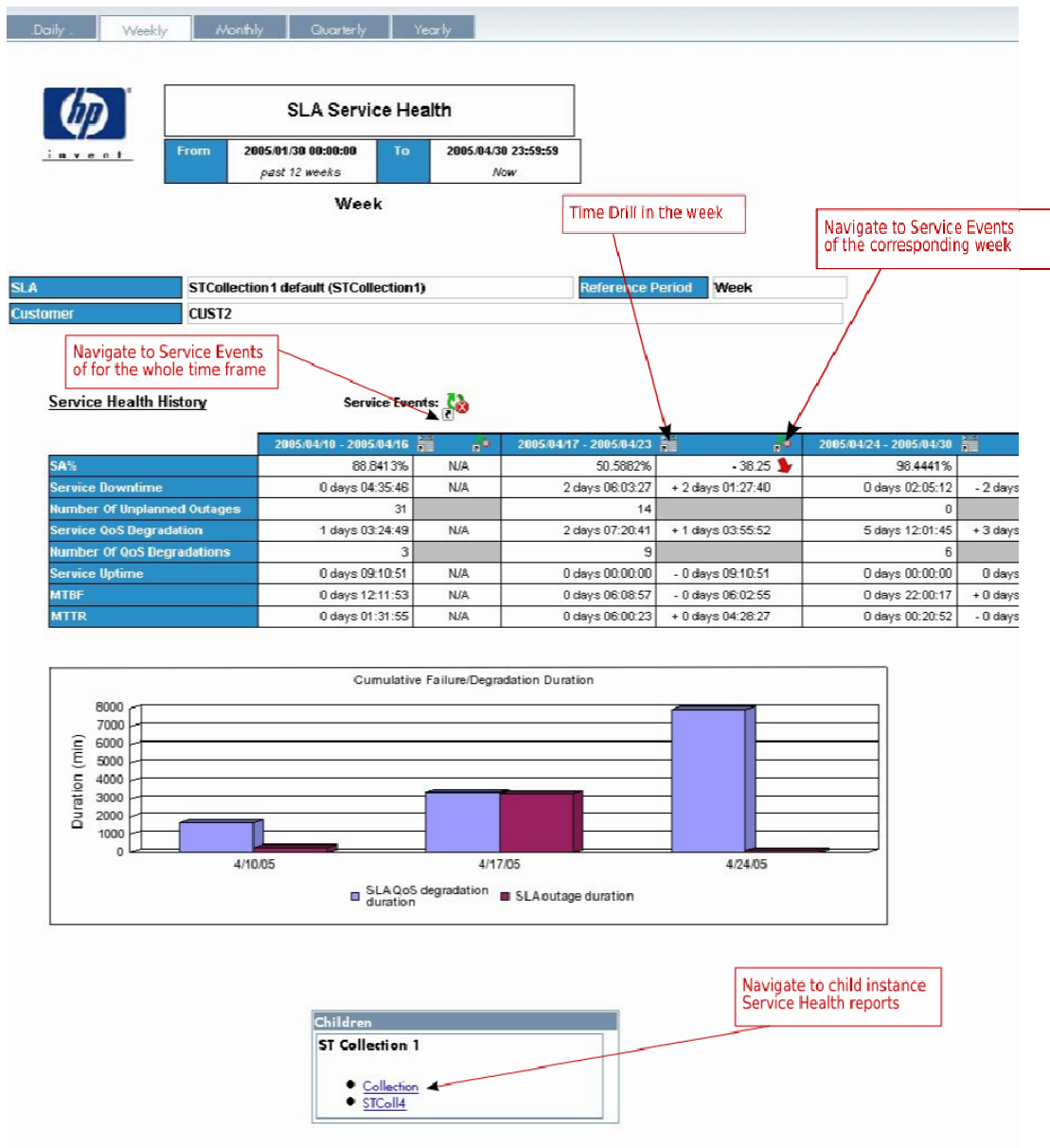
The SLA health report focuses on the Service Health Indicators of a SLA. This report allows following the evolution of these indicators from time period to time period.

Figure 10   Service and Service Component health
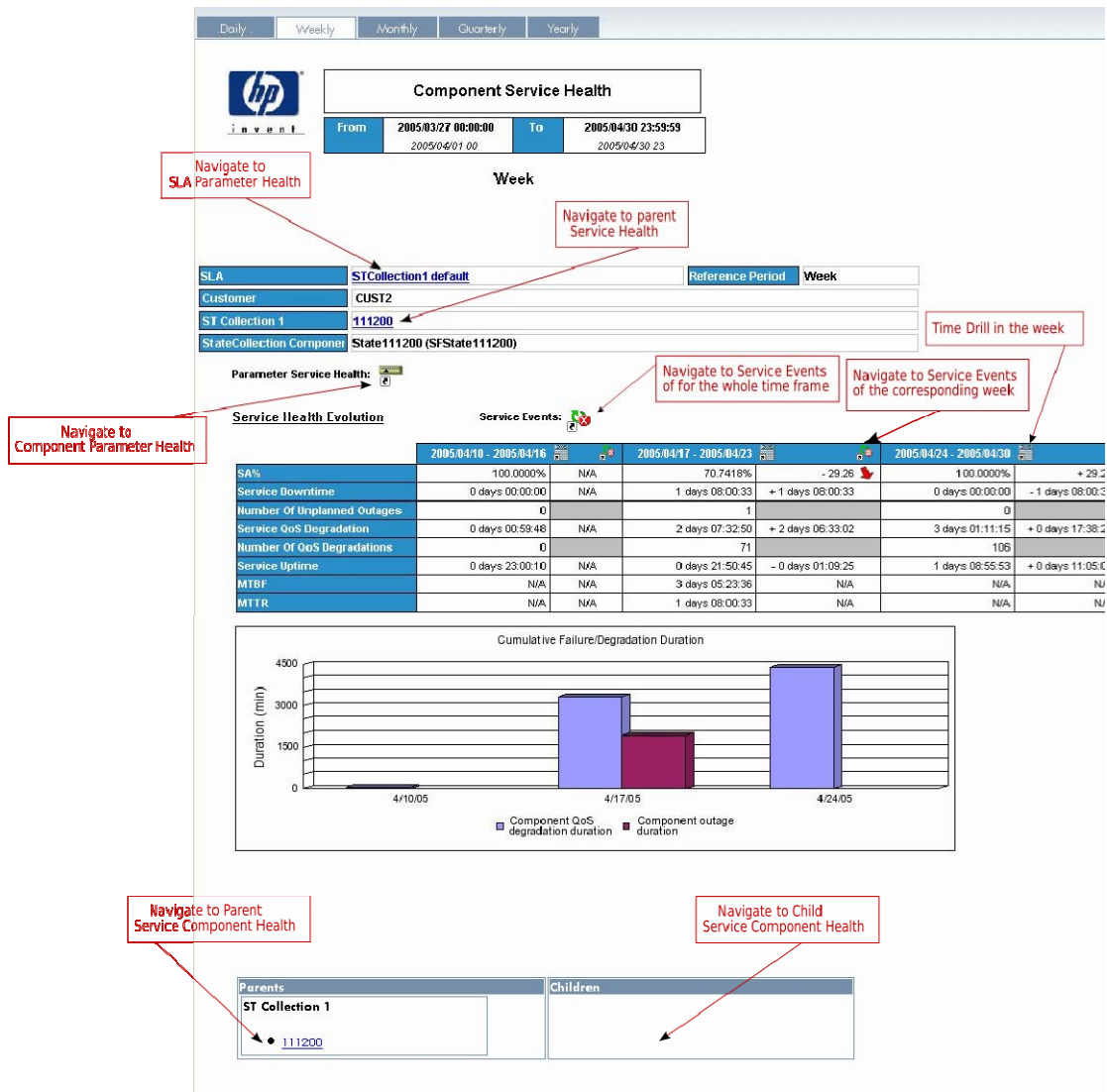
3.4.2   SLA Compliance reports

These reports focus on service health indicators (SHI) in the context of an SLA. They provide data in the perspective of the SLAs reference period. The aggregation of measure is run over the related reference period and reset at period crossing. This means, for example, that the weekly Number of Unplanned Outages is the number of Unplanned Outages so far since the beginning of the SLA reference period.

The time left indicator represents the Maximum Allowed time for the SLA minus the Unplanned Outage duration for the reference period.

Important Notice: SLA Compliance Reports are empty for granularities greater than the SLA reference period.

3.4.2.1   Navigation

Navigation is in all points similar to the one in Service Health reports:

The Service Compliance Overview report can be used as an entry point for the hierarchy of SLA Compliance reports. From it, you can navigate either hierarchically in Overview reports or go into details with the SLA Service Compiance report. Both overviews and detailed Compliance reports can be navigated by following the model hierarchy of a given SLA.

The lowest level of details, Service Incidents, is accessed through detailed Compliance reports.

**Figure 11   Compliance report navigation**
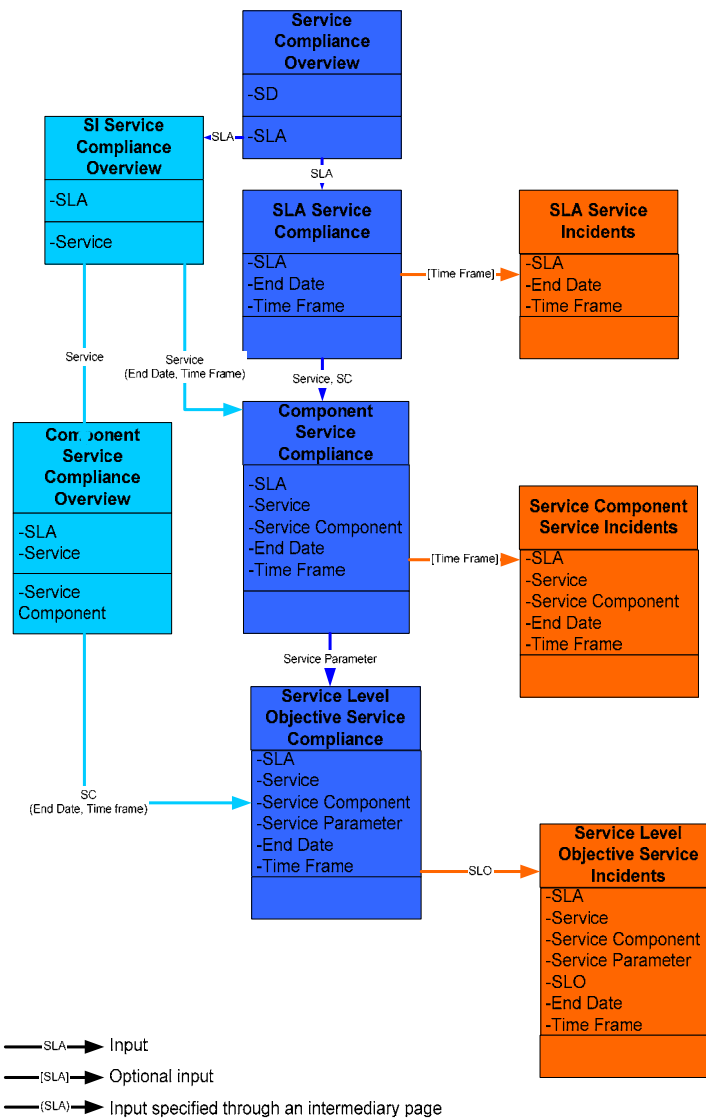
3.4.2.2 Examples

Figure 12   Service Compliance Overview.
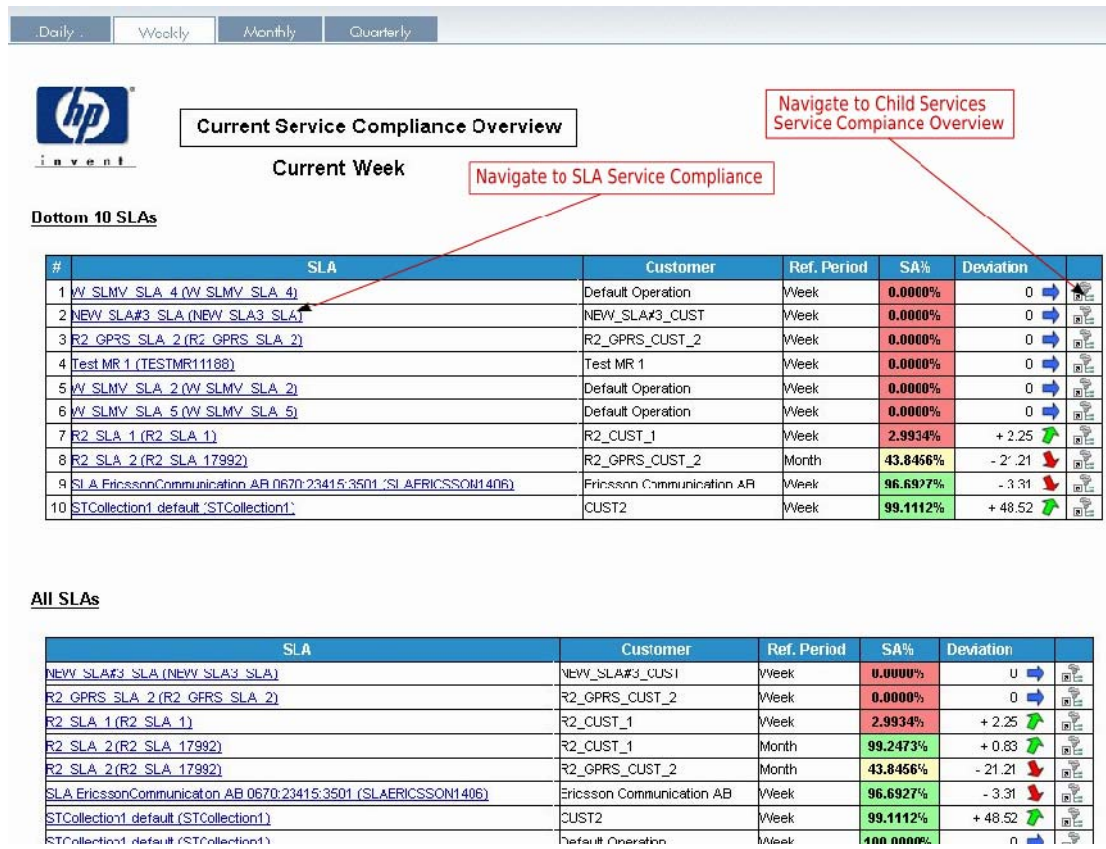
This report presents the current Service Availability of the SLAs in the selected time granularity in relation with each SLA reference period. For exemple, if you select the Weekly time granularity, the Service Availability of SLAs is computed for the current week over the whole reference period, which depends on the SLA.

