# HP OpenView
# Service Quality Manager

## Installation Guide

**Edition: 1.4**

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

**March 2007**

© Copyright 2007 Hewlett-Packard Company, L.P.

# Legal Notices

## Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

## Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

## Copyright Notices

© Copyright 2004-2007 Hewlett-Packard Development Company, L.P.

## Trademark Notices

Adobe®, Acrobat®, and PostScript® are trademarks of Adobe Systems Incorporated.

HP-UX Release 10.20 and later and HP-UX Release 11.00 and later (in both 32 and 64-bit configurations) on all HP 9000 computers are Open Group UNIX 95 branded products.

Java™ and all Java based trademarks and logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and other countries.

Microsoft®, Windows®, Windows NT® and Windows® XP are U.S. registered trademarks of Microsoft Corporation.

Oracle® is a registered US trademark of Oracle Corporation, Redwood City, California.

UNIX® is a registered trademark of The Open Group.

# Contents


Preface ..... 5

**Chapter 1 ..... 7**

**Installation Overview ..... 7**

1.1 Service Quality Manager Main Functions ..... 7
1.2 Description of a typical SQM configuration ..... 9

**Chapter 2 ..... 11**

**System Requirements ..... 11**

2.1 HP-UX ..... 11
2.1.1 Hardware Requirements ..... 11
2.1.2 System Requirements ..... 11
2.1.3 UNIX Kernel Parameters ..... 12
2.1.4 Software Requirements ..... 13
2.1.5 Creating sqmadm Group and User Account ..... 15
2.1.6 Checking TCP/IP Accessibility ..... 16
2.1.7 Checking Broadcasting/Multicasting Support ..... 16
2.1.8 Network Time Protocol ..... 16
2.1.9 HP-UX MC/SG Cluster requirements ..... 16
2.2 Microsoft Windows ..... 17
2.2.1 Hardware Requirements ..... 17
2.2.2 Software Requirements ..... 17

**Chapter 3 ..... 19**

**HP-UX MC/ServiceGuard support ..... 19**

3.1 MC/SG package granularity ..... 19
3.2 Number of virtual IP Addresses (cluster aliases) ..... 20
3.3 Disk organization in MC/SG solution ..... 20
3.3.1 Number of volume groups ..... 20
3.3.2 Number of logical volumes ..... 20

**Chapter 4 ..... 23**

**SQM Pre-Installation Steps ..... 23**

4.1 Oracle Installation ..... 23
4.2 Web Server configuration ..... 24
4.3 Distribution Packages ..... 24

**Chapter 5 ..... 25**

**UNIX Installation and Configuration ..... 25**

5.1 Installing Features ..... 25
5.1.1 Installing Features on the SLM server ..... 26
5.1.2 Installing Features on the Reporting server ..... 26
5.1.3 Installing Features on the Acquisition server ..... 26
5.1.4 Installing Features on a HP-UX MC/SG Cluster ..... 26
5.1.5 Installing SLA Monitoring UI binaries to deploy it through the Web ..... 26
5.2 Installing Patches ..... 30
5.2.1 Installing patches on the SLM server or Reporting server ..... 30
5.2.2 Installing patches on the Acquisition server ..... 30
5.3 Setting Up Features ..... 30
5.3.1 Pre-Setup Checks ..... 31
5.3.2 SQM Setup Procedures to Install a Typical Platform ..... 35
5.3.3 SQM Setup Procedures to Install a Monolithic Platform ..... 51
5.3.4 SQM Setup Procedures to Install a HP-UX MC/SG Cluster Platform ..... 51
5.3.5 Platform Start up ..... 60
5.3.6 Prepare connection of SLA Administrations from PCs on other domains ..... 60

**Chapter 6 ..... 63**

**Windows Installation and Configuration ..... 63**
6.1 Installing the Service Designer ..... 63
6.1.1 Installation ..... 63
6.1.2 Setting up the Service Designer ..... 66
6.2 Installing the SLA Administration UI ..... 66
6.2.1 Installation ..... 66
6.2.2 Setup ..... 69
6.3 Installing the SLA Monitoring UI ..... 72
6.4 Installing SLA Monitoring UI binaries to deploy it through the Web (using Java Web Start) ..... 75
6.5 Installing a Patch ..... 76

**Chapter 7 ..... 77**

**SQM Post-Installation Steps ..... 77**
7.1 Automatic Purge Configuration ..... 77
7.2 SQM Automatic Start at Boot ..... 77
7.3 Time Synchronization between Hosts ..... 77

**Chapter 8 ..... 79**

**Uninstall ..... 79**
8.1 On UNIX ..... 79
8.1.1 If you are in a HP-UX MC/SG cluster ..... 79
8.1.2 If you are not in a MC/SG cluster ..... 79
8.2 On Windows ..... 80

**Cluster configuration example ..... 81**

# Preface

This document describes how to install hp OpenView Service Quality Manager (SQM).

It describes the different prerequisites and the steps to install and configure the SQM product on HP-UX and Windows.

## Intended Audience

This document is intended for:

- System Administrators
- Installation Users

General knowledge of HP-UX is recommended.

## Supported Software

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

| Product Version | Operating System |
|---|---|
| OpenView Service Quality Manager 1.4 | HP-UX 11i<br>Windows XP |

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.
- 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

Refer to the following documents for additional information:

- OpenView SQM Overview Guide
- OpenView SQM Reference Guide for Oracle Use

- OpenView SQM Reporting Installation Configuration and Administration Guide
- OpenView SQM Administration Guide
- HP-UX Managing MC/ServiceGuard

## 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

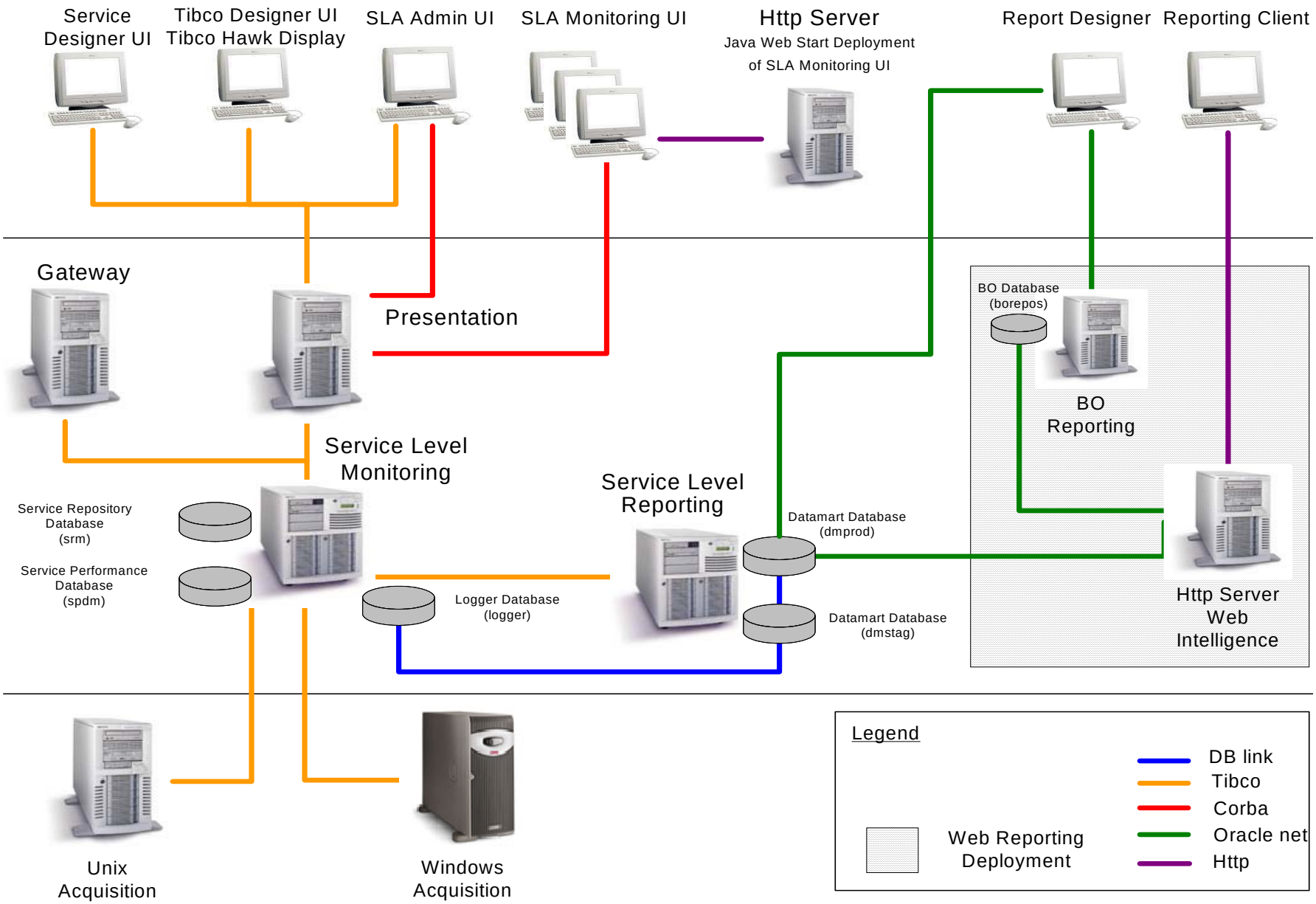
# Installation Overview

## 1.1 Service Quality Manager Main Functions

Here are the main functions of SQM:

- Service Level Monitoring. The core function of OpenView SQM is to monitor the quality of service and service level agreements.
- Service Level Reporting. OpenView SQM collects aggregates and archives performance measures.
- Presentation. OpenView SQM provides access to core functionality for graphical user interface.
- Acquisition on HP-UX. SQM provides a service adapter installation environment on HP-UX.
- Acquisition on Windows. OpenView SQM provides a service adapter installation environment on Windows.
- Graphical User Interfaces on Windows. OpenView SQM provides service designer, SLA administration and SLA monitoring user interfaces.
- Web Deployment of SLA Monitoring UI. OpenView SQM provides both HPUX and Windows installers for SLA Monitoring in order to deploy it through a web server.
  This uses the Java Web Start Technology.
  The web server can run both on HP-UX or Windows but the SLA Monitoring only runs on Windows.

