# HP OpenView
# Service Quality Manager

## Value Packs Development Toolkit

## User’s Guide

**Edition: 1.4**

**for the HP-UX and Microsoft Windows Operating Systems**

**March 2007**

# Legal Notices

## Warranty

## Restricted Rights Legend

## Copyright Notices

## Trademark Notices

# Contents

# Preface

HP OpenView Service Quality Manager **Value Pack Development Toolkit** is a set of SQM components that can be used in HP OpenView Service Quality Manager **Service Designer** to speed-up custom model development.

This document describes the content of the Value Pack Development Toolkit and how to use it to create your own custom solution.

**Important**

This guide is not a guide to Rational Rose, it describes how to design and define a Service using the Service Designer Add-In. Rational Rose is a very rich tool, and therefore we only give guidelines to design a SQM Service.

## Prerequisites

**Rational Rose Modeler** or Enterprise edition must be installed.

The HP OpenView Service Quality Manager **Service Designer** Add-In to **Rational Rose Modeler** must be installed.

## Intended Audience

This document is intended for personnel who will use HP OpenView Service Quality Manager Service Designer. It is recommended that such personnel have knowledge of the Unified Modeling Language (UML) and of Rational Rose.

## Software Versions

The software versions referred to in this document are:

| Service Quality Manager | Service Designer | Windows | Rational Rose |
|---|---|---|---|
| 1.4 | 1.4 | XP | Rational Rose Modeler or Enterprise edition V7 |

# Typographical Conventions

`Courier` Font:

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

## OpenView Service Quality Manager

- *OpenView Service Quality Manager Overview*
- *OpenView Service Quality Manager SLA Monitoring UI User's Guide.*
- *OpenView Service Quality Manager SL Administration UI User's Guide*
- *OpenView Service Quality Manager Service Designer UI User's Guide*
- *OpenView Service Quality Manager Installation Guide*
- *OpenView Service Quality Manager Administration Guide*
- *OpenView Service Quality Manager Sampling Scheduling Guide*

## Rational Rose

This guide documents how to use the OpenView Service Quality Manager Service Designer Add-In to Rational Rose. For information about the Rational Rose standard product, please refer to the Rational Rose documentation and the Rational Rose Standard on-line Help.

# 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

# Value Pack Development Kit Presentation

## 1.1 What is the HP OpenView Value Pack Development Toolkit?

The HP OpenView Value Pack Development Toolkit is a set of reusable Service Components that can be used in the Service Designer to speed-up the design of a custom solution.

Several categories of components are provided in the Value Pack Development Toolkit:

- Components designed to collect data from most SQM Service Adapters.
- Components that provide new features to SQM through the usage of complex calculation expressions: Baseline, SQM Status, Histogram…

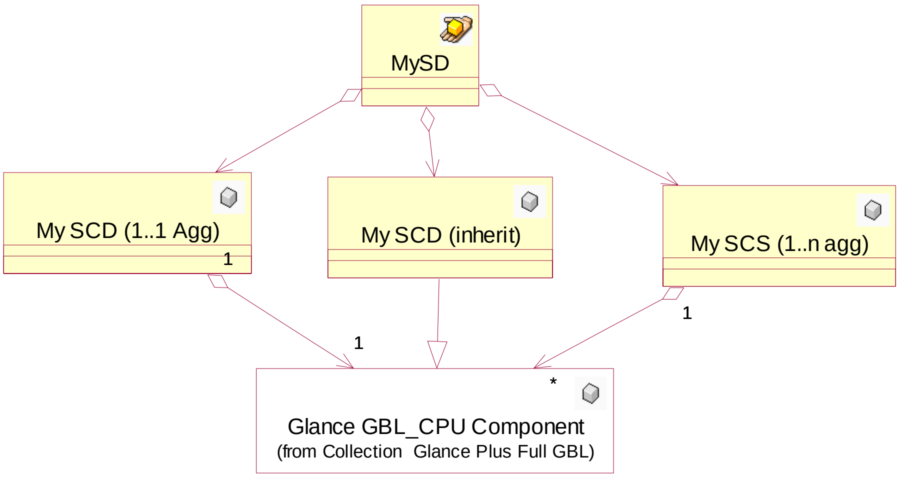
The components are organized and stored in Rose control units in order to be shared among your models.