At the top of the report are presented the 10 SLAs with the worst Service Availability.

Note that only the SLAs which have a reference period less than or equal to the selected granularity are displayed.

Figure 13   SLA Service Compliance
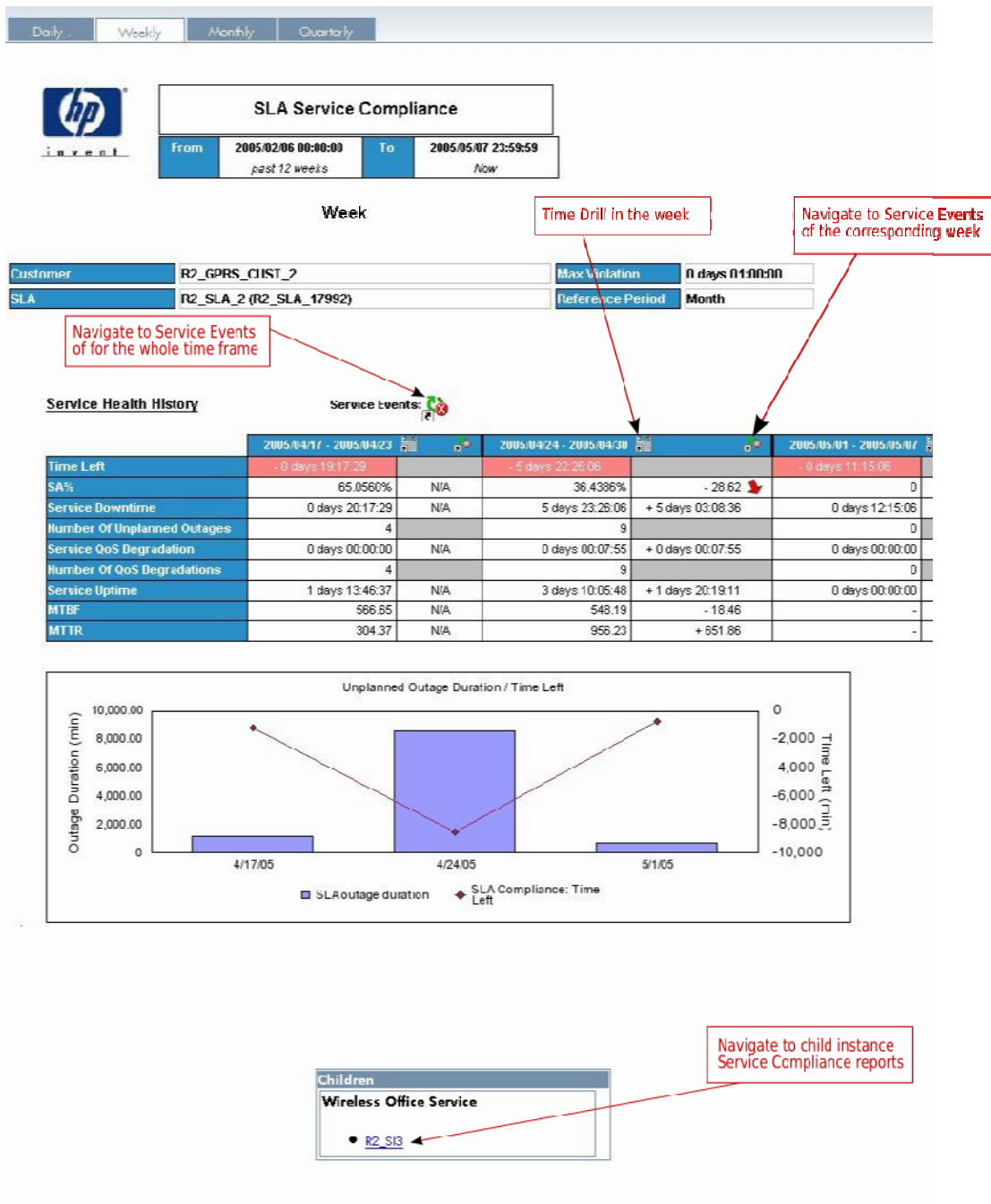
3.4.3   Status History Reports

These reports provide a low level history of status values for the following entities: SLA, Service, Service Components and Service Level Objective.

- The Status evolution is shown in perspective with the SLA 'In' or 'Off' Duty state.

- For each received status transition the duration is computed.

- Each event provides an operator note field that can be edited from the report within the SQM SLA Monitoring.

3.4.3.1   Examples

Figure 14   Parameter level Service Incident report
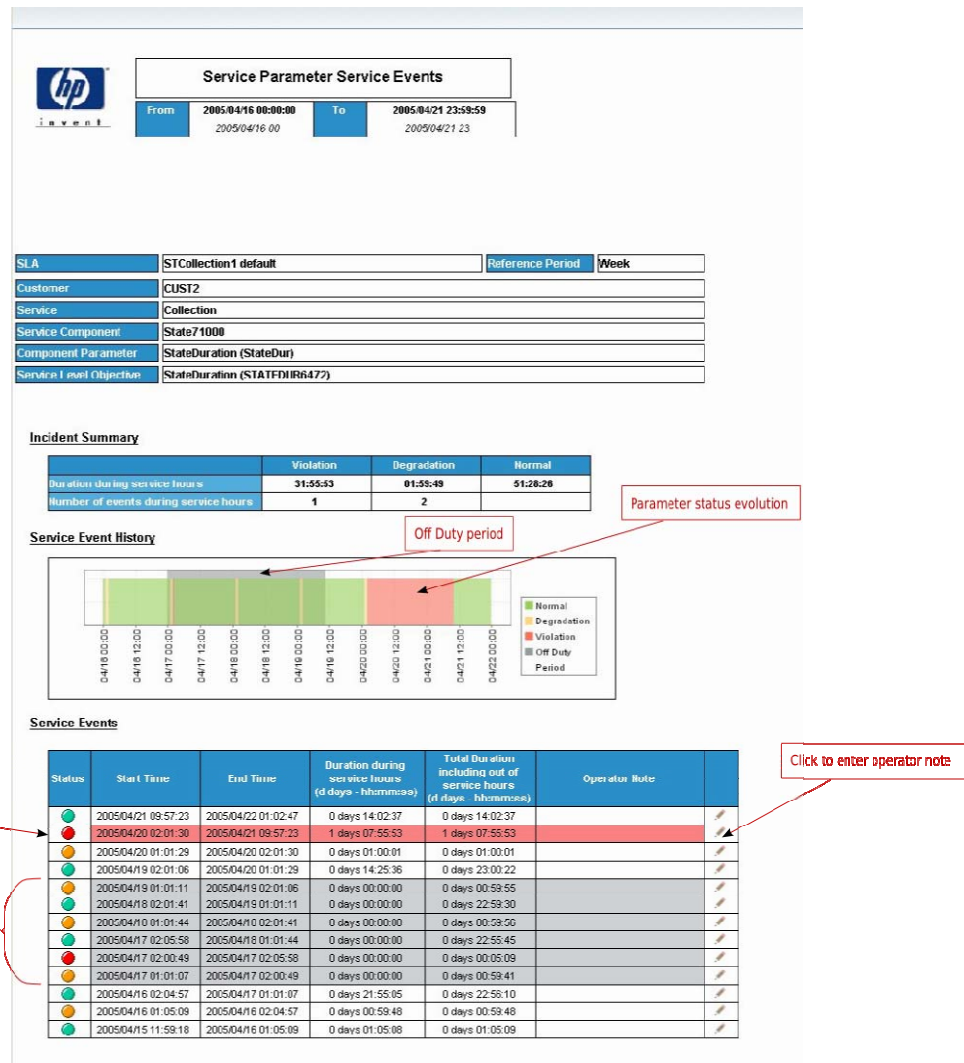
3.4.4   Service Level Inventory Reports

These reports display structure of defined Service Levels.

This category is composed of three levels of reports hierarchically linked: the Service Level Inventory, Service Level Details and Service Level Objective Details.

- Service Level Inventory: list of Service Levels with their associated Component Service Levels and their number of Service Level Objectives.

- Service Level Details: list of Service Level Objectives for a given Service Level / Component Service Level.

- Service Level Objective Details: list of Objective Thresholds for a given Service Level Objective.

3.4.4.1   Navigation

Navigation follows the hierarchy Service Level, Service Level Objective, Objective Threshold.

Figure 15　　　　Service Level Inventory report navigation
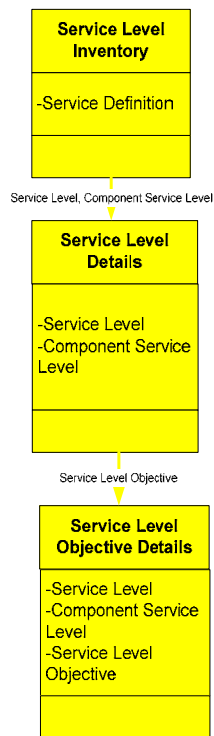
3.4.4.2　Examples

This section provides screenshots. Not all available levels of details are illustrated; the one with identical data shown at distinct levels are merged.

Each available link is documented.

Figure 16　　　Service Level Inventory report

Figure 17   Service Level Details report

Figure 18   Service Level Objective Details report

3.4.5 Other Inventory Reports

The following reports are stand alone inventory reports:

- The SLA list for Component report displays the list of all the SLAs put on a given Service Component (which can be a service).

- The Component in Hierarchy report displays the Parents and Children of a given Service Component (which can be a Service).

- The SLA Inventory simply displays the volume of SLAs defined for a given Service Definition, with the repartition of this number of SLAs between Service Levels.

- The Customer and Service Provider Inventory Notice Board reports display statistical data on the number of objects created / updated / destroyed with a Customer or Service perspective.

3.4.5.1 Navigation

Only limited navigation is available in these reports.

- The SLA List for Component report allows navigation to the corresponding Service Health reports. The navigation is done in the scope of a selected SLA / Service. Since the SLA List for Component is displayed outside of any time / granularity scope, some prompts will be displayed for the user to choose a scope.

- Navigation can be performed from Service Component to Service Component in the Component in Hierarchy report by following the Service Hierarchy. Links are provided to Service Health reports. Since the Component in Hierarchy report is displayed outside of any time / granularity scope, some prompts will be displayed for the user to choose a scope.

3.4.5.2 Examples

This section provides screenshots. Not all available levels of details are illustrated; the one with identical data shown at distinct levels are merged.

Each available link is documented.