The following figure illustrates the minimal configuration required to install SQM with all the functions.


Service Designer UI
Tibco Designer UI
Tibco Hawk Display
SLA Admin UI
SLA Monitoring UI
Http Server
Java Web Start Deployment of SLA Monitoring UI
Report Designer
Reporting Client
Gateway
Presentation
BO Database (borepos)
BO Reporting
Service Level Monitoring
Service Level Reporting
Service Repository Database (srm)
Service Performance Database (spdm)
Logger Database (logger)
Datamart Database (dmprod)
Datamart Database (dmstag)
Http Server Web Intelligence
Unix Acquisition
Windows Acquisition
Legend
DB link
Tibco
Corba
Oracle net
Http
Web Reporting Deployment

For more information about SQM functionalities, refer to the *OpenView SQM Administration Guide* Section 1

## 1.2 Description of a typical SQM configuration

This guide will help you to install hp OpenView Service Quality Manager (OV SQM) using a typical physical configuration.

The typical OV SQM configuration gathers components in the following way:

- The Service Level Monitoring and Presentation components are located on one UNIX server called the SLM server (or primary host). This server hosts the OV SQM Core Oracle databases and the SQM Central Repository.
- The Service Level Reporting component is located on a different UNIX server called the Reporting server (or secondary host). This server hosts also the HTTP Server Web Intelligence, the Business Object Reporting, and the OV SQM Reporting Oracle databases.
- All of the data presentation clients, including the OpenView Service Designer UI, the OpenView SLA Monitoring UI, the OpenView SLA Administration UI, and the optional Service Reporting UI, run on Windows workstations (one workstation for each user).
- The Acquisition components (Service Adapters) should be located on the data source hardware. If this is not possible, they can be located on the SLM server or on a special host, called the Acquisition server. When using an Acquisition server, the host can be a HP-UX or Windows XP Operating System (considered as secondary hosts).

This configuration is described in details in the *OpenView SQM Administration Guide* Section 1.6.1.

There are several tasks to complete during the installation process:

- Setup your system to the SQM minimum requirements.
- Complete any necessary pre-installation steps.
- Install the SQM software.
- Setup the SQM software.
- Complete any necessary post-installation steps.

# Chapter 2

# System Requirements

Before starting to install, make sure that your system meets the minimum hardware and software requirements.

Refer to the Release Notes for system requirements information. You can access the Release Notes from the kit package.

## 2.1 HP-UX

This section defines the HP-UX minimum requirements for SQM.

### 2.1.1 Hardware Requirements

The hardware requirements depend on the sizing of your SQM solution.

Sizing a SQM solution is not so easy. Indeed, performances of a SQM solution depend mainly on the model in term of definition complexity and instances but also in term of measures publishing rate.

### 2.1.2 System Requirements

The following table defines the HP-UX bundles and software prerequisites for SQM.

| Bundle Name | Bundle Version | Bundle Description |
|---|---|---|
| GOLDAPPS11i | Latest available version | Gold Applications Patches for HP-UX 11i |
| GOLDBASE11i | Latest available version | Gold Base Patches for HP-UX 11i |
| HWEnable11i | Latest version available | Hardware Enablement Patches 11i |
| PHSS_26952 | - | HP C/ANSI C Developer's Bundle for HP-UX11.i (C/ANSI compiler included in this bundle is crucial for a successful installation). (*) |
| PHSS_30968 | - | ld(1) and linker tools cumulative patch |
| PHKL_32578 | - | mmap/fork io,VM-JFS ddlock,thrd prf,usr lim |
| Unzip | 5.42.2001-06-12 | Unzip |

(*) A license is required.

**Note**

Both the GOLDBASE11i and GOLDAPPS11i bundles including their respective patches are delivered within the same depot. The depot name on the Support Plus media is GOLDQPK11i.

For more information about patches, check the IT hp Resource center
http://www.itrc.hp.com/

### 2.1.3 UNIX Kernel Parameters

Correct setting of HP-UX kernel parameters ensures smooth operation of a SQM system in a production environment. The recommendations presented in Table 1 are suitable for the majority of SQM configurations. For an atypical configuration, for example in a very large production environment, specific settings may be required.

For parameters not presented in Table 1, the default values are suitable for the SQM environment.

Requirements of other applications running on the same system (whether or not they belong to the SQM environment) must be taken into account when deciding on the actual parameter values to be set.

Refer to *kmsystem(1M)* and *kmtune(1M)* in the HP-UX Reference or System Administration Manager (*SAM*) portion in manual Managing Systems and Workgroups: A Guide for HP-UX System Administrators**.**

**Table 1 Recommended Kernel Configuration Values**

| **Kernel conf.** | **Values** |
|---|---|
| NPROC | 4096 |
| KSI_ALLOC_MAX | (NPROC*8) = 32768 |
| MSGTQL | NPROC = 4096 |
| MAX_THREAD_PROC | 3000 |
| MAXDSIZ | 2063835136 |
| MAXDSIZ_64 | 2147483648 |
| MAXFILES | 2048 |
| MAXFILES_LIM | 2048 |
| MAXSSIZ | 134217728 |
| MAXSSIZ_64BIT | 1073741824 |
| MAXSWAPCHUNKS | 16384 |
| MAXUPRC | ((NPROC*9)/10) = 3687 |
| MAXUSERS | 512 |
| MSGMAP | (MSGTQL+2) = 4098 |
| MSGMNI | NPROC = 4096 |
| MSGSEG | 32767 |
| NCALLOUT | 6000 |
| NCSIZE | ((8*NPROC+2048)+VX_NCSIZE) = 35840 |

| | |
|---|---|
| NFILE | (15*NPROC+2048) = 63488 |
| NFLOCKS | 4096 |
| NINODE | (8*NPROC+2048) = 34816 |
| NKTHREAD | 6000 |
| SEMMNI | 4096 |
| SEMMAP | (SEMMNI+2) = 4098 |
| SEMMNS | (SEMMNI*2) = 8192 |
| SEMMNU | (NPROC-4) = 4092 |
| SEMVMX | 32768 |
| SHMMAX | Available physical memory |
| SHMMNI | 512 |
| SHMSEG | 32 |
| VPS_CEILING | 64 |
| /dev/tcp tcp_conn_request_max<br>*to set it,*<br>ndd -set /dev/tcp tcp_conn_request_max 2048 | 2048 |

For more details about HP-UX kernel parameters, refer to the *hp HP-UX UNIX System Configuration and Tuning* documentation.

### 2.1.4 Software Requirements

The software requirements include specifications for:

- Software kits
- Database
- Disk space.

#### 2.1.4.1 Prerequisite Software Kits

- For monitoring, reporting and some acquisition functions:

  **Oracle 10g** Server Release 2 (10.2.0.3). The Oracle partitioning feature, included in the Enterprise Edition, is mandatory.

- Optional Web Deployment of SLA Monitoring

  If you plan to deploy SLA Monitoring UI using Web Start, you will need a HTTP Server that allows the management of Java Web start files (.jnlp files). For example: Apache HTTP Server.

**Note**

- If your platform contains an OV SQM Reporting server, then you can use the HTTP Server used by the SQM Reporting. See the *OpenView SQM Reporting Installation, Configuration and Administration Guide* document
- To deploy the SLA Monitoring using Java Web Start, you can use a HTTP server that runs either on HP-UX or on Windows.

### 2.1.4.2 Database Requirements

You require the Oracle 10g Release 2 product installed on your HP-UX systems in order to use the following functions:

- Service Repository Manager (it is composed of one Oracle instance: srm)
- Service Performance Data Manager (it is composed of one Oracle instance: spdm)
- Logger (it is composed of one Oracle instance: logger)
- Datamart (it is composed of two Oracle instances: dmprod and dmstag)

Oracle installation and configuration of these databases are described in the *hp OpenView SQM Reference Guide for Oracle Use.*

### 2.1.4.3 Disk Space Requirements

It is recommended to organize your disk(s) with three different logical spaces:

- /opt/OV/SQM<xxx> where SQM will be installed. This directory will be referred to as TeMIP_SC_HOME in the remainder of this document.
- /var/opt/OV/SQM<xxx> where SQM variable data are stored (configuration files, error logs etc …). This directory will be referred to as TeMIP_SC_VAR_HOME in the remainder of this document.
- /usr/ORACLE where ORACLE data are stored.