By using these service components in your model and taking advantage of new SQM Service Designer features (inheritance, model customization wizard), it is possible to design complex solution just by re-using existing components.

## 1.2 How to use the Value Pack Development Toolkit Components?

There are two basic methods to use the Service Components of the Value Pack Development toolkit in your model.

- The simplest method is to use the Service Components directly through aggregation like any other SCD.
- The second method is to inherit from these Service Components. How to inherit from a service component is explained in the *OpenView SQM Service Designer User's Guide*.



In the diagram above, both **My SCD (1..1 Agg)** ,**My SCD (1..1 Agg)**,  and **My SCD (inherit)** use the “**Glance GBL_CPU Component**” and thus can collect CPU load data from Glance 3PP.

# 1.3 Value Pack Development Toolkit Components Overview

This section presents the components provided by the Value Pack Development Toolkit.

Since each package is fully detailed in its associated document, only a brief summary is given hereafter. To get a detailed description of an individual package, install the Value Pack Development Toolkit and read these documents (see section 2.2.1 Accessing Package documentation).

## 1.3.1 Open View Service Adapters Collection

The following components are designed to help implementing the collection of data from existing Service Adapters. For most of these packages, some simulation tools and data are also provided in order to prepare a demonstration or to validate your solution.

| Package Name | Description | Service Adapter | Simulation |
|---|---|---|---|
| **IS Application** | Provide performance metrics for IS application using OpenView Internet Services (OVIS).<br>Compute time aggregation to provide QoS indicators. | **Ovis SA** | Simulation data in the mediation DB. |
| **OvSN** | Collect Service Status from OpenView Service Navigator System.<br>Compute time aggregation to provide QoE indicator. | **OvSN SA**. | Not Available |
| **TeMIP Fault** | Binding for **TeMIP Fault Statistics SA** and **TeMIP Fault SA.** | **TeMIP Fault Statistics SA** and **TeMIP Fault SA** | **TeMIP Fault Statistics SA**: simulation data in the mediation DB.<br>No simulation tools |

| | | | |
|---|---|---|---|
| | | | for **TeMIP Fault SA** |
| **Glance** | Collect computer performance data using glance. | Not Available | Script that collect data on the hosts of the network. |
| **OVO Statistics** | Binding for **OVO Statistic SA** | **OVO Statistic SA**. | Simulation data in the mediation DB. |

### 1.3.2 Feature Components

These Service Components bring some new features in SQM thanks to the usage of complex custom expressions that use the SPDM internal data.

| Package Name | Description |
|---|---|
| **Baseline** | Generic component for Baseline computation. |
| **SQM Status** | Re-inject current status of SLA/SCI/SLO into SCI parameters. Can be used to provide an overview of complex services. |
| **Histogram** | Compute Histogram from a set of values and provides tools to analyze these histogram. |

### 1.3.3 Common Type and Expression Package

This package provides calculation expressions used in the value packs.

Read the documentation of the expressions for details.

### 1.3.4 Miscellaneous Components

| Package Name | Description |
|---|---|
| **Customer Care** | Basic customer case component with associated Service Adapter which collects on the mediation database. |
| **Interactive Service Package** | Abstraction layer to monitor and control QoS of any interactive service. It is delivered with a Service Adapter which collects on the mediation database. |
| **Maintenance Launch** | Help to implement internet call (Skype, Net Meeting) in UI Monitoring launch. |
| **Others** | Other components (Map Location, SqlSA) are helpers for other components. Check inline documentation for details. |

Chapter 2

# Value Pack Development Kit usage

This section describes how the Value Pack Development Kit is structured and how to use it in your own solution.