Figure 19   Dependent SLAs report
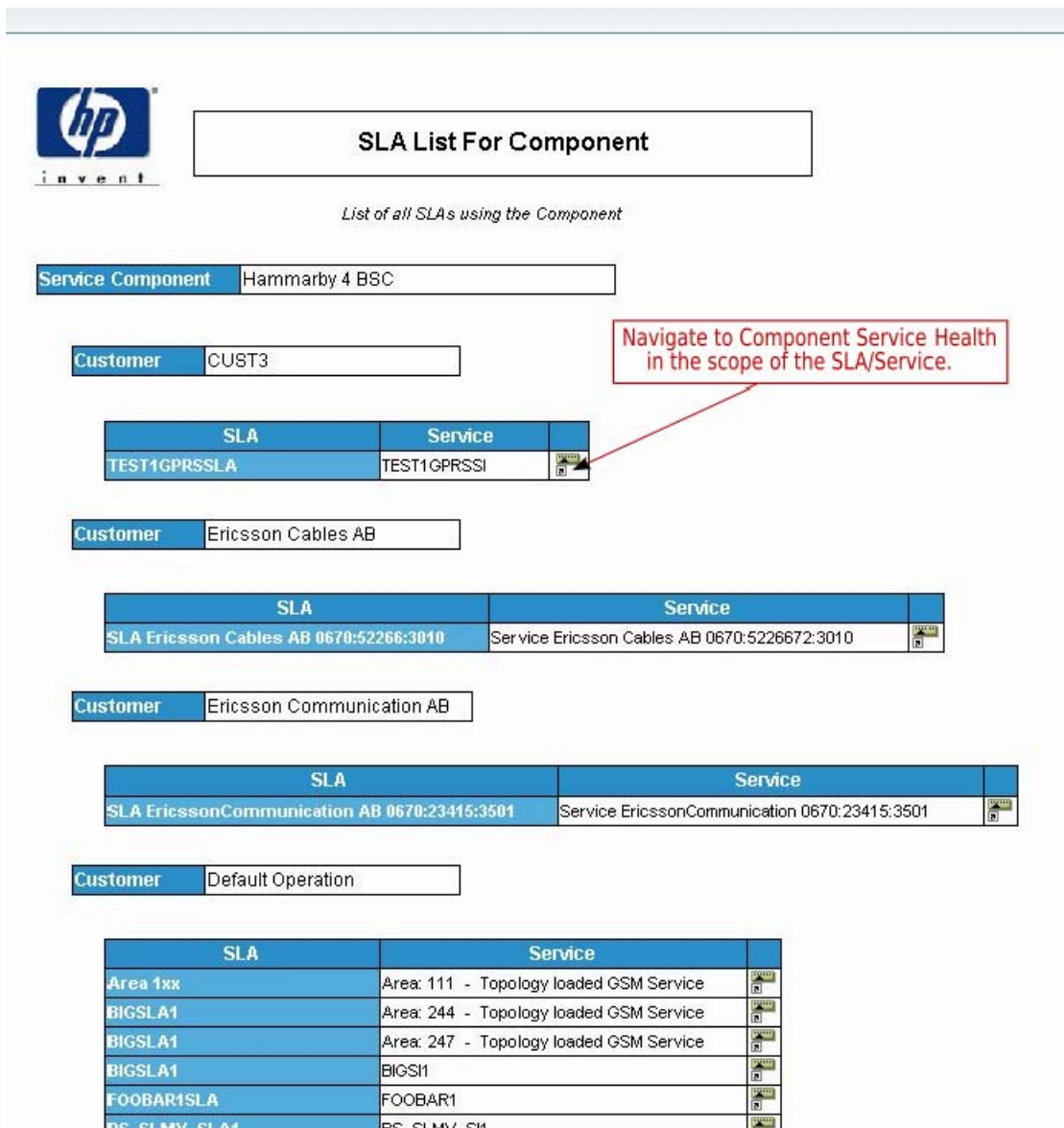
Figure 20   Service Component in Hierarchy report
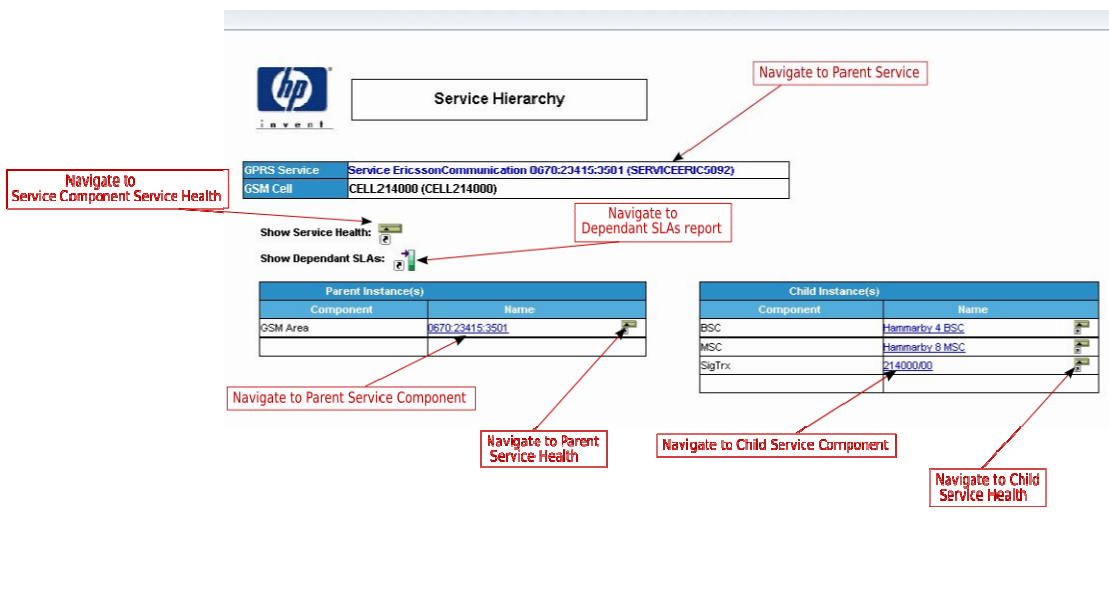
Figure 21　　　SLA Inventory report

Figure 22   Monthly Customer Inventory Notice Board

Customer Inventory Notice Board Monthly

2005/04

CUST2 (CUST2)

SLA Inventory			
SLA Name	**Creation Date**	**Number of Updates**	**Deletion Date**
STColl4SLA (STColl4SLA)	15 Apr. 2005	1	-
STCollection1 default (STCollection1)	13 Apr. 2005	4	-
TEST1GSMSLA (TEST1GSMSLA)	17 Feb. 2005	1	12 Apr. 2005

Service Inventory			
Service Name	**Creation Date**	**Number of Updates**	**Deletion Date**
Collection (Coll1_1)	14 Apr. 2005	1	-
OPTIMISTIC2SI (OPTIMISTIC2SI)	18 Feb. 2005	0	-
STColl4 (STColl4)	15 Apr. 2005	1	-
TEST1GSMSI (TEST1GSMSI)	17 Feb. 2005	0	-

Service Level Inventory			
Service Level Name	**Creation Date**	**Number of Updates**	**Deletion Date**
FUNGERAR 1 (FUNGERAR1)	17 Feb. 2005	16	-
FUNGERAR SL (PATCH8SL)	15 Feb. 2005	1	-
Validate Collection 1 (ValidateColl1)	14 Apr. 2005	8	-

Figure 23 **Monthly Service Provider Inventory Notice Board**

ST Collection 1 (STCollection1)

Customer Inventory			
Customer Name	Creation Date	Number of Updates	Deletion Date
Batch Compliance Customer (BatchCompCust)	15 Apr. 2005	2	-
CUST2 (CUST2)	17 Feb. 2005	0	-

SLA Inventory			
SLA Name	Creation Date	Number of Updates	Deletion Date
Batch Compliance SLA (BatchCompSLA)	15 Apr. 2005	2	-
STColl4SLA (STColl4SLA)	15 Apr. 2005	1	-
STCollection1 default (STCollection1)	13 Apr. 2005	4	-

Service Inventory			
Service Name	Creation Date	Number of Updates	Deletion Date
Collection (Coll1_1)	14 Apr. 2005	1	-
STColl4 (STColl4)	15 Apr. 2005	1	-

Service Level Inventory			
Service Level Name	Creation Date	Number of Updates	Deletion Date
Batch Compliance (BatchCompliance)	15 Apr. 2005	1	-
Validate Collection 1 (ValidateColl1)	14 Apr. 2005	8	-

Chapter 4

Extending the Reporting Environment

4.1 Modifying the Static BUSINESSOBJECTS Universe

The reporting provides an off the shelf universe to build reports on static information available in the production database. Static information is the term used to describe all the information available in the production area that doesn't need dynamic table creation or any DB schema extension, in particular SHI is part of that static information while parameter values are considered as dynamic as they are stored in tables created on the fly to store model specific information.

This static universe is called 'master' universe. **Modification of the delivered master universe is not supported.**

4.2 Creating New Specialized Universes

Service or Service Component Definition specific metrics are stored within a dynamic data model. To be able to use these metrics, you have to create a new specialized universe after the specific ORACLE objects have been created in the *Production* database.

Note

The term *specialized universe* means that certain Service Definition, Service Component Definition or Service Parameter specific objects are added to the master universe.

The master universe is used as the base universe for any specialized universe. For further details, refer to Appendix A.

The following steps will help you to build your own universe by using the Business Objects strategy file provided with the reporting kit:

4.2.1 Step 1: Include Strategy files in business objects environment

To ease specialized universe creation, an off the shelf strategy file is provided. This strategy file is designed to scan the dynamic content of the production database and as it knows how tables are built and what they store it provides the user with BO objects reflecting the model loaded into the database. That way BO designers don't need to have a deep knowledge of the database structure and can focus on end

customer needs. The strategy files are usually located in "C:\Program Files\Business Objects\BusinessObjects Enterprise 6\dataAccess\RDBMS\connectionServer\oracle"

They are named "oracleen.stg" and "oracle.stg"

The original files should be replaced by the one provided under $TEMIP_SC_HOME\Reporting\Strategies\.

The provided file covers join objects and structure strategies

This will allow BO Designer to automatically place the joins, create objects and restrict the tables to useful one in the table browser.

4.2.2   Step 2: Start from master universe.

Edit the master universe with BO Designer and save it under a new name corresponding to your universe.

Change the universe parameters via menu **File/Parameters** as shown in the following screen shots.

Change the universe parameters via menu File/Parameters.

Figure 24   Create a specific universe
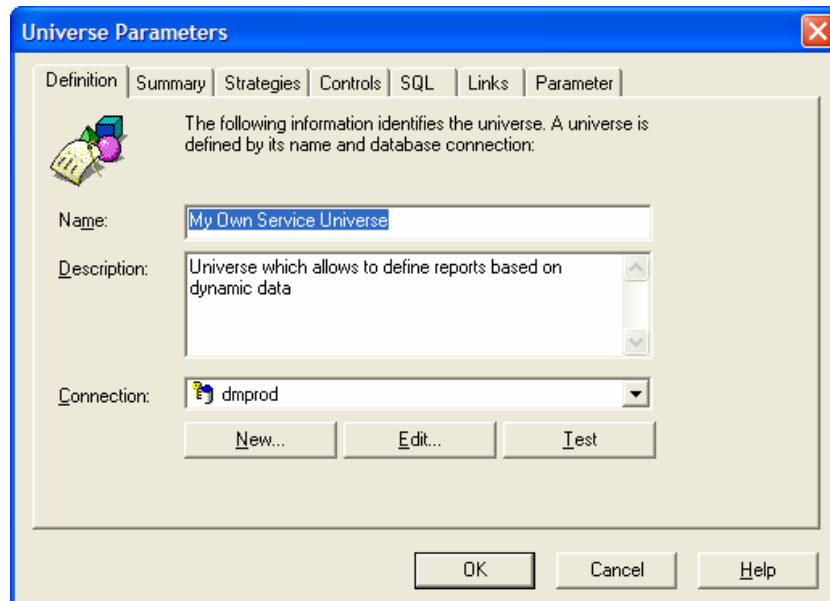
• Replace the connection, and universe description with your own values:

Figure 25   Insert Strategies
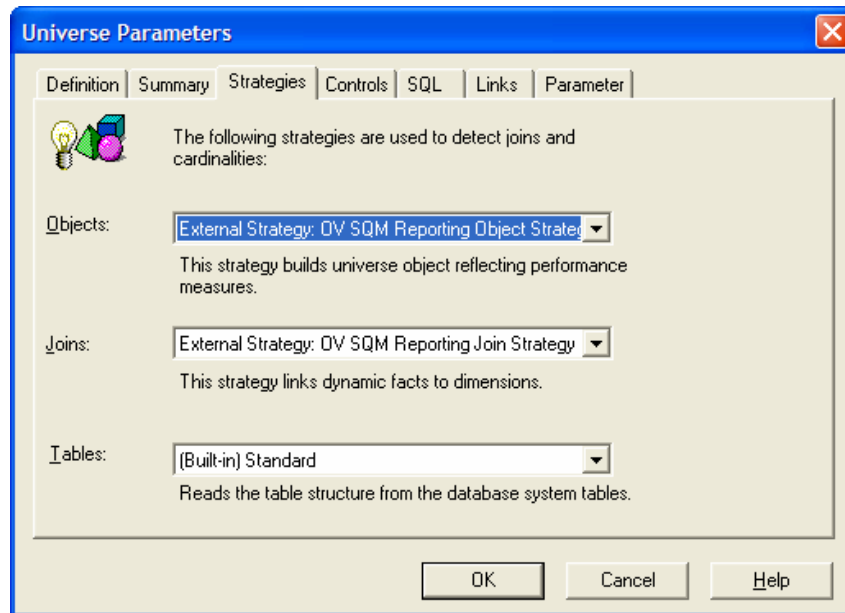
- Select the OV SQM strategies for join and objects

Note

OV SQM also provides a 'STRUC' strategy for tables. You can use that strategy to restrict the tables shown within the table browser when inserting tables manually. That strategy should **not be selected** when directly inserting candidate objects as described below.

Close this window and activate the use of strategies through the menu Tools/Options:

Figure 26   Activate Strategies
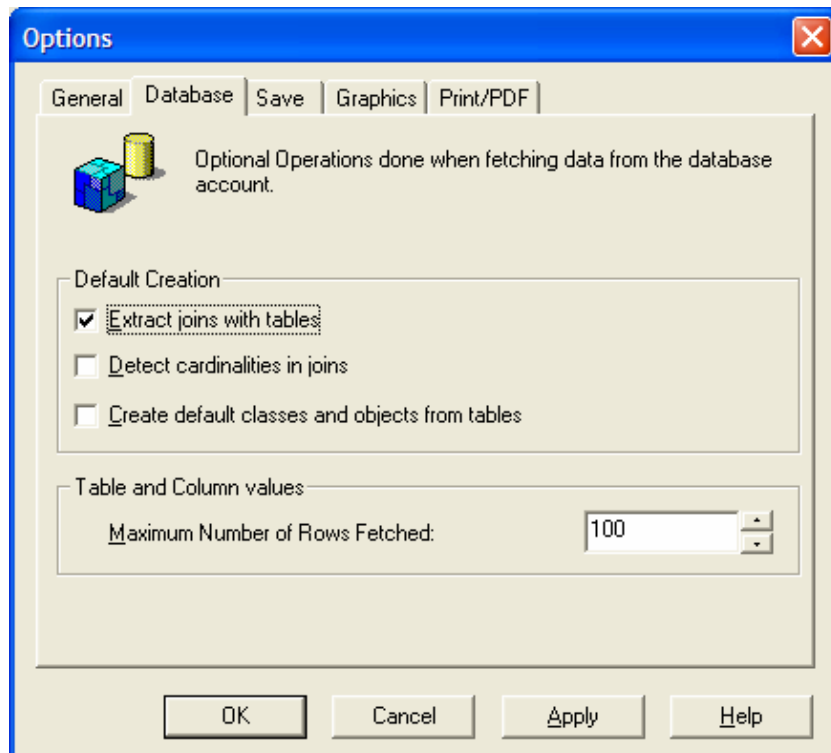
- The option Extract joins with tables must be checked. Click OK. You are now ready to build your own universe.