**Note**

If you install SQM on a HP-UX MC/SG Cluster. SG packages will be stored under the usual /etc/cmcluster directory

- Logical Spaces also required by Java Web Start Deployment of SLA Monitoring
    - Web Server software installation (example `/opt/apache`)
    - Root path to the documents of the web site
      Example (`/opt/OV/www`).
      This setting is specific to the used HTTP Server.
      Example, for apache HTTP Server, this root path has to be set in the file

      `<APACHE_INSTALL_DIR>/conf/httpd.conf`, in both lines:
        - `DocumentRoot "/opt/OV/www"`
        - ```
          #
          #This should be … you set DocumentRoot to.
          #
          <Directory "/opt/OV/www">
          ```

The following table defines the amount of disk space required per SQM function.
          ```

**Table 2 Disk Space Requirements per SQM function (TEMIP_SC_HOME)**

| Package | Size (in Mb) |
|---|---|
| Kernel (*) | 500 Mb |
| Service Level Monitoring director (**) | 5 Mb |
| Service Level Reporting director(**) | 1 Mb |
| Acquisition director (on HP-UX) (**) | 1 Mb |
| Presentation director (**) | 100 Mb |
| Web Server Documents for Web Deployment of SLA Monitoring (***) | 150 Mb |

(*) One Kernel must be installed per server. One server can host several directors
(**) Requires the kernel
(***) Does not include disk space used by the Web Server binaries. It does not requires the SQM Kernel

The following table defines the amount of disk space required for variable data.

**Table 3 Disk Space Requirements for variable data (TEMIP_SC_VAR_HOME)**

| Location | Size (in Mb) |
|---|---|
| TEMIP_SC_VAR_HOME | 120 Mb |

The following table defines the amount of disk space required for ORACLE data.

**Table 4 Disk Space Requirements for ORACLE (/usr/ORACLE)**

| Package | Size (in GB) |
|---|---|
| ORACLE | 5 Gb |
| SQM Databases | See 4.1 |

### 2.1.5 Creating sqmadm Group and User Account

Before the initial installation of SQM, create the user account *sqmadm*. The *sqmadm* user is the SQM Administrator User.

The *sqmadm* user must:

- Have a User Id
- Be a member of *sqmadm* group (as primary group)
- Be a member of *dba* group (as secondary group)

For details on how to create a group and a user account, refer to HP-UX Reference or Controlling Access to a System sections in the guide Managing Systems and Workgroups: A Guide for HP-UX System Administrators

**Note**

If you have a distributed SQM solution, add the sqmadm user on the NIS system or use the same local sqmadm user identification on the different systems.

If you install SQM on a HP-UX MC/SG Cluster, the sqmadm user must have the same user id and group id on all the nodes of the cluster.

### 2.1.6 Checking TCP/IP Accessibility

In a distributed SQM configuration, all systems must be able to communicate using the TCP/IP protocol, and should be configured to recognize the host names in the configuration. Use the following command on each system to ping all remote systems (**UNIX** or **Windows**), to see if they can be reached:

On a UNIX system:

```
# /usr/sbin/ping <other_system_hostname>
```

On a Windows System

```
#  ping <other_system_hostname>
```

Where `<other_system_hostname>` is the result of

- `hostname` executed on any UNIX system of the SQM Platform
- `ipconfig` executed on any Windows System of the SQM platform

**This is valid not only for UNIX SQM servers but also for PC that will host SQM GUIs.**

**Note**

- Most frequent problems occur when Windows Systems and UNIX systems are not on the same domain and the result of the `hostname` command executed on the UNIX system does not contain the domain.
- **CAUTION:** Any change of the value returned by the command `hostname` executed on a SQM server will require a full re-run of the SQM Platform Setup.

### 2.1.7 Checking Broadcasting/Multicasting Support

By default, the SQM infrastructure transport is configured via IP broadcast packet during setup. Check with your Network Administrator that IP broadcasting is enabled between all the SQM systems (UNIX and Windows). You can configure more efficient SQM transport by using IP multicasting if your network supports it.

For more information, refer to the *OpenView SQM Administration Guide* Section 5.3

### 2.1.8 Network Time Protocol

In a distributed configuration, SQM requires network-synchronized time to ensure that SQM servers generate consistent timestamps. hp recommends Network Time Protocol (NTP) for this purpose.

### 2.1.9 HP-UX MC/SG Cluster requirements

This chapter explains the basic requirements that are needed to install SQM on a HP-UX MC/SG Cluster.

Understanding this chapter implies that you are familiar with the MC/ServiceGuard environment and the SQM architecture.

This chapter will not explain how to install, configure, and manage a HP-UX MC/SG. Please refer to the HP-UX documentation “Managing MC/ServiceGuard”.

The supported version of HP-UX MC/SG is 11.16

LVM (Logical Volume Manager) is used for logical volume management.

# 2.2 Microsoft Windows

This section defines the Windows requirements for SQM.

## 2.2.1 Hardware Requirements

The hardware requirements depend on the sizing of your SQM solution.

## 2.2.2 Software Requirements

The software requirements include specifications for:

- Software kits
- Disk space.

### 2.2.2.1 Prerequisite Software Kits

- For the Service Designer application:

  **Windows XP**

  **IBM RationalRose** Modeler or Enterprise Edition

- Optional Web Deployment of SLA Monitoring

  If you plan to deploy SLA Monitoring UI using Web Start, you will need a HTTP Server that allows the management of Java Web start files (.jnlp files). For example: Apache HTTP Server.

**Note**

If your platform contains an OV SQM Reporting server, then you can use the HTTP Server used by the SQM Reporting. See the *OpenView SQM Reporting Installation, Configuration and Administration guide*.

To deploy the SLA Monitoring using Java Web Start, you can use a HTTP server that runs either on HP-UX or on Windows.

### 2.2.2.2 Disk Space Requirements

SQM will be installed by default in the following directory:

C:\Program Files\hp Openview\SQM. This directory will be referred to as TEMIP_SC_HOME in the remainder of this document.

The variable data part is also installed in the same directory. Hence TEMIP_SC_VAR_HOME refers also the same directory.

The following table defines the amount of disk space required per SQM function.

**Table 5 Disk Space Requirements per SQM function (TEMIP_SC_HOME)**

| Package | Size (in Mb) |
|---|---|
| Acquisition | 18 Mb |
| Service Designer | 60 Mb |
| Windows GUI (SLA Administration, SLA Monitoring, Hawk tools, Tibco Designer) | 152 Mb |

The following table defines the amount of disk space required for variable data.

**Table 6 Disk Space Requirements for variable data (TEMIP_SC_VAR_HOME)**

| Location | Size (in Mb) |
|---|---|
| TEMIP_SC_VAR_HOME | 200 Mb |

# Chapter 3

# HP-UX MC/ServiceGuard support

SQM provides a set of MC/SG resources to be run and managed as usual cluster packages. Configuration and deployment are explained in next chapters. For SQM package management please refer to the SQM admin guide. The next sections provide high level information on SQM packages.

Refer to Annex Cluster configuration example for a complete example of a cluster configuration.

## 3.1 MC/SG package granularity

The ServiceGuard packages usable for SQM are defined at SQM director level. The Tibco Repository is managed as a separate package.

It means that one MC/ServiceGuard package can contain one or several SQM directors or the repository:

- repository
- slmonitoring
- presentation
- gateways
- acquisition
- slreporting

**Note**

There can be only one director of type Acquisition (with Service Adapters applications) and one director of type Gateways (with gateways) on the cluster.

When a director uses one or more oracle database (for example slmonitoring or slreporting), the databases are part of the MC/ServiceGuard package. So, they will be stopped and restarted with the package and the database files are created in a logical volume.

The following applications are considered as “local” on the cluster. It means there will be installed, configured and run at the same time on each node of the cluster, and that they are not relocated:

- Oracle software
- SQM Kernel

The MC/SG package names are <alias>_SQM where <alias> is the short hostname of the virtual IP address associated to the package. This naming scheme cannot be changed.

The MC/SG packages files are deployed in the /etc/cmcluster/<package_name> directory when they are created.

**Notes**

The tibco repository must be alone in its package

The SQM setup tools can create packages with a one to one director association: one director (or Repository) in one MC/SG package.

It is not possible to switch an existing SQM installation that was not on a cluster into a cluster (by joining the node to a cluster). Installation must be done from scratch, with the cluster activated.

**Important notes**

If you are using the templates delivered with OV SQM, the SQM director names must be the default ones: slmonitoring, presentation, acquisition, gateways, slreporting.

## 3.2 Number of virtual IP Addresses (cluster aliases)

The maximal number of IP addresses needed for a complete SQM installation in cluster with the finest granularity is six (one for each package, each package hosting a different director or the repository). This is the default provided configuration where each package hosts only one SQM director.

The minimal number is two: one for the package with the repository, and one for a package with the SQM directors

**Advice**

As the MC/SG name template is fixed, <alias>_SQM, the hostname given to the virtual IP should give some information on the applications that are in the MC/SG package.

For example, “repos_SQM” (package of the repository) is more explicit than “xcpqp_SQM”…

## 3.3 Disk organization in MC/SG solution

Clustered application data and their associated database are stored within logical volumes belonging to volume groups moved from one cluster member to the other along their hosting package.