## 2.1 Installation

The Value Pack Development Kit can be installed on windows or HPUX.

On a Windows platform, you will mainly use the provided control units and the user documentation to build your own solution in the SQM Service Designer.

On a HP-UX platform, you will just use the generated XML files for custom expressions and Datafeeders since these definitions will be required to load the models that use the Value Pack Development kit.

### 2.1.1 Installation on Windows

To install the Value Pack Development Kit on Windows, run the SQMVALUEPACKDEVKIT-1.40.00.exe installer and follow the instructions.

The re-usable control units that you can use in your model are installed under %TEMIP_SC_HOME%/ValuePacks/HP/Common directory.

A new **Virtual Path** entry is added in the Rose Registry. The value of this entry is %TEMIP_SC_HOME%/ValuePacks. This **Virtual Path** entry allows you to reference imported control units relatively to this **Virtual Path** entry and thus to be able to share your model and components between computers and users. See Rose Documentation for more details on **Virtual Path**.

### 2.1.2 Installation on HP-UX

To install the Value Pack Development Kit on HP-UX, run the SQMVALUEPACKDEVKIT-1.40.00.bin installer and follow the instructions.

The Definition XML files are installed in the $TEMIP_SC_HOME/ValuePacks/HP/Common directory tree.

The script $TEMIP_SC_HOME/ValuePacks/setup/load_vp_model will manage the loading of these definitions automatically if you load a model that use the value packs components. See section 2.3 Loading Model.

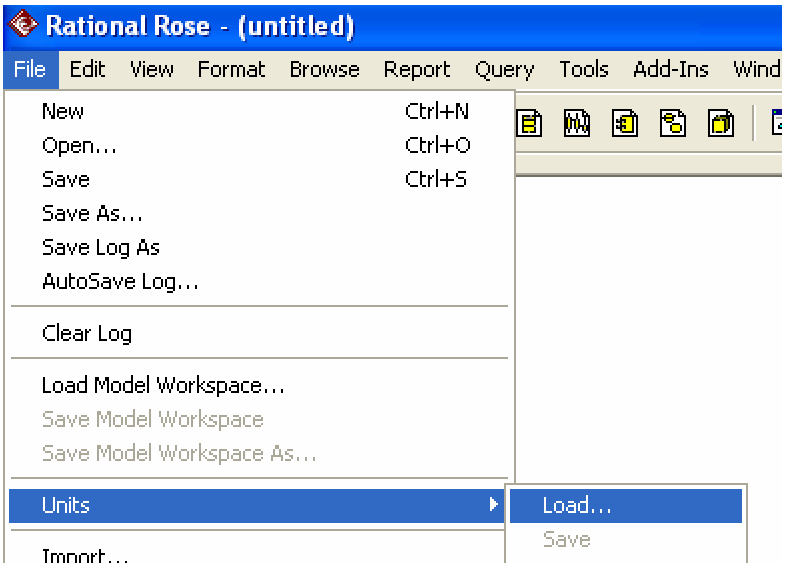
## 2.2 Using Common Package in your Model