- Detect cardinalities should be disabled as the join strategy provides that information to BO

- Default classes and object should also be disabled as the object strategy provides a more knowledge mapping between BO object and the database structure

4.2.3   Step 3: Build your universe

4.2.3.1   Create your classes and objects

The object strategy allows BO to suggest names and mapping for universe objects. This concerns the left panel of the universe workspace. To use it select the menu Insert / Candidate objects to display this browser:

Figure 27   Automated object creation
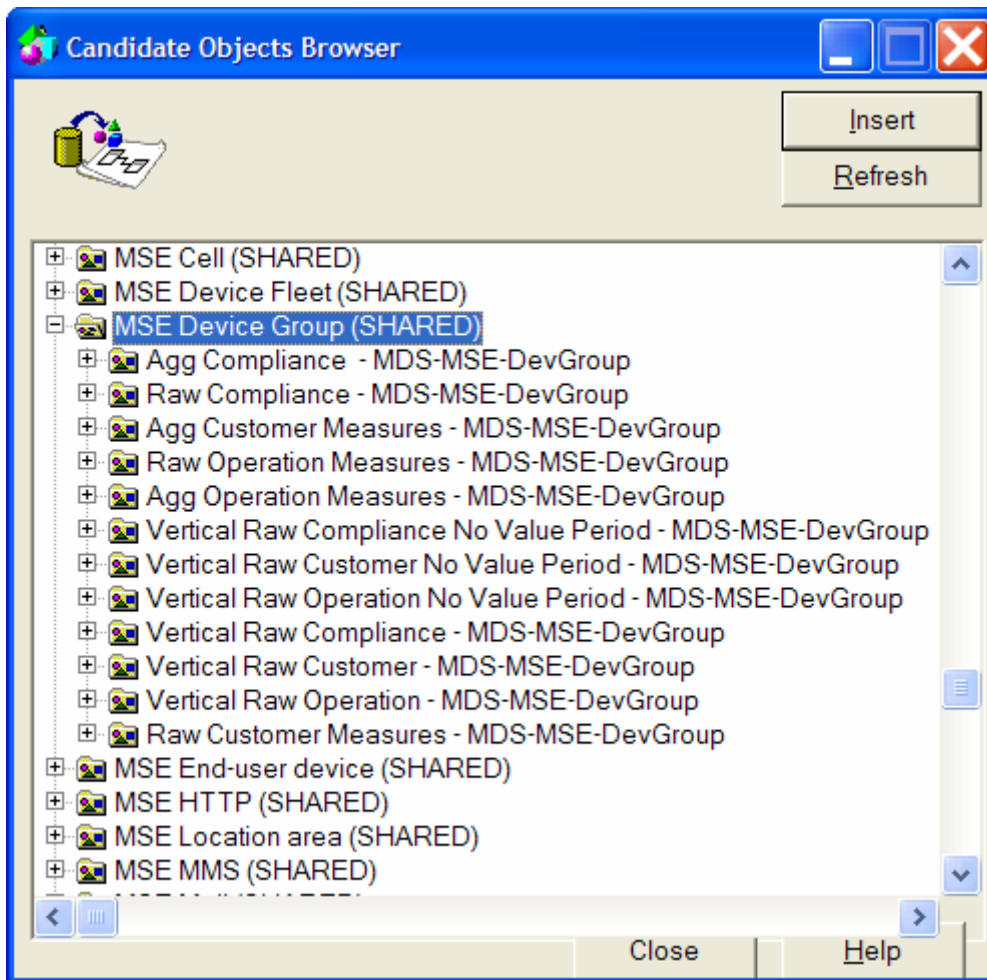
For each service component definition one dedicated Business Object class is created, for sub component the related top definition is added in brackets, if the component is shared between several services definitions 'SHARED' appears in place of one of the top definitions

Note

The top level classes are based on labels, if multiple definitions use the same label they will be organized under a shared top class. For the second class level names are used to ensure BO class unicity

If a same definition has been created / delete / created several times. This leads to multiple versions of a same definition in the DataMart. Versions are tracked by the strategies and indicated in trailing brackets like (V_1), (V_2).

Under each component up to twelve classes are available to organize indicators. These classes are only proposed if at least one measure is available for the class.

- Raw Compliance Indicators : contains all compliance parameters of the component

- Raw Customer Indicators : contains all customer dependent parameters of the component

- Raw Operation Indicators : contains all customer independent parameters of the component

- Aggregated compliance Indicators : contains aggregated values of compliance parameters

- Aggregated Customer Indicators : contains aggregated values of all customer dependent parameters of the component

- Aggregated Operation Indicators : contains aggregated values of all customer independent parameters of the component

- Vertical Raw Compliance Indicators: contains the raw values of compliance parameters of the component and the timestamp which is the collection/calculation timestamp of that value

- Vertical Raw Customer Indicators: contains the raw values of customer dependent parameters of the component and the timestamp which is the collection/calculation timestamp of that value

- Vertical Raw Operation Indicators: contains the raw values of customer independent parameters of the component and the timestamp which is the collection/calculation timestamp of that value

- Vertical Raw Compliance No Value Period Indicators: contains the begin and end timestamp of the no value period of compliances parameters of the component

- Vertical Raw Customer No Value Period Indicators: contains the begin and end timestamp of the no value period of customer dependent parameters of the component

- Vertical Raw Operation No Value Period Indicators: contains the begin and end timestamp of the no value period of customer independent parameters of the component

Select the classes or objects you are interested in and drop them in the left panel. Each above listed class refers to a dedicated table or view in the production schema. When you drop objects into your universe the related tables are automatically included into the universe and the join strategy creates all the joins referencing these tables

Figure 28   Default Indicator naming rules
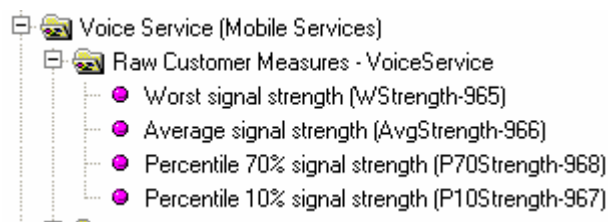
The indicators are identified by their label, in the trailing brackets the parameter name is given for unicity as well as the parameter ID (the one allocated by the datamart while filling the parameter_dim table).

Note

The imported class and measure names may have more than 35 characters, in that case the universe export will ask you to shorten the names; this is not done automatically by the strategy for readability reasons

For the indicators, do not forget that by default BO will apply a sum function to change it edit the indicator properties:

Figure 29   Object properties
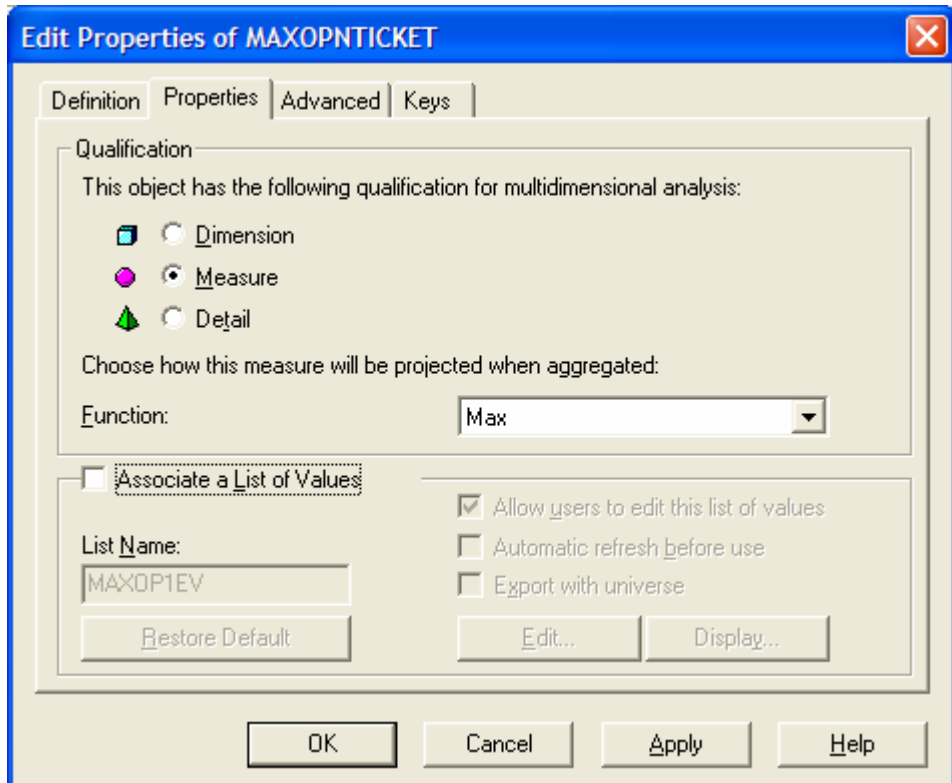
- Select the appropriate function instead of sum and uncheck Associate a List of Values.

4.2.3.2   Arrange your tables

If you use the table schema area you should organize your layout for readability, however according to the universe complexity and the number of component readability can become difficult to achieve. It is usually faster to rely only on the BO list mode panel and use arrange table with the automatic tool.

4.2.3.3   Define a context for each table

The context gives BO the query path to use when querying a table in order to avoid loop problems. From the menu View select the option List mode.

A new area should appear in your workspace with 3 lists:

- Tables

- Joins

- Contexts

One context is needed per indicator class (one specific underlying table or view is used by each class)

Joins with adequate cardinalities have been created on object insertion. These joins must all be added to the context you are creating as well as some other already existing joins to benefit from advanced universe features like drill in time and time frame definition.

Figure 30   View list mode to locate dynamic table joins
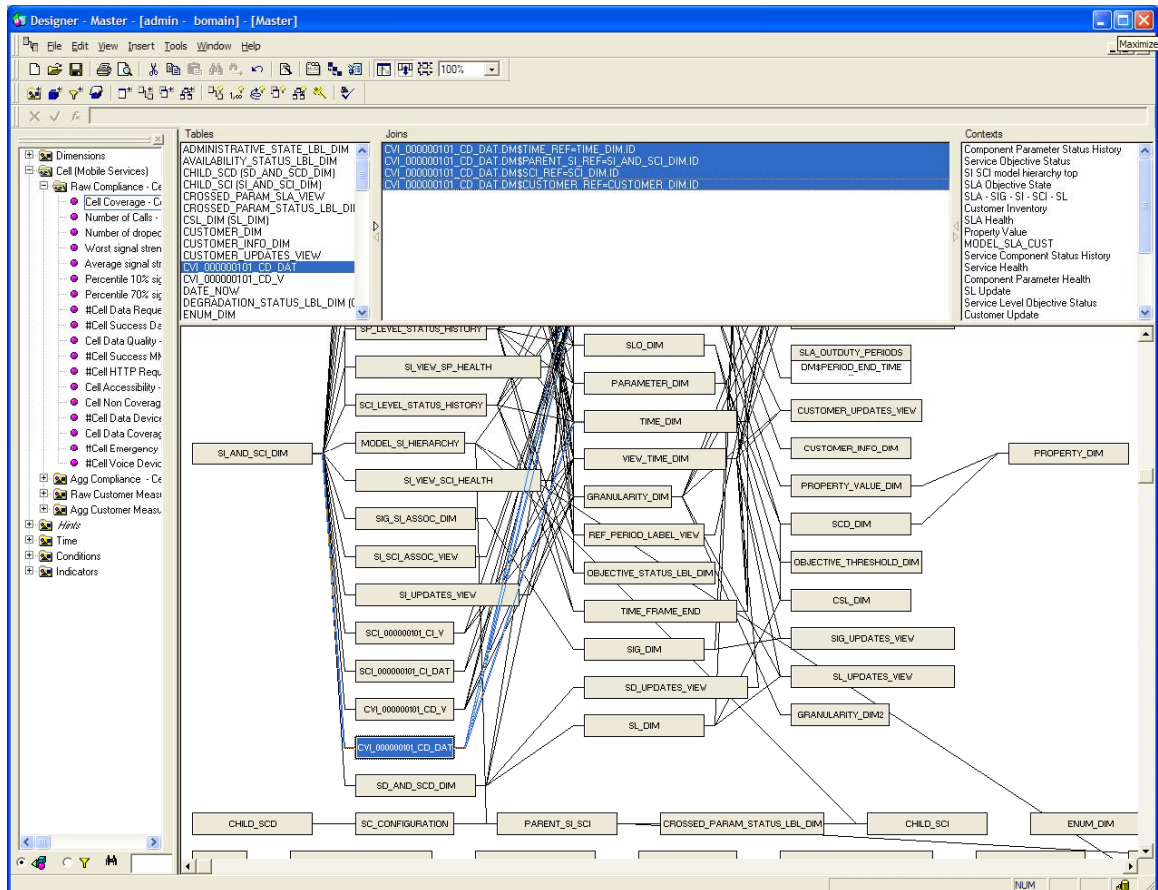
Joins have been created automatically for each dynamic table. For operational parameter four joins are created for raw data and five for aggregated data. For customer dependent parameter one additional join is created to link data to customer_dim.

To locate them the best way is to:

- Click on an indicator of the class you would like to configure

- Right click on that indicator and choose 'View Associated Table', this select the table in the DB schema display and in the list pane

- Click on the upper arrow between the Tables and Joins window in the list pane area, this will display in the joins window only the joins related to that table. Select the four displayed joins

- Use the menu Insert / Context to start context edition (the above listed step have pre-selected the four or five joins to be included in the new context)

Figure 31   Create the context
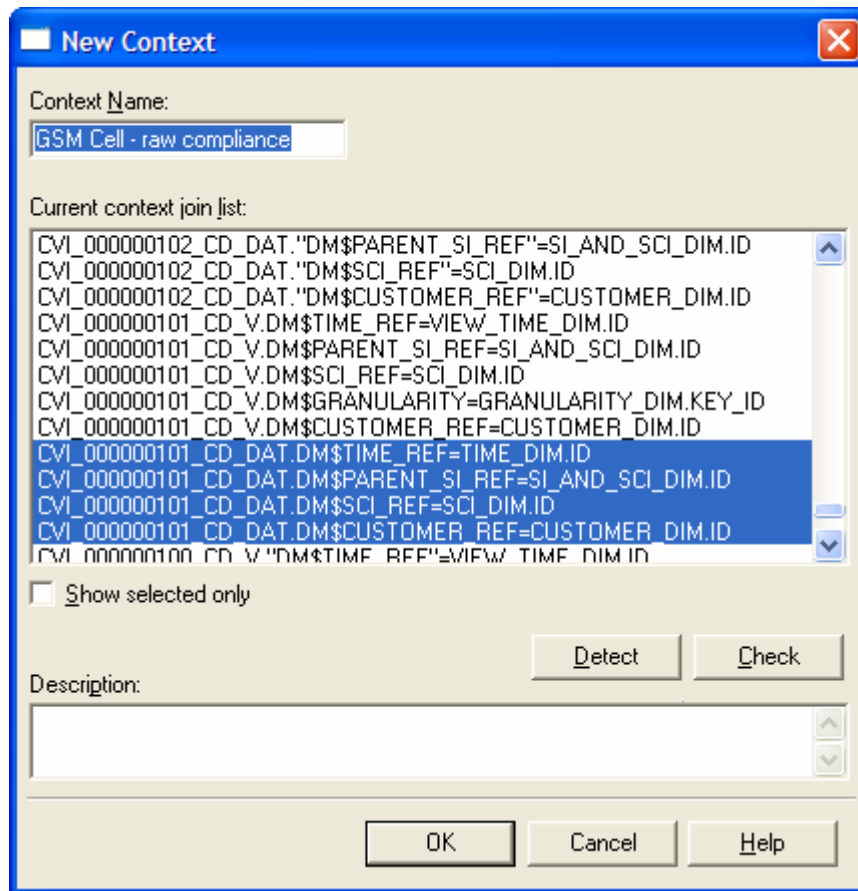
Give an explicit name to your context: the name should reflect the model element you refer to and the type of measures it provides like 'GSM Cell – aggregated measures'

Now you must add already existing joins to support some features like the time drill described in section 3.2

Note

For customer independent classes the link to the customer dimension isn't created by the join strategy as it is not relevant in the context. The above example refers to customer dependent data.