### 3.3.1 Number of volume groups

You need to create at least as many volume groups as you intend to create packages.

You can add as many volume groups you want to the packages, but it will require some parameter customization if you want to create the packages with the SQM Setup tools.

### 3.3.2 Number of logical volumes

The maximum number of logical volumes for a complete support of SQM in HP-UX MC/SG is 25. This number may be reduced according your needs.

The following examples explain how the logical volumes are dispatched inside volume groups.

**Example with 6 packages corresponding to 1 director or repository**

The following list is the default values supported by the SQM setup tools for the volume groups and logical volumes names.

The volume groups and logical volumes names can be customized, and the number of volume group per package can be increased, but it must be done before launching the SQM setup tools.

This customization operation is explained later in the document, chapter 5.3.1.4.

| **Package name Director** | **Volume group** | **Logical Volume (Mount point)** |
|---|---|---|
| <alias 1>_SQM repository | vgSQMRep | lvDat ($TEMIP_SC_VAR_HOME/repository)<br>lvData ($TEMIP_SC_VAR_HOME/<alias1>) |
| <alias 2>_SQM slreporting | vgSQMMon | lvSLM ($TEMIP_SC_VAR_HOME/SLM)<br>lvDef ($TEMIP_SC_VAR_HOME/Definitions)<br>lvData ($TEMIP_SC_VAR_HOME/<alias2>)<br>lvOrasrm (/usr/ORACLE/srm)<br>lvOraspdm (/usr/ORACLE/spdm)<br>lvOralogger (/usr/ORACLE/logger) |
| <alias 3>_SQM Presentation | vgSQMPres | lvUI ($TEMIP_SC_VAR_HOME/UI)<br>lvData ($TEMIP_SC_VAR_HOME/<alias3>) |
| <alias 4>_SQM Gateways | vgSQMGat | lvGat ($TEMIP_SC_VAR_HOME/Gateways)<br>lvData ($TEMIP_SC_VAR_HOME/<alias4>) |
| <alias 5>_SQM Acquisition | vgSQMAcq | lvAcq ($TEMIP_SC_VAR_HOME/ServiceAdapters)<br>lvData ($TEMIP_SC_VAR_HOME/<alias5>) |
| <alias 6>_SQM slreporting | vgSQMRepbo | lvDatamart ($TEMIP_SC_VAR_HOME/Datamart)<br>lvData ($TEMIP_SC_VAR_HOME/<alias6>)<br>lvOradmstag (/usr/ORACLE/dmstag)<br>lvOradmprod (/usr/ORACLE/dmprod)<br>lvOraborepos (/usr/ORACLE/borepos) (NOT USED BY DEFAULT) |

**Notes**

The <alias n> are the virtual hostnames. Aliases MUST be different. That is to say it is not possible to specify the same virtual alias for two packages.

<Alias n> is the short name form of the virtual hostname (without domain).

Directories are created during setup:
$TEMIP_SC_VAR_HOME/<alias_x>. They will be mounted on the corresponding lvData logical volume used by the package.

All volumes must be named /dev/vg/lv

The /usr/ORACLE/ is the default ORACLE_ROOT directory. This directory can be changed during setup

# Chapter 4

# SQM Pre-Installation Steps

## 4.1 Oracle Installation

Before SQM installation, you must install Oracle on each system that will host SQM Service Level Monitoring or Reporting functions. Please use the complete installation and not the custom one.

The default ORACLE user umask should be 022.

If Oracle is not yet installed, please follow these recommendations:

- ORACLE_HOME should be set to /usr/ORACLE/u01/app/oracle/product/10.2.0,
- Install the **Oracle 10g** Release 2 (10.2.0) (server, **Enterprise Edition**)
- Install the **Oracle 10g** Release 2 (10.2.0.3) Patch Set
- Install Oracle XSL Patch 5689971
- Install Oracle DST Patches 5746875 and 5632264
- Install only the Oracle software as SQM provides scripts to create its own databases.

For details of how to install Oracle, refer to the Oracle Universal Installer Concepts guide.

SQM will create data mount points under `/usr/ORACLE`.

**Note**

If the ORACLE product is installed for the first time, you have to add in the *$ORACLE_HOME/network/admin/listener.ora* file the following line

```
(ADRESS = (PROTOCOL = TCP) (HOST=<your hostname>) (PORT=1521))
```

Refer to the ORACLE user documentations and to the *hp OpenView SQM Reference Guide for Oracle Use* for more details.

If you are installing SQM on a HP-UX MC/SG Cluster, Oracle must be installed on all the nodes of the cluster in the same directory, with the oracle account having the same user id and group id.

The disk space needed for each type of database is defined in the following table.

| Database/Size | SMALL | MEDIUM | LARGE |
|---|---|---|---|
| ***spdm*** | *2.7 GB* | *4.1 GB* | *14.9 GB* |

| | | | |
|---|---|---|---|
| ***srm*** | *820 MB* | *1.2 GB* | *1.77 GB* |
| ***logger*** | *570 MB* | *1.62 GB* | *2.2 GB* |
| ***dmstag*** | *2.2 GB* | *3.2 GB* | *4.5 GB* |
| ***dmprod*** | *5.9 GB* | *8.5 GB* | *14.3 GB* |
| ***borepos*** | *398 MB* | *708 MB* | *1.4 GB* |

## 4.2 Web Server configuration

If you decide to deploy the SLA Monitoring UI using Java Web Start, your Web server needs to manage the mime type JNLP files. Please refer to the documentation of your web server to activate it.

**Notes**

Procedure if your HTTP Server is Apache:

- Make a backup of the file <APACHE_INSTALL_DIR>/conf/mimes.types
- Edit <APACHE_INSTALL_DIR>/conf/mimes.types
- Add the following line if it is not yet present
  application/x-java-jnlp-file  jnlp
- Save the file
- Restart the Web Server
- Apache documentation is available on Apache web site: http://httpd.apache.org

Java Web Start is well documented on the web. Tutorials and documentation can be found on the official site http://java.sun.com/products/javawebstart.

## 4.3 Distribution Packages

Your distribution kit contains the following SQM software packages:

| **Packages** | **HP-UX 11i** | **Windows XP** |
|---|---|---|
| Acquisition Package for Windows | | ✓ |
| Acquisition Package for Unix | ✓ | |
| Service Level Monitoring Package | ✓ | |
| Reporting Package | ✓ | |
| Presentation Package | ✓ | |
| SLA Monitoring installer for a deployment through Java Web Start on a HPUX Web Server | ✓ | |
| SLA Monitoring installer for a deployment through Java Web Start on a Windows Web Server | | ✓ |
| User Interfaces Package | | ✓ |

# Chapter 5

# UNIX Installation and Configuration

This section describes the actions required to install a typical SQM configuration.

Before you start the installation, log on as **root** user on the system where you want to install SQM, then create the administrator user sqmadm as described in Section 2.1.5.

## 5.1 Installing Features

On HP-UX, the following features can be installed:

- SL Monitoring and Presentation (on the SLM server),
- SL Reporting (on the Reporting server),
- Acquisition (on the Acquisition server) if needed.

  In all these cases, log on as ***root*** user and use the following script:

```
# <Download directory>/SQM-1.40.00/sqm_install

Usage:

sqm install [-o|-p] /opt/OV/SQM[...] kit-location
[feature|subset-name [subset-name...]]
Where feature could be:
    typical      Install Monitoring and Presentation
directors (default feature).
    minimal      Install Kernel (for acquisition
and/or gateways).
    monitoring   Install Monitoring director.
    presentation Install Presentation director.
    reporting    Install Reporting director.
    all          Install all subsets in kit-location.

Option
If -o option is selected, existing files will be
overwritten without confirmation.
If –p option is selected, existing patches will be
installed for the given feature
```

- Java Web Start Deployment of SLA Monitoring UI

### 5.1.1 Installing Features on the SLM server

On the SLM server, log on as ***root*** user:

```
# <Download directory>/SQM-1.40.00/SQM-1.40.00-
CORE/sqm_install /opt/OV/SQM /<Download directory>/SQM-
1.40.00/SQM-1.40.00-CORE/HPUX/KIT typical
```

### 5.1.2 Installing Features on the Reporting server

On the Reporting server, log on as **root** user:

```
# <Download directory>/SQM-1.40.00/SQM-1.40.00-
CORE/sqm_install /opt/OV/SQM /<Download directory>/SQM-
1.40.00/SQM-1.40.00-CORE/HPUX/KIT reporting
```

### 5.1.3 Installing Features on the Acquisition server

This step is necessary only if you want to install a Service Adapter on the Acquisition server.

If it is the case, refer to the appropriate Service Adapter installation and configuration guide.

### 5.1.4 Installing Features on a HP-UX MC/SG Cluster

On a HP-UX MC/SG Cluster, all nodes of the cluster might receive any of the SQM applications.

Thus, all binaries must be installed on all the nodes of the cluster. This rule applies to all patches, Service Adapters, Gateways or any other binary used by the SQM application.

The installation must be done in the exact same directory on all the nodes.