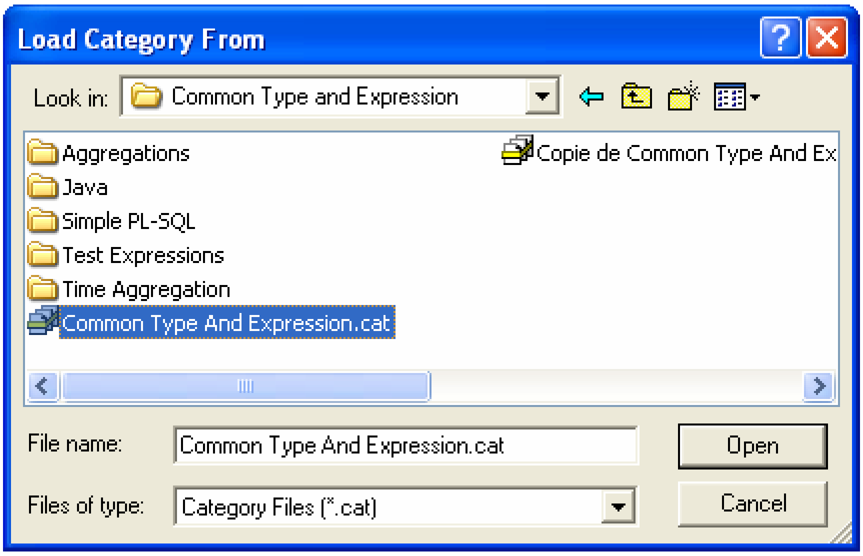
Once the Value Pack Development Kit is installed on your system, you can use the provided control units in your own model.

Read the *OpenView **SQM Service Designer** User's Guide* and the **Rose** documentation for details on how to import some control units.

To import control units provided by the Value Pack Development Kit you have to:

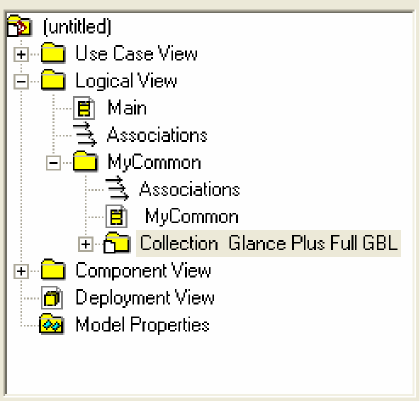
- Create a new Package (**MyCommon** in this explanation) in the **Logical View**
- Create a new Class Diagram in this package
- Open this class diagram and load required control units from the Value Pack Development Toolkit. For this, click **File/Units/Load…**, then select the required control units (*.cat file) located in subdirectory of the **%TEMIP_SC_HOME%/ValuePacks/Common** directory.





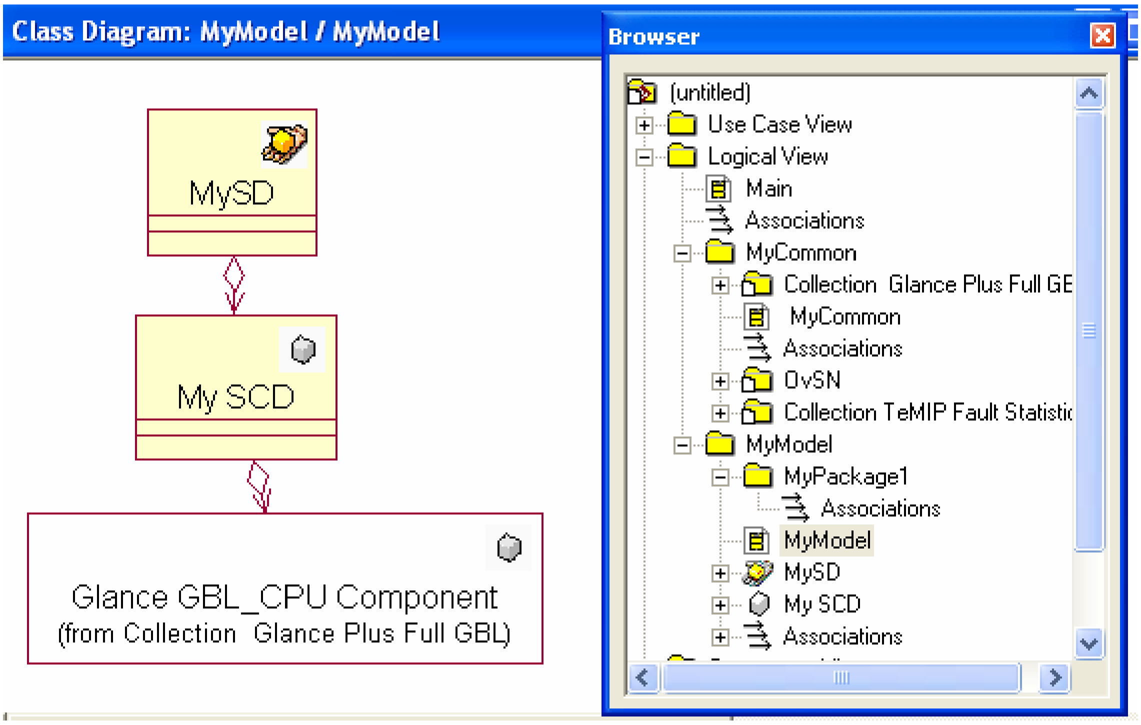
File name: Common Type And Expression.cat