The joins to add depend on the data aggregation level

For raw data only add the joins highlighted in the next figures

Figure 32   **Joins to add to raw data contexts**
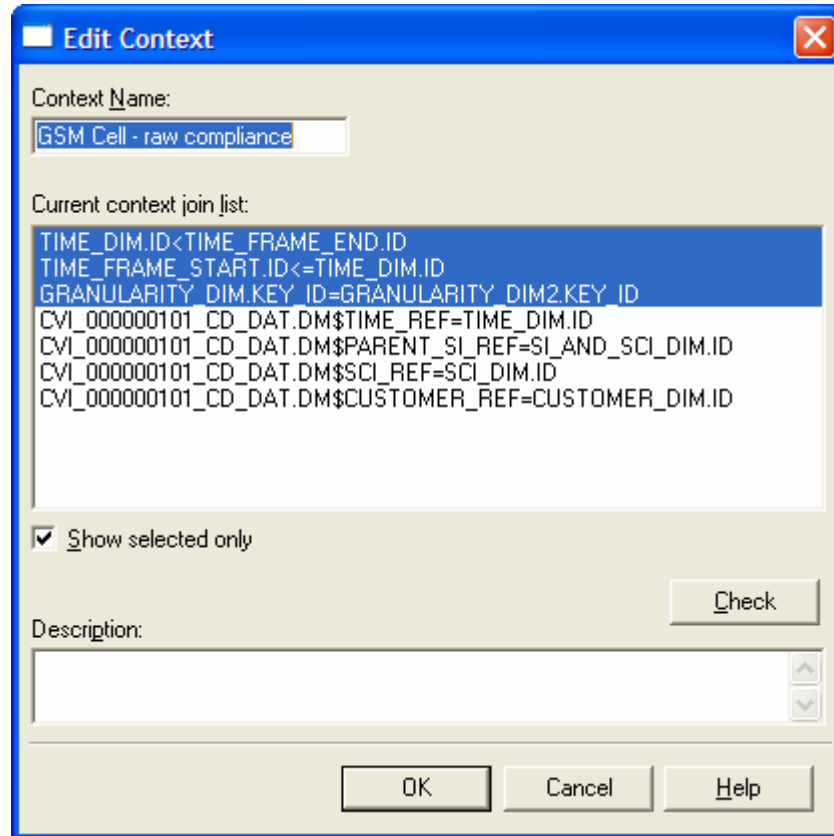
Figure 33   Joins to add to aggregated data contexts
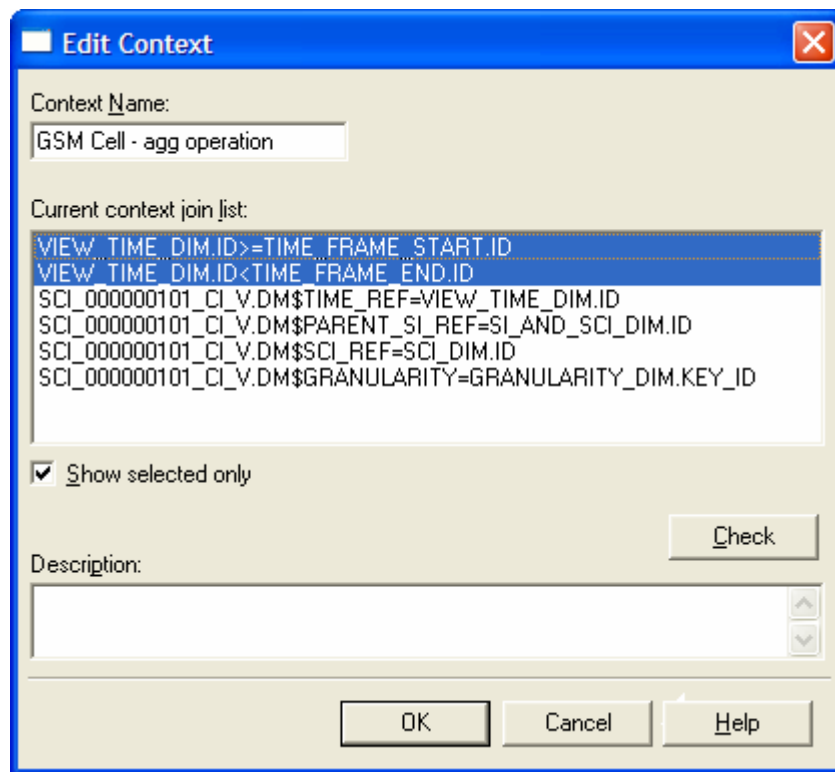
Note

The above example refers to operational data, no link to customer_dim appears.

4.3 How to Create New Reports?

You can create new reports based on the generic universe (Master.unv) or on any specialized universe you have created.

WEBINTELLIGENCE reports can be created using the customization architecture presented in the section 1.1.2.2 Customization Architecture.

4.3.1 Usual report functionalities

The next sections describe how to use the provided BO classes and conditions to speed up advanced report creation.

4.3.1.1 How to select aggregation level at report refresh time?

You can leverage the solution implemented in the master universe and used in generic delivered reports: A unique WebI document can ask for an input granularity by a predefined prompt. And show the requested level of detail.

Note

The granularity you specify will get data from the appropriated aggregation table in the production area. There is no aggregation at the client side as it would be the case for drillable reports. The achieved performance is equal to the one that aggregate aware indicators would provide with a unique hierarchical level loaded into the client

---

To add that feature you must add the predefined 'Granularity' condition (described in Appendix A) to your query. This will create the prompt and drive aggregation levels to use.

Several objects are available in the time dimension described in Appendix A to adapt time display to the granularity. In particular 'Time – Any Time' that adapts the displayed time to the chosen granularity: for yearly granularity it will display the year number, for quarterly the quarter number like Q1, Q2…

Figure 34   Creating a report with dynamic granularity
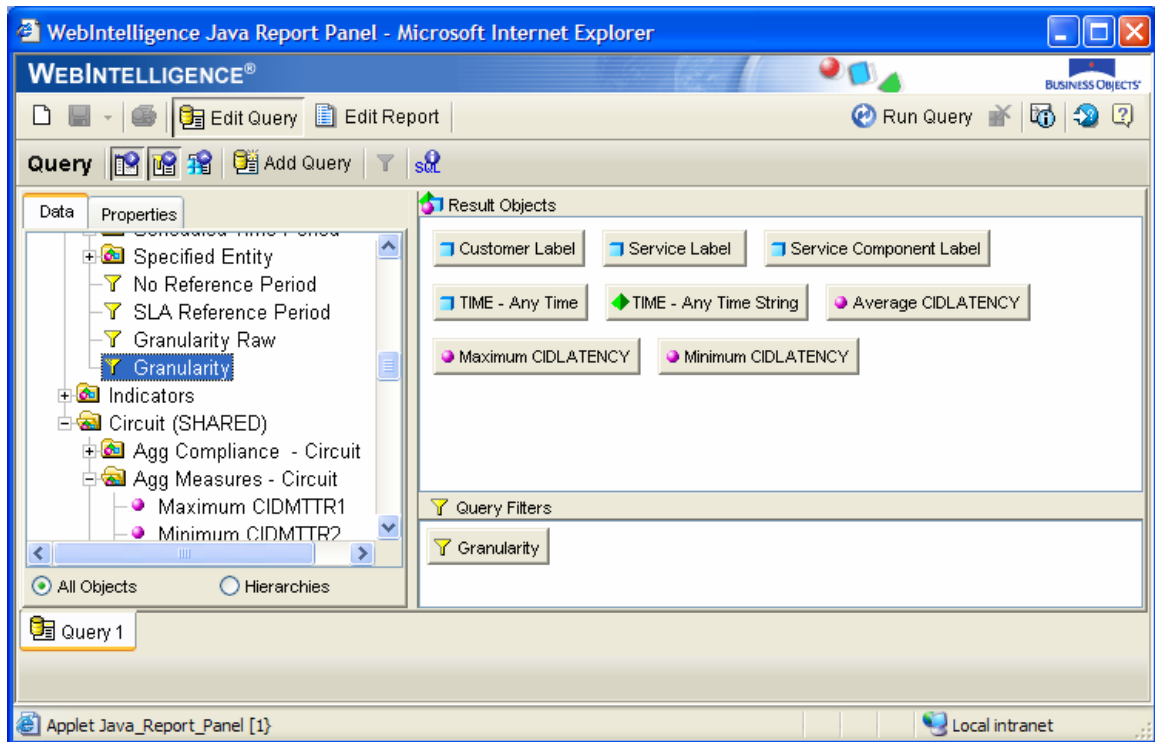
4.3.1.2   How to define a time scope for a report?

Time can be specified by using predefined conditions. All conditions like current month, current week are described in Appendix A. This section mainly focuses on two more flexible conditions allowing to enter predefined time frames like 'past 7 days' as well as any free date.

Beside the 'Granularity' condition described above you should add predefined start and end time conditions to your reports. This will let you benefit from the time scope management described in section 3.2.

4.3.1.2.1.   Specify a report start date

The predefined 'specified time frame or start date' will ask the user for a reporting start date. A list of predefined periods (relative to end date) is available but a free date can be specified

At document refresh you will be prompted:

'Choose time frame or enter start date with format YYYY/MM/DD HH24'

The next predefined periods are available in the proposed list of values:

- past 48 hours
- past 7 days
- past 14 days
- past 30 days
- past 12 weeks
- past 6 months
- past 12 months
- past 2 years
- since beginning

4.3.1.2.2.   Specify a report end date

The predefined 'specified stop date or now' will ask the user for a reporting end date. The user can select 'Now' as predefined end date or enter a free date

At document refresh you will be prompted:

'Choose Now or enter end date with format YYYY/MM/DD HH24'

Note

The start and end date format is given in the prompt. Partial input is supported: To specify a month as start date you can specify only year and month like '2004/11' without filling the date up to the hour level.

Note that start date is included while stop date is excluded. If you enter free start and stop dates they must provide the same precision.

4.3.1.2.3.   Examples

Using start and stop dates condition will compute a time period to report. But the effectively reported date zone depends also on the granularity of the data:

If for instance you are browsing data with a monthly granularity and have choosen to see the 'Past 6 months' you will get 6 measures. Now at report refresh you keep the

same time frame but switch to yearly granularity. In that case you will see the yearly point even if it's not starting in the past 6 months. The time frame management has extended the time frame to show you the yearly aggregated measure relevant for the original time period you specified.

To clearly control and show to end users the reported time frame you should use the 'TIME – Period Start Date' and 'Time – Period Stop Date' objects and put them in the report header.

Note

To display non aggregate raw data you must insert the 'Granularity Raw' predefined condition when you use the time frame definition feature.

Figure 35   Creating a report with dynamic time frames
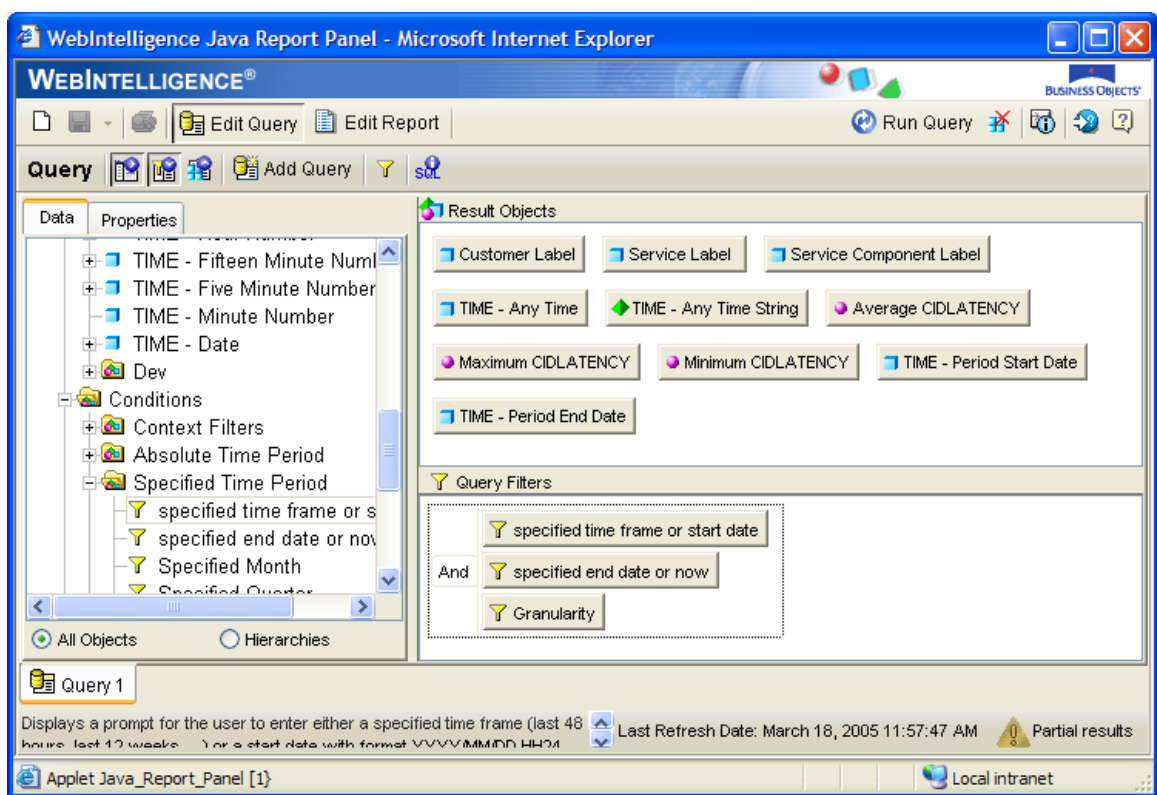
4.3.2 Low level Data filtering

Caution

To manage user access to the data, filters based on the Customer are used; refer to the *OpenView Service Quality Manager Reporting Installation and Configuration Guide*.