On all nodes of the cluster, log on as ***root***:

```
# <Download directory>/SQM-1.40.00/SQM-1.40.00-
CORE/sqm_install /opt/OV/SQM /<Download directory>/SQM-
1.40.00/SQM-1.40.00-CORE/HPUX/KIT all
```

### 5.1.5 Installing SLA Monitoring UI binaries to deploy it through the Web

The deployment of the SLA Monitoring UI through the web is done in two steps:

- Installation of the binaries on a HTTP Server (example Apache HTTP Server)
- On the targeted workstations, open the SQM SLA Monitoring download page in a web browser and click on the link “Start SQM SLA Monitoring”.

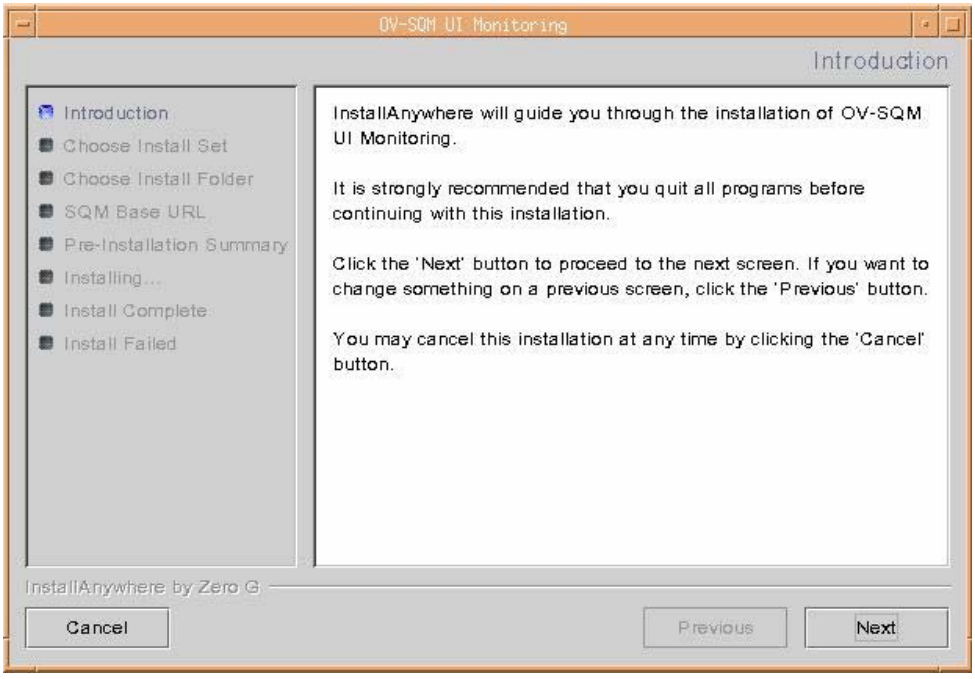
  This will register SQM SLA Monitoring in Java Web Start client. When patches or new versions are installed in the HTTP Server, the next starts of the SLA Monitoring will automatically download updates.

This feature has been tested with Apache HTTP Server.

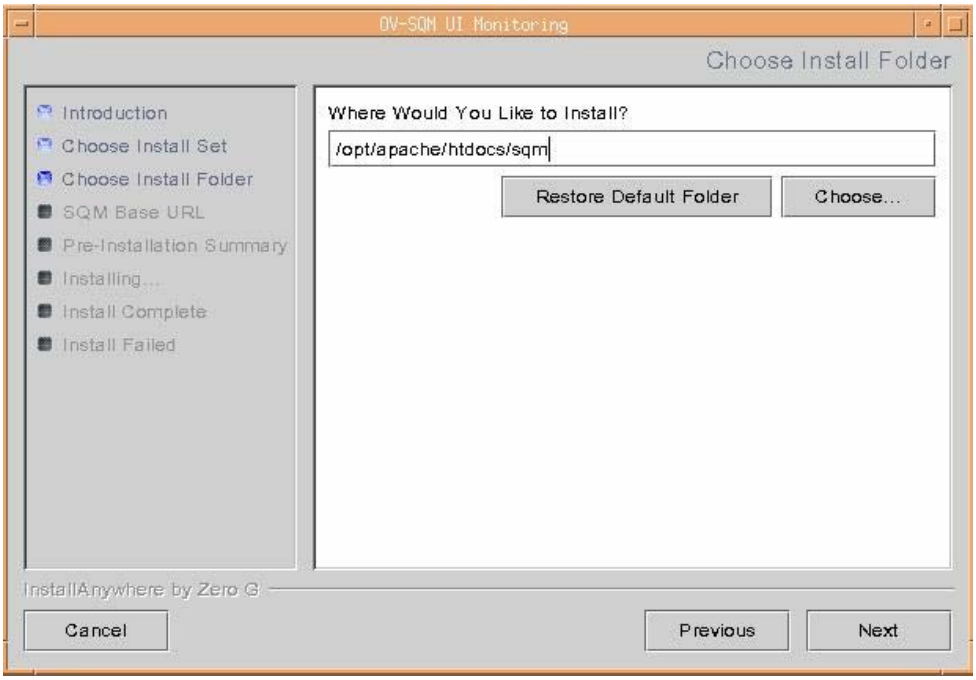
1. On the HP-UX box that hosts your Web Server, log on with a user that has access rights to your Web Server.
2. Set the DISPLAY variable of environment if needed
3. Start the installer's GUI.

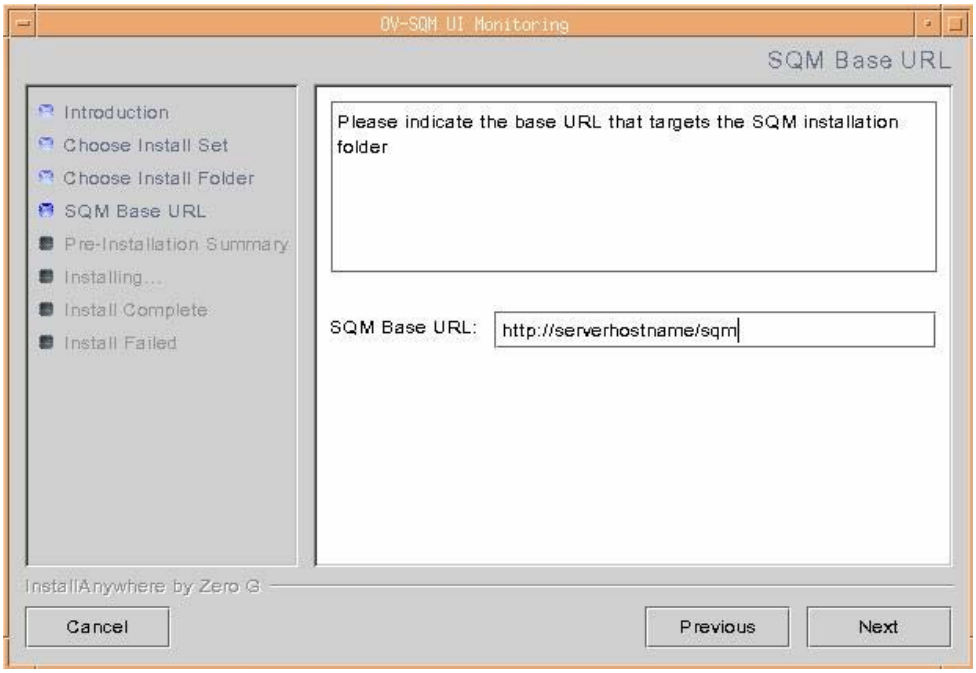
```
# <Download directory>/SQM-1.40.00/SQM-1.40.00-CORE/
/HPUX/User_Interfaces/SQMUIM-1.40.00.bin
```

4. When the following window is displayed, click on **'Next'**




5. Enter the folder where to install the SLA Monitoring files and the corresponding SQM base URL.
   The two next screens will allow you to enter:
6. The folder where to install the SLA Monitoring files (below the HTTP server's documents root folder).
   Example <root Document>**/sqm**
   - The corresponding URL (accessed from the web browser) to this folder
     Example:
     - If the name of your web server is `serverhostname` and if the TCP port of the web server is the default one (80)
       ➔ the SQM base URL is http://serverhostname/**sqm**
     - If the name of your web server is `serverhostname` and if the TCP port of the web server is the not the default one, (example 8080)
       ➔ the SQM base URL is http://serverhostname:8080/**sqm**




**Notes**

- Identify the Root document folder if your HTTP Server is Apache

  The Root Documents is defined in the file <APACHE_INSTALL_DIR>/conf/httpd.conf.