Files of type: Category Files (*.cat)



- Once a package is loaded, it is possible to use its components in your model.

It is highly recommended to isolate control units provided by the Value Pack Development Kit from the classes defined in your own model. For this, it is recommended to nest all Value Pack Development Kit control units in the same Rose package:



In the model above, we use OvSN, **Collection TeMIP** and **Glance** sub-packages. We have loaded them in the **MyCommon** package to isolate them from our own classes.

We create a **MyModel** directory that will contain all newly added items for our model.

Nothing located in the **MyCommon** package should be modified. All the required customization must be done in the **MyModel** package.

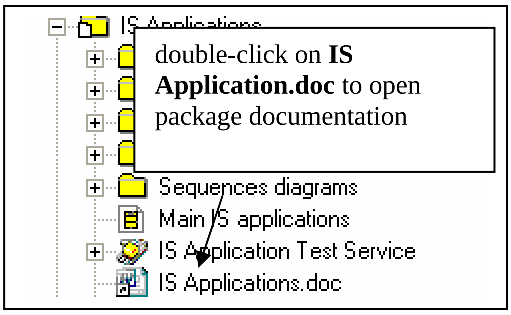
For example, in **MyModel**, we create two items **MySD** and **MySCD** and we use a SCD provided by the **Glance** package.

As illustrated in the figure above, the class from the common packages should be clearly distinguished in your class diagram, because we should not modified them.

For example, these classes can be represented without parameter, without operation and without fill color: Right Click the class then **Format**, then uncheck **Use Fill Color**, Right Click the class then **Options**, then check **Suppress Attributes** and **Suppress Operations**.

### 2.2.1 Accessing Package documentation

Each Value Pack Development Kit is fully detailed in a dedicated document that describes how to use the component in your own model. These documents can be opened directly form the Rose Model:



double-click on **IS Application.doc** to open package documentation

## 2.3 Loading Model

A model that uses some value packs content should be load with the **load_vp_model** utility.

This tool analyzes the model to load to find all the Data Feeder and Custom expression used in it. Then it browse the Value Packs directories to load/re-load all the required items. Finally it loads the model.

Usage:

```
sqmadm>cd $TEMIP_SC_HOME/ValuePacks/setup
Sqmadm>load_vp_model <Path to your XML Service Definition to
load>
```