To use these filters, your report must use (in each request) either:

- An object of the Customer BUSINESSOBJECTS class (refer to Section 0 for the list of objects).

- Or a condition object on the Customer.

Otherwise, if you want a filter to be applied without using one of these objects, you will have to define additional filters on the used table. Refer to the *BusinessObjects Supervisor's Guide* for further details.

4.3.3 Use cases

The next sections provide examples of typical custom reports and show how the specific universe evolves from the above described basics to address specific customer needs.

4.3.3.1 Show KPI/KQI for a given period of time

This is a basic reporting need described in section 4.3.1.2 and illustrated by

Figure 35 Creating a report with dynamic time frames

4.3.3.2 Compare KPI/KQI from various instances

This comparison can be done directly on the basic report by organizing the cross tabs, tabs or charts by instances. However often comparison should be done based on properties like Geography or Vendor. This is a typical use case involving not only pure performance measure indicators related to their dimensions but also other dimensional information like properties.

The above described specific universe shows how BO contexts are created to relate performance facts and model instances. To also add property information the context must be extended to include 'instance to properties' relations.

In BO designer open the involved performance context and enhance it with 'instance to properties' relations. The involved tables are already linked in the universe and you can notice these links are for example part of the predefined contexts managing health indicators.

Figure 36   Adding property information to existing performance context
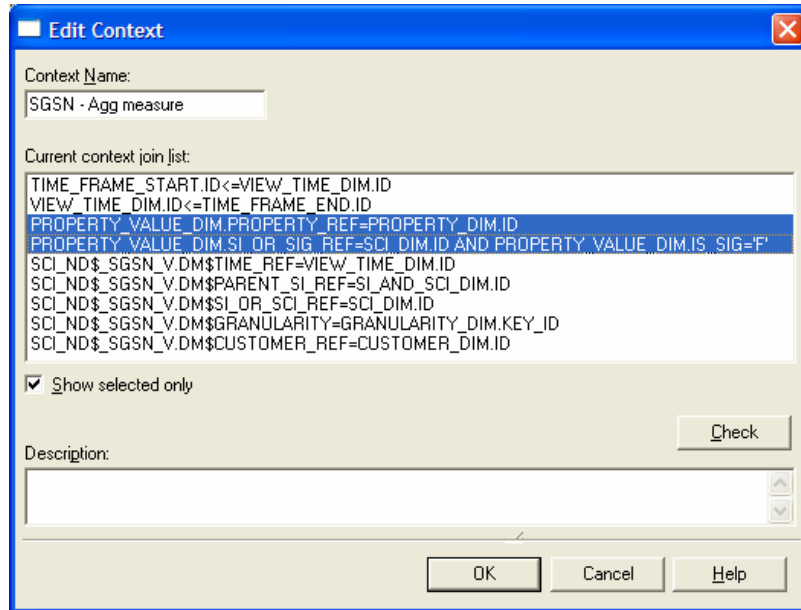
Note

It is recommended to enhance the basic context only if really required on not systematically to avoid useless context complexity

A specific context managing only properties could also be created. This would lead to multiple queries in WebI document which isn't a problem as long as the obtained data blocks do not need data synchronization.

Figure 37   Adding property data to a performance report
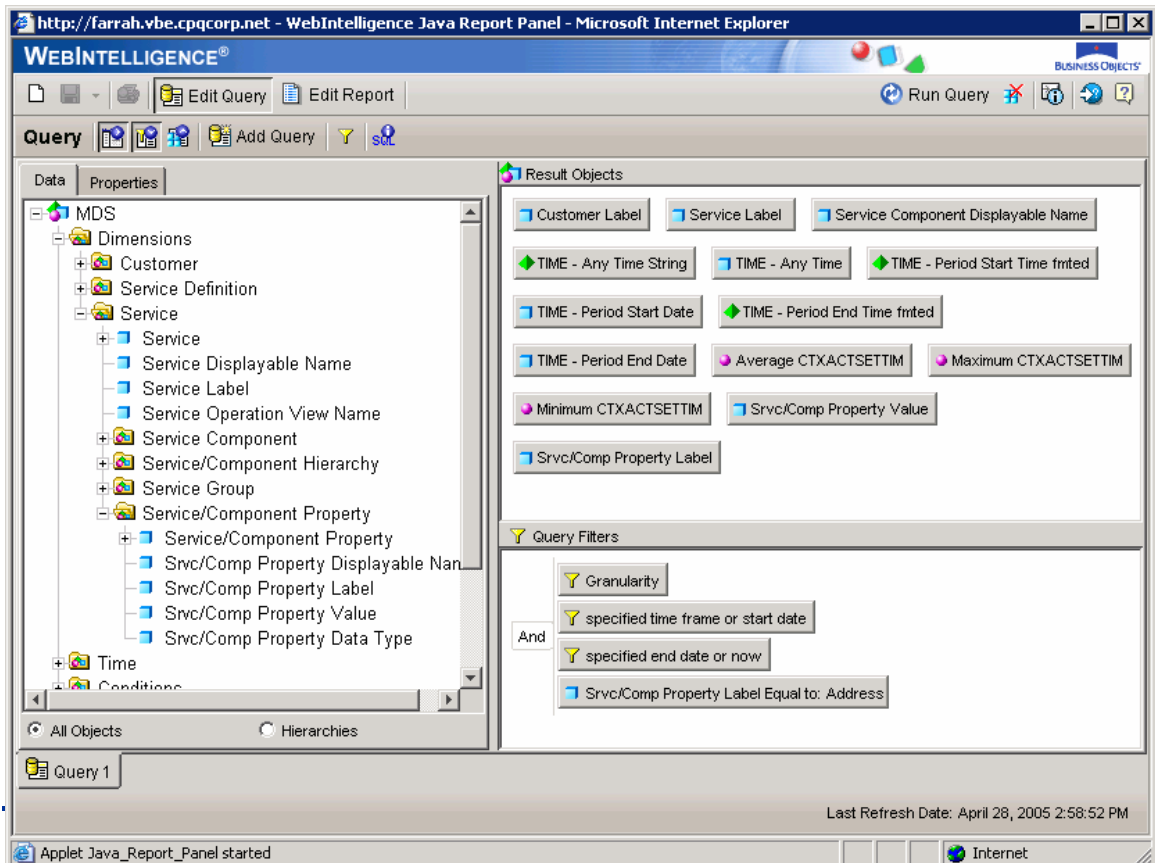
Note how a static query filter restricts the available properties to the 'Address'. The returned addresses can then be used in the usual data blocks of the reports to organize, sort, aggregate data like any other dimension.

Figure 38   Property data in performance data blocks

4.4 How to Define New Reports Accessible from the OpenView SQM SLA Monitoring UI?

Note

From the SLA Monitoring only personal documents belonging to the connected user can be seen

Hp OpenView Service Quality Manager Reporting defines a list of possible prompts. These prompts are automatically filled according to the entity that is selected on the OpenView SQM SLA Monitoring UI. The prompts managed by the SQMReporting web Application are listed in the *OV SQM Reporting Installation and Configuration Guide*. If any information is missing, the user has to enter it manually. Thus, you must use prompts that are predefined in the universe.

The Business Objects documents are not directly known by the monitoring. An xml description file encapsulates these documents. The XML syntax is detailed in the OV *SQM Reporting installation and configuration guide*. Basically you will specify the next attributes:

- A Report name known by the monitoring.

- The potential granularities supported by your report (this will control granularity tabs availability)

- The prompts required by your report (The SLA monitoring will provide contextual values to your prompts)

For more details on the XML format refer to the *OV SQM Reporting Installation and Configuration Guide.*

The way to add new menus and launch option to your SLA Monitoring GUI is described in the *OV SQM SLA Monitoring User's Guide*.

Appendix A

Description of the Production Area Universe

A generic universe, called *Master.unv*, allows you to the access the generic data. This universe is used as a base universe when creating specific reports.

The generic (or static) Universe is based on the static[1] database model of the OpenView Service Quality Manager DataMart. This means that this universe only gives access to the generic data.

In this universe, four main BUSINESSOBJECTS classes allow you to organize the objects, as shown in the following figure:

Figure 39   Main BUSINESSOBJECTS Classes

The *Customer* class contains entity dimension objects, which are organized in a hierarchical tree.

The *Time* class contains Time dimension objects.

The *Conditions* class contains condition objects based on those dimensions.

The *Indicators* class contains measure objects and their linked dimensions.

The *Hints* class contains oracle hints useful to improve some SQL queries response time.

These classes are described in the following sections.

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[1] Static means that the data is not Service Definition specific. Refer to the *OpenView Service Quality Manager DataMart User's Guide*.

Customer Class

This class contains dimension and detail objects related to entity objects. They are organized in a tree structure, as shown in the following figure:

Figure 40   Customer BUSINESSOBJECTS Class Tree
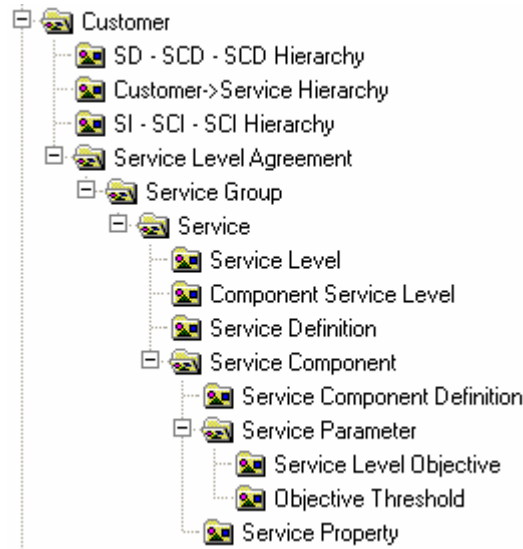
Customer

The *Customer* class contains dimension and detail objects that allow access of all the required information about Customers.

Figure 41   Customer Dimension and Detail Objects
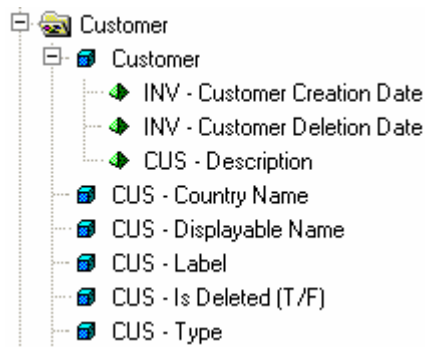
The *Customer* class contains useful information about each Customer, as shown in the following table:

Table 1   Customer Dimension and Detail Objects

Object Name	Explanation
Customer	The Customer name, which is also a unique identifier of the Customer.
CUS – Description	The textual description of the Customer.
INV – Customer Creation Date	The Customer Creation Date.
INV – Customer Deletion Date	The Customer Deletion Date.
CUS – Country Name	The name of the country of the Customer.
CUS – Label	The Customer Label.
CUS – Displayable Name	Composed with the customer label and its name for readability and uniqueness.
CUS – Is Deleted (T/F)	A character indicating whether the Customer has been deleted ("T") or not ("F").
CUS – Type	The type of Customer: either "Customer" or "Network Operation".

Note

The explanations given in the table above are also available in the properties of the object in the universe.

For the next object the explanation will be documented only if the object are not self explaining or need some additional hints.

SLA

The *Service Level Agreement* class contains dimension and detail objects that allow access to all the required information about SLAs.

Figure 42   Service Level Agreement Dimension and Detail Objects
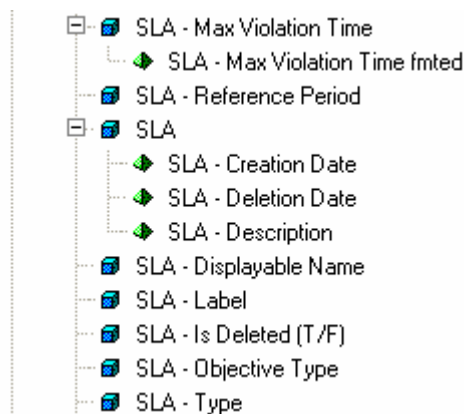
The *Service Level Agreement* class contains useful information about each SLA, as shown in the following table:

Table 2   Service Level Agreement Dimension and Detail Objects

Object Name	Explanation
SLA – Max Violation Time fmted	Maximum SLA violation time expressed in hours, minutes and seconds.
SLA – Objective Type	The type of SLA objective (either "Instance" or "Aggregation View").
SLA – Objective Type	The type of SLA objective (either "Instance" or "Aggregation View").
SLA – Type	The type of SLA (either "Contractual" or "Operational").

Service Group

The *Service Group* class contains dimension and detail objects that allow access to all the required information about Service Groups.

Figure 43   Service Group Dimension and Detail Objects

The *Service Group* class contains useful information about each Service Group, as shown in the following table:

Table 3   Service Group Dimension and Detail Objects

Object Name	Explanation
SG – Type	The type of Service Group.