  Search for the Keyword DocumentRoot

- Identify the name of the Web Server if your HTTP Server is Apache

  The name of the Web Server is defined in the file `<APACHE_INSTALL_DIR>/conf/httpd.conf.`

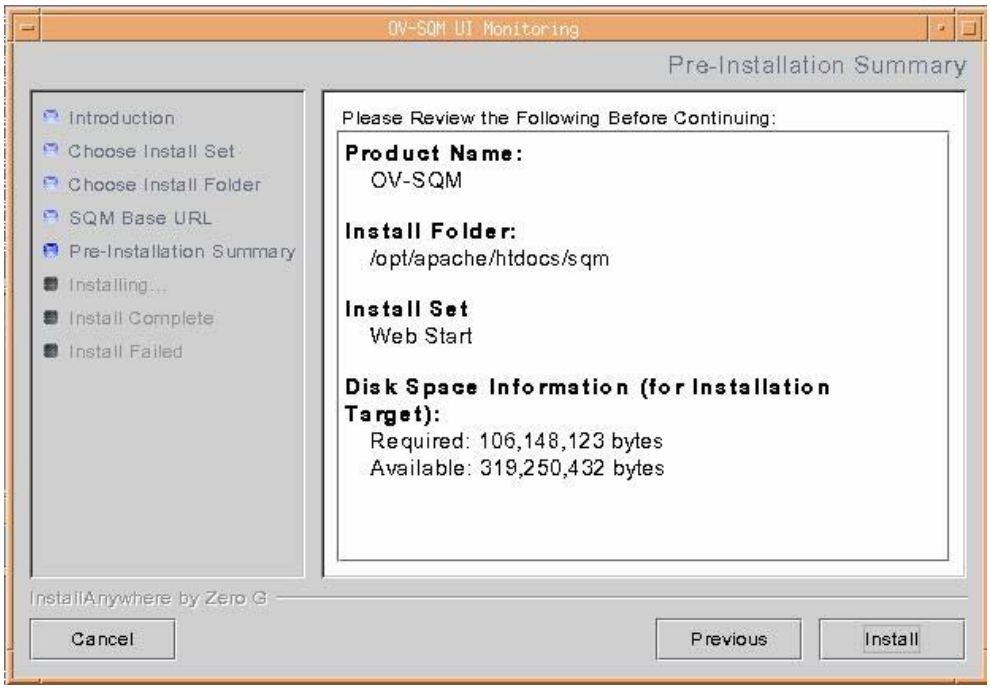
  Search for the Keyword `ServerName`

- Identify the port of the Web Server if your HTTP Server is Apache

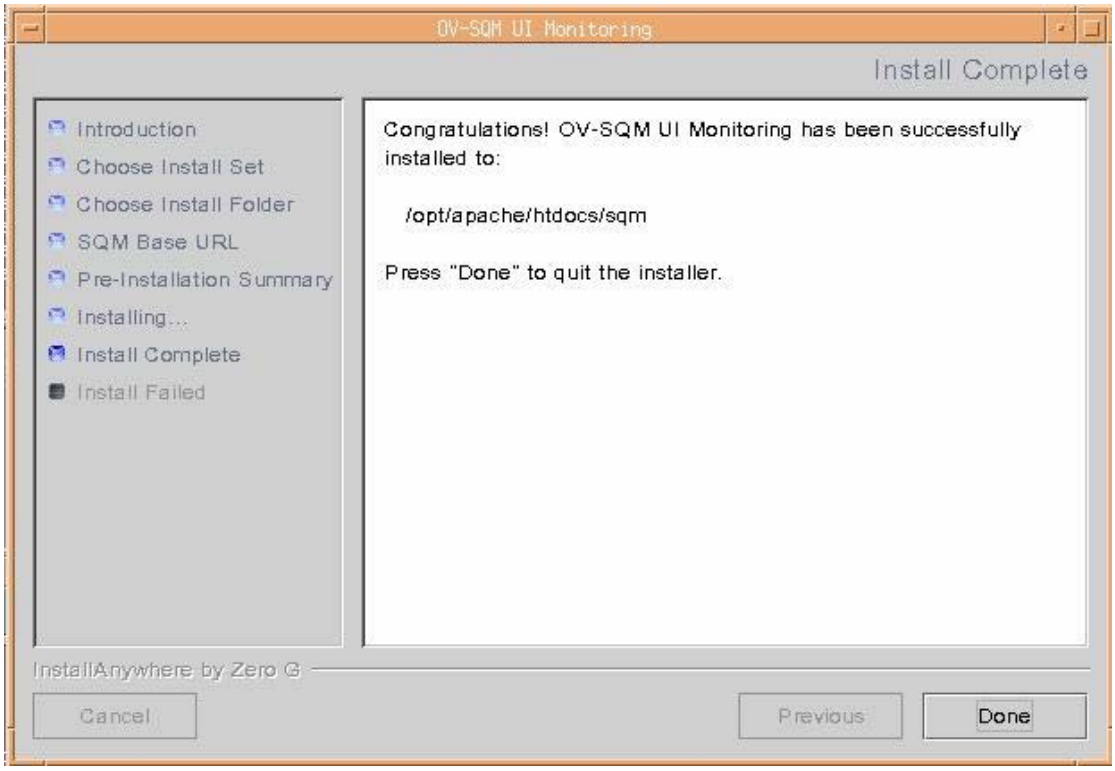
The name of the Web Server is defined in the file <APACHE_INSTALL_DIR>/conf/httpd.conf.

Search for the Keyword Port

7. Confirm the installation (Click on install)




8. Close the installer (click on Done)



## 5.2 Installing Patches

### 5.2.1 Installing patches on the SLM server or Reporting server

To install a SQM patch on HP-UX, use the sqm_install script, described above, with the –p option.

Log on as ***root*** user:

```
# <Download directory>/SQM-1.40.00/SQM-1.40.00-CORE/sqm install
-p /opt/OV/SQM /<Download directory>/SQM-1.40.00/SQM-1.40.00-
CORE/HPUX/Patches patch-name
```

**Note**

In a HP-UX MC/SG cluster platform, patches must be installed on all nodes of the cluster.

### 5.2.2 Installing patches on the Acquisition server

This step is necessary only if you want to use a Service Adapter on the Acquisition server.

If this is the case, refer to the appropriate Service Adapter installation and configuration guide.

**Note**

In a HP-UX MC/SG cluster platform, patches must be installed on all nodes of the cluster.

## 5.3 Setting Up Features

The SQM setup has to be executed on the following hosts:

- When not running in HP-UX MC/SG Cluster
    - The *SLM server* that will host the Tibco repository (considered as the primary host).
    - The *Reporting server*, which is any other host on the platform (considered as one secondary host),
    - The *Acquisition server* if needed (considered as another secondary host)
- When running in HP-UX MC/SG Cluster
    - One of the nodes of the cluster, considered as the primary host
    - Then all other nodes of the cluster

When your platform is installed, two environment variables are set in the *temip_sc_setup* script:

- `TEMIP_SC_HOME`
- `TEMIP_SC_VAR_HOME`

TEMIP_SC_HOME points to the directory containing the installed components of the OpenView SQM software. TEMIP_SC_VAR_HOME points to the directory containing data that vary during the life of your platform (logs, traces, etc)

## 5.3.1 Pre-Setup Checks

Before you starting the setup, you should ensure the proper settings, as follows:

- Broadcast or multicast setting
- Full hostname (different network domains)
- SQM databases installation
- HP-UX MC/SG cluster installation and configuration

The SQM databases installation check has to be done on the SLM and Reporting servers only.

### 5.3.1.1 Broadcast vs. Multicast Communication

By default, the SQM setup configures the communication between SQM hosts with broadcast configuration.

This is the case when all the systems (HP-UX and Windows) are on the same network domain, or when network routers are configured to support IP broadcast. Contact your Network Administrator for more information.

**Note**

You need to know which communication types are supported by your computers/routers before starting the setup.

For more information, refer to the *OpenView SQM Administration Guide* Section 5.3.

### 5.3.1.2 Full hostname (different network domains)

If you plan to install the SLA Administration UI or the SLA Monitoring UI on a PC box located on a different network domain than the HP-UX box running the Presentation Server, you need to make sure that the Presentation Server returns its full host name.

1. On the Presentation Server, enter the 'hostname' command and check that it returns its full hostname <myserver>.<mydomain>
2. If the 'hostname' command returns <myserver> string without <mydomain>, you need to add into the /etc/hosts of the Presentation Server one of the following lines:

```
# aaa.bbb.ccc.ddd myserver.mydomain myserver
# aaa.bbb.ccc.ddd myserver.mydomain
```

### 5.3.1.3 SQM Databases Installation

By default, SQM use ORACLE_HOME set up to `/usr/ORACLE/u01/app/oracle/product/10.2.0`

If you did not install Oracle under this directory, perform the following steps before setup.

**Note**

These steps are only needed if the ORACLE_HOME is not the `/usr/ORACLE/u01/app/oracle/product/10.2.0`

1. Identify the SQM installation directory and the SQM data directory where you plan to put the SQM data.
2. Run these steps under **root** user:

```
#export TEMIP_SC_HOME=/opt/OV/SQM<xxx>
#export TEMIP_SC_VAR_HOME=/var/opt/OV/SQM/slmv14

# cd $TEMIP_SC_HOME/oracle/scripts
# ./temip_create_database
```

The following message is displayed:

```
           -----------------------------------------
Getting server configuration parameters...
           -----------------------------------------
********** checking server parameters **********
the mandatory file
$TEMIP_SC_VAR_HOME/oracle/conf/temip_oracle_configuration.cfg
" is missing please restore it.
 error in get_param : the passed parameter (ORA_ADMIN_USER)
doesn't exist.
 error in get_param : the passed parameter (DBA_GROUP)
doesn't exist.
File has been restored from
/opt/OV/SQM<xxx>/oracle/conf/temip_oracle_configuration.cfg
the mandatory file
"/var/opt/test/oracle/conf/temip_oracle_users.cfg" is missing
please restore it.
File has been restored from
$TEMIP_SC_HOME/oracle/conf/temip_oracle_users.cfg
the Param "SERVER_HOST" is mandatory in file
$TEMIP SC VAR HOME/oracle/conf/temip oracle configuration.cfg
 this param is set by by the TeMIP Oracle server deployment
tools.
 Your server has been installed with other tools.
 Please update the file manually and check also the next
parameters :
       - SERVER_HOST
       - SERVER_DOMAIN
       - ORACLE_ROOT
       - ORACLE_VERSION
       - ORACLE_BASE
       - ORACLE_HOME
```

3. Edit the file `$TEMIP_SC_VAR_HOME/oracle/conf/temip_oracle_configuration.cfg` and modify the value of ORACLE_ROOT variable.
4. You can now run the setup GUI.