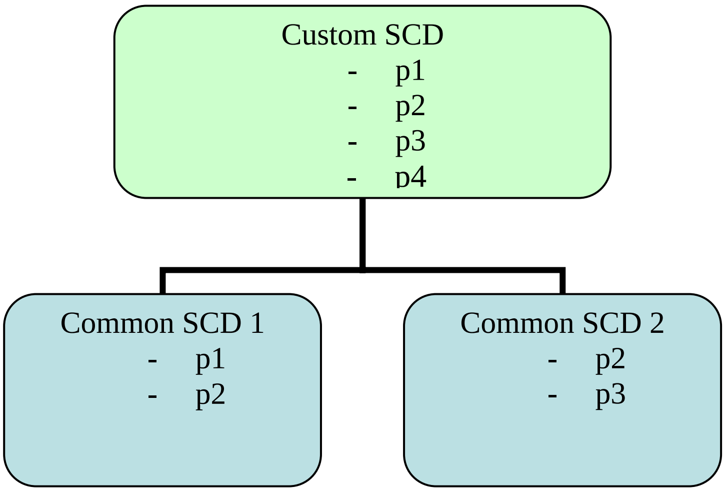
# Chapter 3

# Model Design with Value Pack Development Toolkit

## 3.1 Inheritance and Aggregation

You can use the common Service Component directly, but to provide more specific model, you can also use then by linking common Service Components to your own Service component with either an aggregation relation, or an inheritance relation. The choice will mostly depend on your needs.

You will probably choose to use the inheritance when you want to use several common components for the same custom component. This way, you custom component will merge the behavior of each parent component:



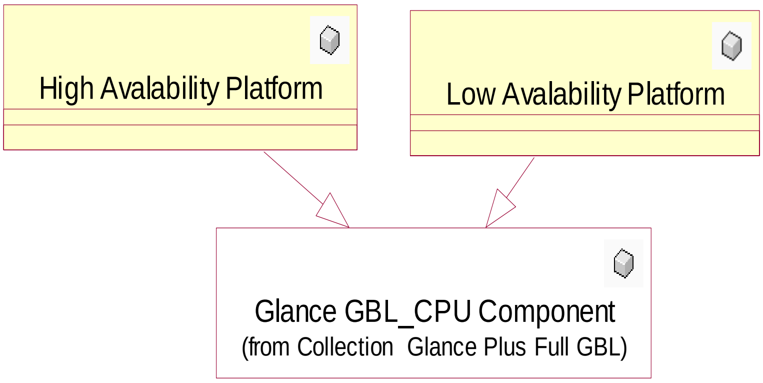
If you use the inheritance, the inherited parameters are always visible in the custom components and it is not possible to set them as optional. For this reason you may prefer to use the aggregation, and decide to instantiate or not the common SCI.

Of course, you can mix the two modes for the same custom component.

### 3.1.1 Inheritance and SLO definition

When a Service Component inherits from another Service Component, it has the same parameters (and calculation), but it is a distinct Service Component in the SQM model.

One consequence of the above is that the Service Component will not share the same SLO. This can be useful if you want to have several classes of objectives in your model.


High Avalability Platform
Low Avalability Platform
Glance GBL_CPU Component
(from Collection Glance Plus Full GBL)

In the model above, you will be able to set different SLO for the “High Availability Platform” and the “Low Availability Platform”.

# Chapter 4

# Troubleshooting

## 4.1 Virtual Path Maps

For details on Virtual Path check Rose In-Line Help.

**Extract**: “The references to controlled units are stored as file paths in the model file or parent units. To allow models to be moved between different folder structures and to be updated from different workspaces, Rational Rose provides a mechanism called virtual path maps. Virtual path maps are used to reference controlled units using a virtual path instead of an absolute path”…

In the context of the Value Packs, the **VALUEPACK_HOME** virtual path is used to designate the root directory where all Value Packs packages are installed (Default: %TEMIP_SC_HOME%/ValuePacks).

If you have such error when opening a Value Packs model (IPMS_V2.mdl), check that the value of **VALUEPACK_HOME** is correct (Menu: **File/Edit Path Map**):

```
10:08:29|  Warning: The directory
C:\SQM\ValuePacks~jacobn\ValuePacks\Vendors\dpINQ does not
exist.
10:08:29|  Warning: The directory
C:\SQM\ValuePacks~jacobn\ValuePacks\Vendors\dpQ does not exist.
10:08:29|  Warning: The directory
C:\SQM\ValuePacks~jacobn\ValuePacks\Vendors\dpQ does not exist.
```

The directory indicated in the **VALUEPACK_HOME** virtual path must be the one where you have installed the Value Pack development kit. If it is not the case, close the model, change the **VALUEPACK_HOME** value and re-open the model.