Service

The *Service* class contains dimension and detail objects that allow access to all the required information about Services.

Figure 44   Service Dimension and Detail Objects
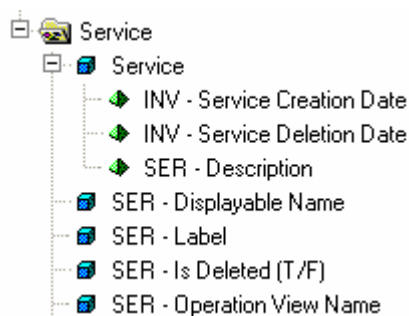
The *Service* class contains useful information about each Service, as shown in the following table:

Table 4   Service Dimension and Detail Objects

Object Name	Explanation
SER – Operation View Name	The associated Operation View name.

Service Level

The *Service Level* class contains dimension and detail objects that allow access to all the required information about Service Levels.

Figure 45   Service Level Dimension and Detail Objects
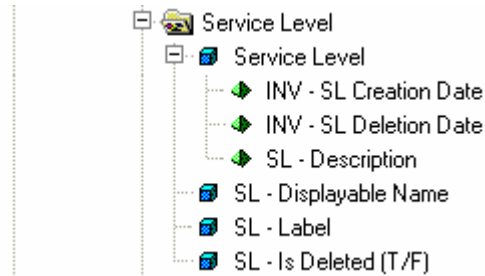
The *Service Level* class contains useful information about each Service Level.

Service Definition

The *Service Definition* class contains dimension and detail objects that allow access to all the required information about Service Definitions.

Figure 46   Service Definition Dimension and Detail Objects

The *Service Definition* class contains useful information about each Service Definition, as shown in the following table:

Table 5   Service Definition Dimension and Detail Objects

Object Name	Explanation
SD – Is Visible (T/F)	A character indicating whether the Service Definition is visible by the Customer ("T") or not ("F").

Service Component

The *Service Component* class contains dimension and detail objects that allow access to all the required information about Service Components.

Figure 47   Service Component Dimension and Detail Objects

The *Service Component* class contains useful information about each Service Component, as shown in the following table:

Table 6   Service Component Dimension and Detail Objects

Object Name	Explanation
Is Service	Flag to indicate a top level component

Service Component Definition

The *Service Component Definition* class contains dimension and detail objects that allow access to all the required information about Service Component Definitions.

Figure 48   Service Component Definition Dimension and Detail Objects

The *Service Component Definition* class contains useful information about each Service Component Definition, as shown in the following table:

Table 7   Service Component Definition Dimension and Detail Objects

Object Name	Explanation
SCD – Is Visible (T/F)	A character indicating whether the Service Component Definition is visible by the Customer ("T") or not ("F").

Service Parameter

The *Service Parameter* class contains dimension and detail objects that allow access to all the required information about Service Parameters.

Figure 49   Service Parameter Dimension and Detail Objects
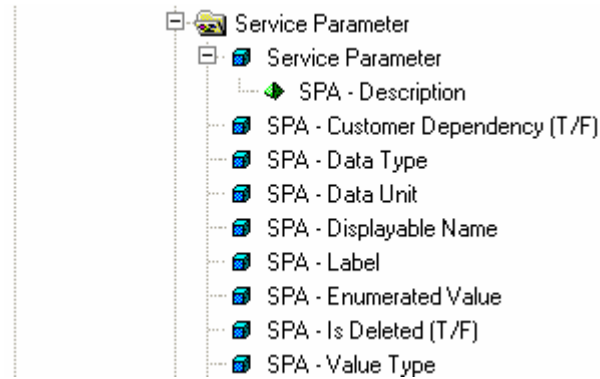
The *Service Parameter* class contains useful information about each Service Parameter, as shown in the following table:

Table 8   Service Parameter Dimension and Detail Objects

Object Name	Explanation
SPA – Value Type	The type of value (either "statistics", "status", "characteristics",).

Service Level Objective

The *Service Level Objective* class contains dimension and detail objects that allow access to all the required information about Service Level Objectives.

Figure 50   Service Level Objective Dimension and Detail Objects
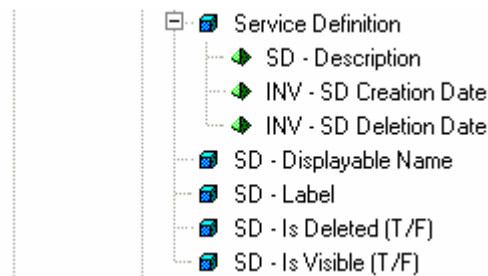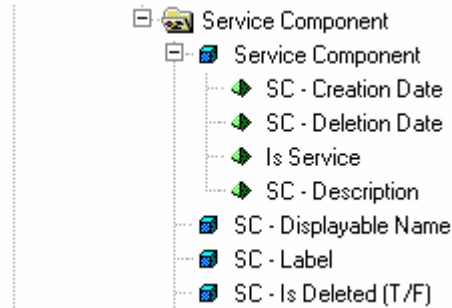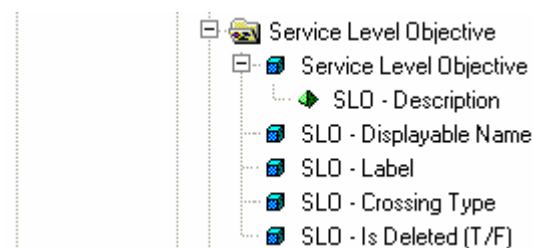

The *Service Level Objective* class contains useful information about each Service Level Objective, as shown in the following table:

Table 9   Service Level Objective Dimension and Detail Objects

Object Name	Explanation
SLO – Crossing Type	The Service Level Objective type of crossing (either "up", "down", "equal" or "not equal").

Objective Threshold

The *Objective Threshold* class contains dimension and detail objects that allow access to all the required information about Objective Thresholds.

Figure 51   Objective Threshold Dimension and Detail Objects
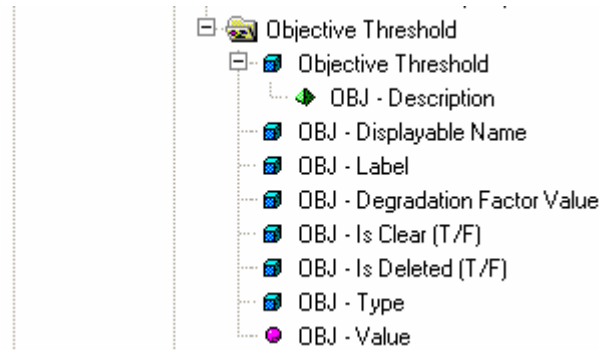
The *Objective Threshold* class contains useful information about each Objective Threshold, as shown in the following table:

Table 10   Objective Threshold Dimension and Detail Objects

Object Name	Explanation
OBJ – Is Clear (T/F)	A character indicating whether the Objective Threshold is clear ("T") or not ("F").
OBJ – Type	The type of Objective Threshold (either "Degradation" or "Violation").

Service Property

The *Service Property* class contains dimension and detail objects that allow access to all the required information about Service Properties.

Figure 52   Service Property Dimension and Detail Objects
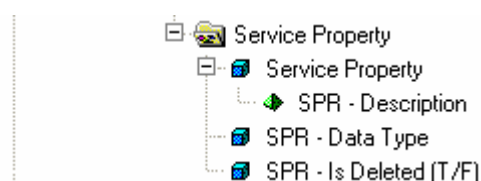
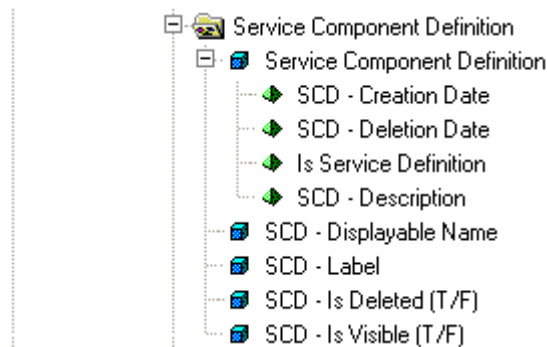The *Service Property* class contains useful information about each Service Property, as shown in the following table:

**Table 11   Service Property Dimension and Detail Objects**

Object Name	Explanation
SPR – Data Type	The type of Service Property data (either "Display string", "Integer/Enumeration", "Real", "Relative Time/Absolute Time").

Time Class

The *Time* class contains dimension and detail objects that allow access to all the required information about Times. Some subclasses allow you to organize the data, as shown in the following figure:

Figure 53   Time Dimension and Detail Objects
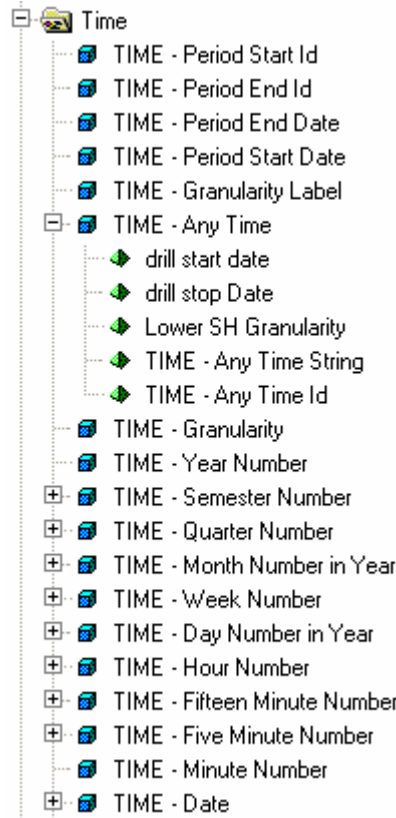
The *Time* class contains useful information about each Time, as shown in the following table:

Table 12   Time Dimension and Detail Objects

Object Name	Explanation
TIME – Date	The date.
TIME – Granularity Label	A textual description of the time grain displayed by a report (Hourly, Daily, Weekly, Monthly, Quarterly, Yearly, Raw). This should be used in conjunction with the 'specified granularity' predefined condition
TIME – Any Time String	A textual description of the time adapted to the report granularity. (Would be year number for yearly granularity, year and quarter number for quarterly granularity and so on)
TIME – Period Start Date	The date corresponding to the specified start date of a report. To be used in conjunction with the 'specified time frame or start date' predefined condition
TIME – Period End Date	The date corresponding to the specified end date of a report. To be used in conjunction with the 'specified stop date or now' predefined condition

Conditions Class

Some condition objects are defined at the universe level in the *Conditions* class. They can be used directly in reports. Four subclasses organize them depending on their usage, as shown in the following figure:

Figure 54   Conditions overview
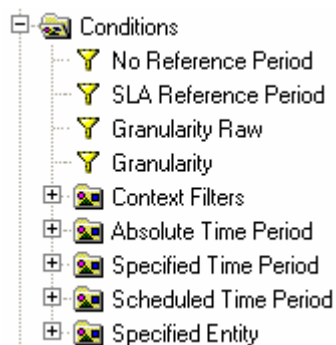
Table 13   Absolute Time Period Conditions

Object Name	Explanation
SLA Reference Period	Shows Service Health indicators computed over the SLA reference period. Cumulative counters and durations are reset only on reference period crossing.
No Reference Period	Shows Service Health indicators from a pure operational perspective. Indicator calculation is based on the data received during the shown period (the day, the week…)
Granularity Raw	Is used to retrieve non summarized data.
Granularity	This condition is to be used with Indicators supporting the multi granularity feature. The displayed period corresponds to the selected granularity. For example, if a granularity Month is selected, monthly values are displayed.

Note

The 'Granularity' condition should be used in **ALL** reports aimed to present various aggregation levels of a same data. 'Granularity Raw' should be added when raw data must be retrieved

It is mandatory to include one of these conditions in any reports. The overall universe is designed to factorize the number of reports and provide flexible time navigation. These conditions are necessary to benefit from time navigation in self developed reports using the provided strategies to build objects. (Refer to section 4.2)

Similarly either SLA or No reference period must be used to build reports with service health indicators. Else wrong aggregations will be performed by the WebI client.

The conditions are described according to class in the following sections.

A.1.3.1 Absolute Time Period Conditions

The *Absolute Time Period* class contains useful conditions to select the data of the current date.

Figure 55   Absolute Time Period Conditions
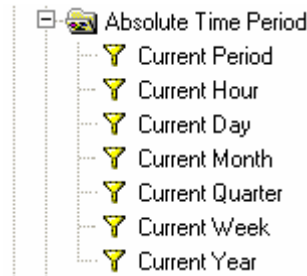
Table 14   Absolute Time Period Conditions

Object Name	Explanation
Current Period	This condition is to be used with Indicators supporting the multi granularity feature. The displayed period corresponds to the selected granularity. For example, if a granularity Month is selected, the current month values are displayed.

A.1.3.2 Specified Time Period Conditions

The *Specified Time Period* class contains useful conditions. When used in a report, they allow the user to be asked to enter a date and then select the corresponding data.

Figure 56   Specified Time Period Conditions
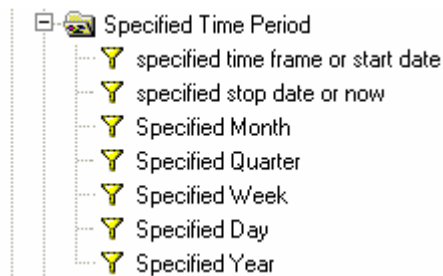
Table 15   Specified Time Period Conditions

Object Name	Explanation
specified time frame or start date	Provides a list of predefined time frames (like past 12 months) or accepts a free entered date
specified stop date or now	Provides 'Now' as predefined value and accepts a free entered date

A.1.3.3 Scheduled Time Period Conditions

The *Scheduled Time Period* class contains useful conditions. When used in a report, they allow you to automatically select the data of the previous period.

Figure 57   Specified Time Period Conditions

A.1.3.4 Specified Entity Conditions

The *Specified Entity* class contains useful conditions on entities. When used in a report, they request the user to choose an entity and select the data concerning this entity.