#### 5.3.1.4 HP-UX MC/SG Cluster installation and configuration

Before configuring your SQM installation on a HP-UX MC/SG Cluster, please check that all the following points are met:

- The SQM Database Installation check described at chapter 5.3.1.3
- The cluster is up and running

Use cmviewcl command

- All nodes of the cluster are up and running and joined the cluster

  Use cmruncl or cmrunnode if cluster or nodes are down

- All volume groups used by the MC/ServiceGuard packages are created and activated in exclusive mode on the primary node where the installation is done

  Use `vgdisplay command`

- All logical volumes needed by SQM are created in the corresponding volume group
- All the virtual IP addresses are running on the primary node where the installation is done

  Use `netstat command`

- The sqmadm user is allowed to execute the cmviewcl MC/ServiceGuard command

Please report to the HP-UX MC/SG administration guide to perform those tasks.

The list of needed volume groups and logical volumes is given in chapter 3.3.

If you decide not to use the default names for volume groups and logical volumes used by the SQM GUI setup tool, you may modify them before creating the MC/ServiceGuard packages. The parameters used by the SQM setup tool are located in the following file:

`$TEMIP_SC_HOME/setup/bin/temip_sc_create_cluster_packages_param`

This file contains all the data that will be used to create packages by the Setup GUI, except the virtual hostnames of the packages and the IP Subnet.

$TEMIP_SC_HOME/setup/bin/temip_create_cluster_packages_param:

```
# This file contains default parameters for volume groups and logical
volumes
# for cluster packages
# they are used by temip_sc_create_cluster_packages script
#
# XXXX_LIST variable summarize all values and is passed
#to the script and the update_SQM_PKG tool
#
# XXXX_ALIAS_SHORT are defined in the script
# DB_NAME_xxx are defined in the script
#
# LV_XXXX_N are the logical volumes declared as vg/lv,mountpoint

# Repository
VG_REPOS=/dev/vgSQMRep
LV_REPOS_1=${VG_REPOS}/lvDat,${TEMIP_SC_VAR_HOME}/repository
LV_REPOS_2=${VG_REPOS}/lvData,${TEMIP_SC_VAR_HOME}/${REPOS_ALIAS_SHORT}
REPOS_LIST=${LV_REPOS_1},${LV_REPOS_2}


# Monitoring
VG_MON=/dev/vgSQMMon
LV_MON_1=${VG_MON}/lvData,${TEMIP_SC_VAR_HOME}/${MON_ALIAS_SHORT}
LV_MON_2=${VG_MON}/lvSLM,${TEMIP_SC_VAR_HOME}/SLM
LV_MON_3=${VG_MON}/lvDef,${TEMIP_SC_VAR_HOME}/Definitions
LV_MON_4=${VG_MON}/lvOrasrm,${ORACLE_ROOT}/${DB_NAME_srm}
LV_MON_5=${VG_MON}/lvOraspdm,${ORACLE_ROOT}/${DB_NAME_spdm}
```

```
LV_MON_6=${VG_MON}/lvOralogger,${ORACLE_ROOT}/${DB_NAME_logger}
MON_LIST=${LV_MON_1},${LV_MON_2},${LV_MON_3},${LV_MON_4},${LV_MON_5},${
LV_MON_6}

# Presentation
VG_PRES=/dev/vgSQMPres
LV_PRES_1=${VG_PRES}/lvUI,${TEMIP_SC_VAR_HOME}/UI
LV_PRES_2=${VG_PRES}/lvData,${TEMIP_SC_VAR_HOME}/${PRES_ALIAS_SHORT}
PRES_LIST=${LV_PRES_1},${LV_PRES_2}

# Gateways
VG_GAT=/dev/vgSQMGat
LV_GAT_1=${VG_GAT}/lvGat,${TEMIP_SC_VAR_HOME}/Gateways
LV_GAT_2=${VG_GAT}/lvData,${TEMIP_SC_VAR_HOME}/${GAT_ALIAS_SHORT}
GAT_LIST=${LV_GAT_1},${LV_GAT_2}

# Acquisition
VG_ACQ=/dev/vgSQMAcq
LV_ACQ_1=${VG_ACQ}/lvAcq,${TEMIP_SC_VAR_HOME}/ServiceAdapters
LV_ACQ_2=${VG_ACQ}/lvData,${TEMIP_SC_VAR_HOME}/${ACQ_ALIAS_SHORT}
ACQ_LIST=${LV_ACQ_1},${LV_ACQ_2}

# Reporting
VG_REPORT=/dev/vgSQMRepbo
LV_REPORT_1=${VG_REPORT}/lvData,${TEMIP_SC_VAR_HOME}/${REPORT_ALIAS_SHO
RT}
LV_REPORT_2=${VG_REPORT}/lvDatamart,${TEMIP_SC_VAR_HOME}/Datamart
LV_REPORT_3=${VG_REPORT}/lvOradmstag,${ORACLE_ROOT}/${DB_NAME_dmstag}
LV_REPORT_4=${VG_REPORT}/lvOradmprod,${ORACLE_ROOT}/${DB_NAME_dmprod}

# comment the 2 following lines if borepos database is to be used
REPORT_LIST=${LV_REPORT_1},${LV_REPORT_2},${LV_REPORT_3},${LV_REPORT_4}
SQM_BO_DB_OPTION=""

# uncomment the following lines if borepos database is to be used
#LV_REPORT_5=${VG_REPORT}/lvOraborepos,${ORACLE_ROOT}/${DB_NAME_borepos
}
#REPORT_LIST=${LV_REPORT_1},${LV_REPORT_2},${LV_REPORT_3},${LV_REPORT_4
},${LV_REPORT_5}
#SQM_BO_DB_OPTION=borepos
```

**Notes**

Modify only the variables that are declared in this file (VG_* LV_*) according to the name of your volume groups and logical volumes.

The objective is to have a XXXX_LIST variable that is a coma separated list of LV_XXXX_*

LV_XXXX_* is a coma separated list of logical volume and mount point.

The mount point names must be kept as they are.

${DB_NAME_xxxx} are not dynamic variable. Don’t modify them.

Comments in the file explain what is to be done to include a BO database in the reporting package. By default, the borepos database given with SQM is NOT included in the package.

Cross check carefully the information you may modify in this file with the names of volume groups and logical volumes you use before creating the packages.

**Notes**

The SQM Setup tools can take only one IP Subnet to create the packages.

The SQM Setup tools can associate only one director to one MC/SG packages

If your SQM packages will use different IP Subnets, or if you want to put more than one director in a MC/SG package, then you must create the MC/SG packages manually with the inline tools provided by SQM.

## 5.3.2 SQM Setup Procedures to Install a Typical Platform

**Note**

For a setup on a HP-UX MC/SG cluster please go directly to chapter 5.3.4

### 5.3.2.1 SLM Server Setup

You need to use the SQM GUI setup tool. Use this graphical UI to create SQM databases, for initial platform configuration, and to deploy the platform.

**Note**

You must be logged as ***root*** in order to setup SQM platform.

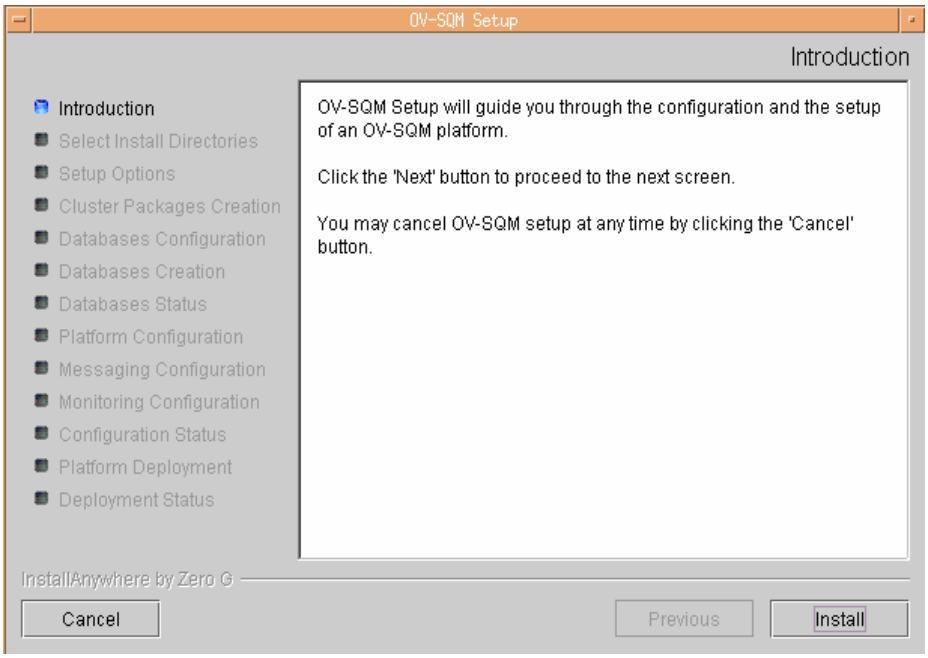
This setup phase describes the complete installation of an OV-SQM platform on HP-UX.