Figure 58   Specified Entity Conditions
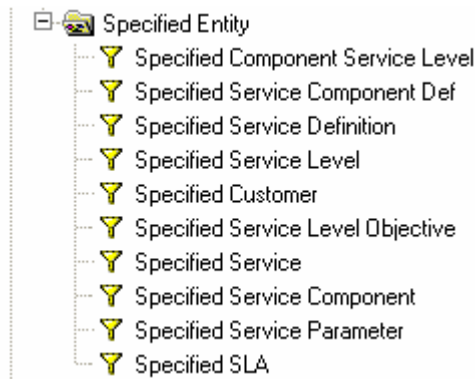
Indicators Class

The *Indicators* class contains all the measure objects. They are organized in subclasses depending on the type of the measure, as shown in the following figure:

Figure 59   Indicators Class

Note

The database containing the data uses a star dimensional model. In this model, all fact tables exist in several versions, each offering a different level of time summarization. By using the 'granularity' condition you can easily select the level of detail you want to see when refreshing the report. This provides multiple levels of details on a unique report and avoids multiple dedicated report development or the use of aggregate awareness with associated incompatibilities and cube navigation restrictions.

A.1.4.1 Status Indicators

This class provides the status evolution of the next entities: Service, Service components, Service Level Agreements, Service Parameters.

The measure objects are described in the following figure and table. Only the 'Service' class is unfolded, all other classes provide access to identical objects:

Figure 60   Status Indicators Measure Objects
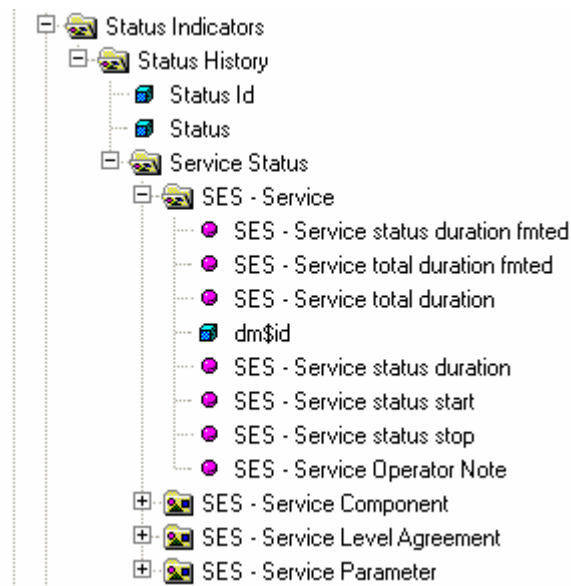
Table 16   Status Indicators Measure Objects

Object Name	Explanation
Status	The status label (OK, Degraded, Violated).
Service status start	Status value transition. New period start time.
Service status stop	Status value transition. Period end time.
Service status duration	Single status value duration. Duration is expressed in seconds.
Service status duration fmted	Single status value duration. Duration is expressed in days, hours, minutes and seconds.
Service total duration	SLA in duty time over the observed period. Duration is expressed in seconds.
Service total duration fmted	SLA in duty time over the observed period. Duration is expressed in days, hours, minutes and seconds.

A.1.4.2 Inventory

This class contains the Inventory specific objects.

Inventory Measure Objects

The Inventory measure objects are located in the BUSINESSOBJECTS subclass: *Indicators\Inventory*. The measure objects are described in the following figure and table:

Figure 61   Inventory Measure Objects
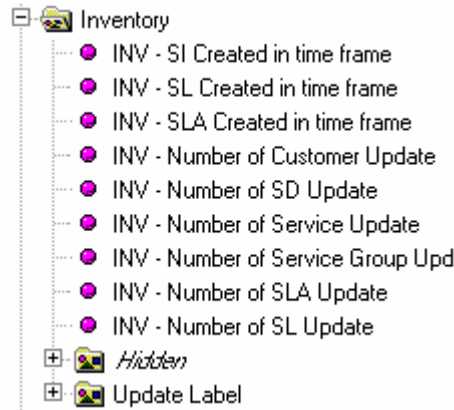
Table 17   Inventory Measure Objects

Object Name	Explanation
INV - SI Created in time frame	This indicator value is one if the SI was created in the considered time frame.
INV - SL Created in time frame	This indicator value is one if the SL was created in the considered time frame.
INV - SLA Created in time frame	This indicator value is one if the SLA was created in the considered time frame.
INV - Number of Customer Update	Customer yearly, quarterly or monthly number of update.

Inventory Dimension Objects

Inventory specific dimension objects are located in the BUSINESSOBJECTS subclass: *Indicators\Inventory\Update Label*. There is only one object, which is not hidden (not universe internal), as you can see in the following figure. This object is described in the following table.

Figure 62   Inventory Dimension Objects

Table 18   Inventory Dimension Objects

Object Name	Explanation
UPD – Name	The update label (either "Added", "Updated", "Deleted").

A.1.4.3 Health Indicators

This class contains the Service Health specific objects.

Health Indicators Measure Objects

Health Indicator measure objects are located in the BUSINESSOBJECTS subclass: *Indicators\Health Indicators*.

The health indicator measure objects correspond to a set of measure objects, which can be used to qualify the quality of service

The measure objects are described in the following figure and table. Only the 'Service' class is unfolded, all other classes provide access to identical objects:

Figure 63   Health Indicators Measure Objects
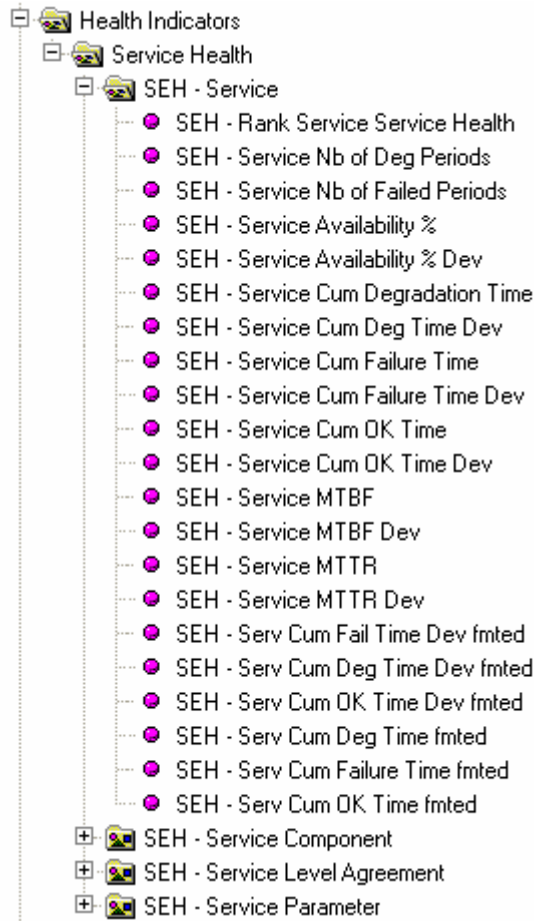
In the following table, only the Service Level Agreement Health Indicators measure objects are described, as an example:

Table 19   SLA Health Indicators Measure Objects

Object Name	Explanation
SEH - Rank Service Service Health	Provides a ranking for the retrieved SLAs based on their Service Availability.
SEH - Service Cum OK Time Dev	Provides the cumulated OK time deviation compared to the previous period. All indicators with 'Dev' in their name implement the deviation calculation. Deviation is always computed against the previous period for the displayed granularity (for a weekly detailed report it will consider the previous week, for a monthly detail

Object Name	Explanation
	the previous month and so on)
SEH - Serv Cum OK Time fmted	Provides a formatted cumulated OK time expressed in days, hours, minutes and seconds instead of seconds. All indicators ending with 'fmted' provided this format for durations computed in seconds

A.1.4.4 Time Configuration

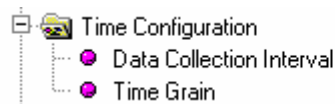This class contains the Time Configuration specific objects.

Time Configuration Measure Objects

The Time Configuration measure objects are located in the BUSINESSOBJECTS subclass: *Indicators\Time Configuration*. The measure objects are described in the following figure and table:

Figure 64   Time Configuration Measure Objects

Table 20   Time Configuration Measure Objects

Object Name	Explanation
Data Collection Interval	The OpenView Service Quality Manager interval of data collection (minutes).
Time Grain	The OpenView Service Quality Manager DataMart data time precision (minutes).

A.1.4.5 State Level Configuration

This class contains the State Level Configuration specific objects.

State Level Configuration Measure Objects

State Level Configuration measure objects are located in the BUSINESSOBJECTS subclass: *Indicators\State Level Configuration*. The measure objects are described in the following figure and table:

Figure 65   State Level Configuration Measure Objects
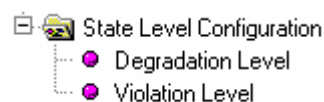
Table 21   State Level Configuration Measure Objects

Object Name	Explanation
Degradation Level	The OpenView Service Quality Manager degradation

Object Name	Explanation
	level value for an objective status.
Violation Level	The OpenView Service Quality Manager violation level value for an objective status.

State Level Configuration Dimension Objects

There is no State Level Configuration specific dimension object.

State Level Configuration Condition Objects

There is no State Level Configuration specific condition object.

Glossary

This glossary defines the terminology commonly used in OpenView Service Quality Manager.

Auto instantiate (SLA Administration)

This action automatically creates an Instance of the Object selected. When the instance is created, the initial values of its instance variables are assigned.

BI

See business intelligence.

Business Intelligence (BI)

A broad category of applications and technologies for gathering, storing, analyzing, and providing access to data that helps users make better business decisions.

Collected binding

Describes how *collected parameters* are filled from *measurement parameters*: either directly assigned or through a more complex expression.

Collected parameters

Known as KPI in the TMF, they represent the parameters collected from the Service Adapters (*measurement parameters*) and mapped into SQM *service component* parameters.

Computed binding

Describes how *computed parameters* are filled from *collected parameters*: either directly assigned or through a more complex expression.

Computed parameters

Known as KQI in the TMF, they represent the parameters calculated from *collected parameters*.

CNM

See Customer Network Management

Customer

Companies or organizations that make use of the *services* offered by a *service provider*, based on a contractual relationship.

Customer Network Management

Customer network management is enabled by means of tools that provide business customers with access to management information originating from the service provider.

Data collection interval

The interval of time over which performance parameters are retrieved from the monitored service resources. This interval does **not** have to be the same as the *measurement interval* because *service adapters* or service resources may buffer statistics.

Data feeder

OpenView Service Quality Manager's source of data. A data feeder models service resources by defining one or more service parameters.

Data feeder definition

The static definition of a data feeder that models service resources by defining one or more service parameters.

Degraded service

The presence of anomalies or defects that cause degradation of the *quality of service*, but do not result in the total failure of the *service*.

Instantiate (SLA Administration)

Instantiate differs from Auto Instantiate in that items are instantiated individually.

Measurement interval

The interval of time over which each service parameter is measured. For example, a parameter may be the number of discarded packets, measured over a 15-minute measurement interval.

Measurement parameters

They represent the parameters directly collected by the Service Adapters. These parameters are defined in the *Data Feeders*.

Measurement Reference Point (MRP) naming scheme

This is the formal description of how the measurement point name is built, that is, by concatenating the values of Data Feeder properties and fixed strings.

Mobile Virtual Network Operator

A mobile operator, which does not own its own spectrum and usually does not have its own network infrastructure. Instead, MVNOs have business arrangements with traditional mobile operators to buy **minutes of use** for sale to their own customers.

MRP

See Measurement Reference Point.

MVNO

See Mobile Virtual Network Operator.

Parameter

A value or set of values that are periodically updated and that help determine the quality of service.

Parameter objective

A set of objectives for the parameters belonging to a service.

Property

Special static parameters that are given a value only when an instance of an OpenView Service Quality Manager **Object** is created. For example, a Service Component can have a property called "location".

QoS

See Quality of Service.

Quality of Service (QoS)

The ITU-T has defined quality of service as "the collective effect of service performances that determine the degree of satisfaction of a user of the service".

Service

A Service is a set of independent functions (Service Components) that consist of hardware and software elements and an underlying communications medium. A Service can include anything from a single leased-line service, to a complex application, such as vision conferencing.

Service availability

A measurement made in the context of a *service level agreement* that is expressed as a percentage. This percentage indicates the time during which the *service* is operational at the respective *service access points*.

Service Quality Manager Repository

The SQM Repository is the storage center for all Service Quality Manager data. It receives data from the various Service Quality Manager interfaces and each interface can request information from the Repository.

Service component

An independent function that is part of a *service*, such as a hardware or software element, or the underlying communications medium.

Service component instance

The instance of a Service Component Definition that is active in the network, such as an instance of the IPAccess Service Component definition called "pop".

Service Level (SL)

Defines Service Parameters and operational data enforced by the Service Level Agreement (for example, Max Jitter < 10 ms).

Service Level Agreement (SLA)

There are two type of Service Level Agreement, the **Customer** Agreement: a contract between a *service provider* and a *customer*, which specifies in measurable terms what the service provider supplies to its customers, and the Operational Service Level Agreement, which specifies in measurable terms the operational levels of the Service. A *service level agreement* is composed of individual objectives.

Service Level Objective (SLO)

The set of objectives for the parameters belonging to a Service or Service Component.

Service parameter

See *parameter*.

Service provider

A company or organization that provides *services* as a business. Service providers may operate networks or may integrate the services of other providers.

Service Instance (SI)

The instantiated service definition that is active in the network.

Service Instance Group (SIG)

A **group** of *service instances* against which the *service availability* must be reported. Each *service instance* belongs to one or more Service Instance Groups and each SIG contains at least one Service Instance. The relationship between the SIG and the Service Instances is defined in their *service level agreement*.

Service quality parameters

They represent *computed* and *collected* parameters

SI

See Service Instance.

SIG

See Service Instance Group.

SL

See Service Level

SLA

See Service Level Agreement.

SLO

See Service Level Objective.

Subscriber

The entity responsible for the payment of charges incurred by one or more users.

User

An entity designated by a customer to use the services of a telecommunication network, such as a person using a UMTS mobile station as a portable telephone.

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