It describes the installation of the OV-SQM components and the configuration of this platform.

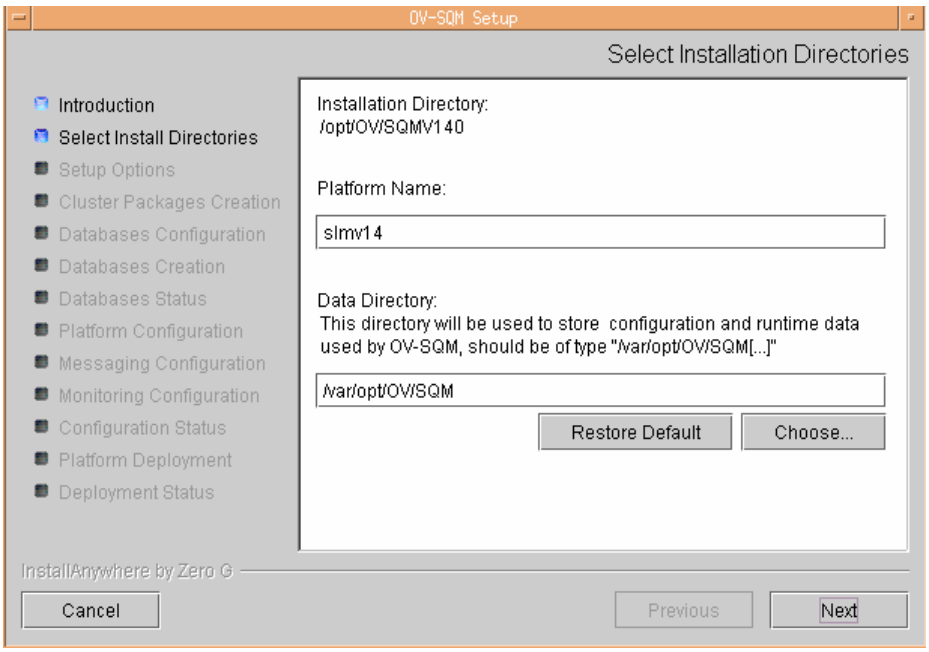
1. Run the OV-SQM setup tools under **root** user:

```
# export TEMIP_SC_HOME=/opt/OV/SQM<xxx>
# export ORACLE_HOME=<your oracle directory installation>
# export DISPLAY=<your display>
# cd $TEMIP_SC_HOME/setup
# temip_sc_gui_setup
```

2. When the following window is displayed, click on **'Install'**.




3. Select the installation directory, the platform name and click on **'Next'**.

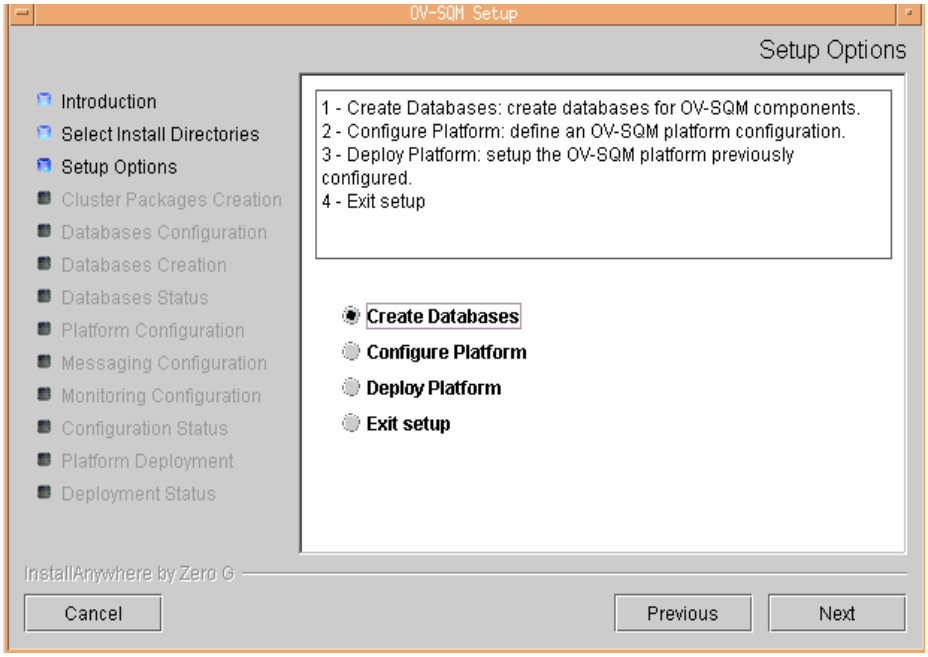



4. Select the Setup Options. To complete the setup you must:

   a. Create the databases (see Section SQM Databases Creation)

   b. Configure the platform on the primary host (see Section Platform Configuration).

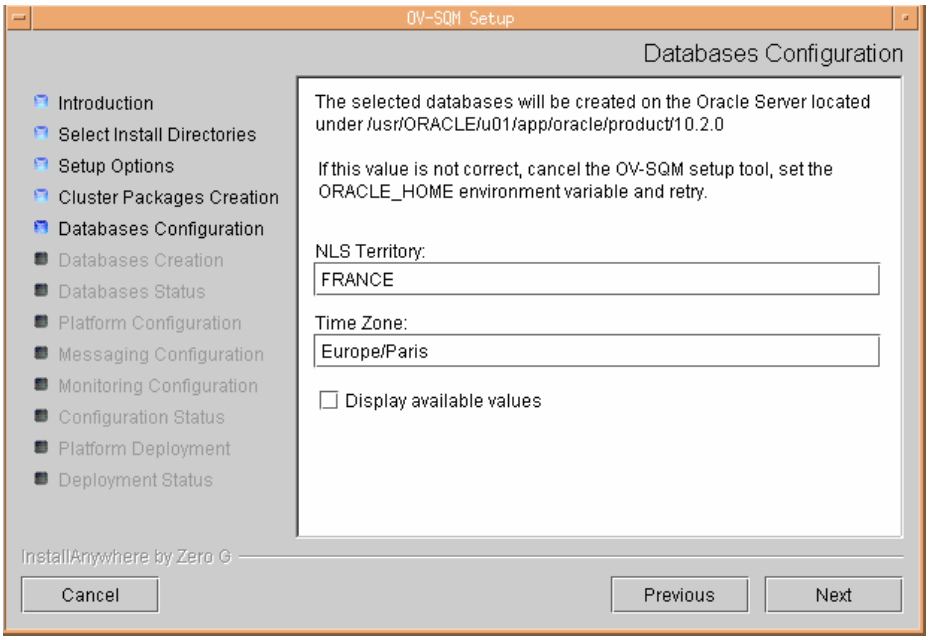
   c. Deploy the platform on each host (see Section Platform Deployment).



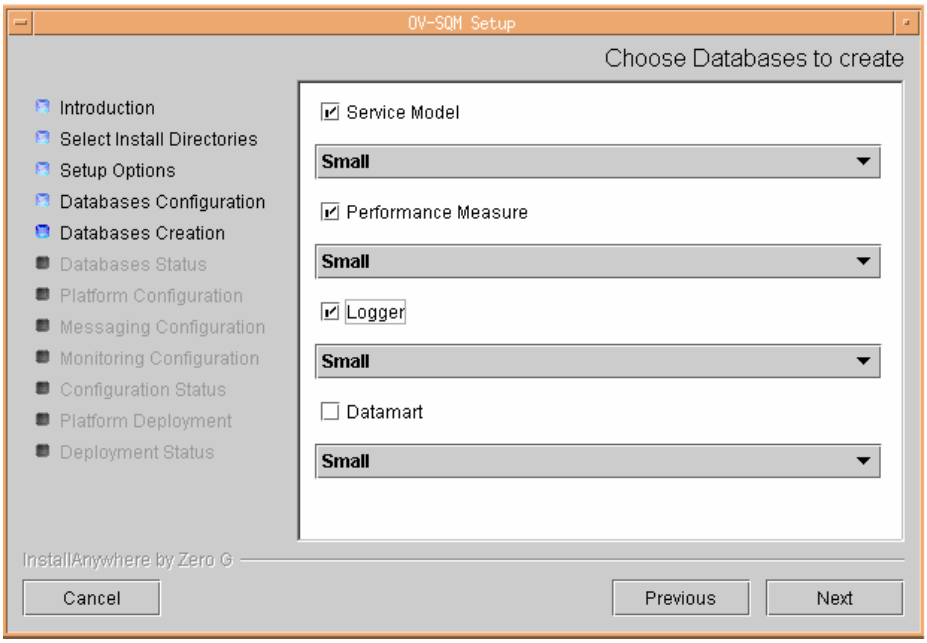

5. Select **Create Database** and click on **'Next'**.

## SQM Databases Creation

1. Specify the Local Territory and the time zone, and click on **'Next'**




2. Select the databases to create on this host (the service model, performance measure and logger databases are hosted to the SLM server), their size, and click on **'Next'**.



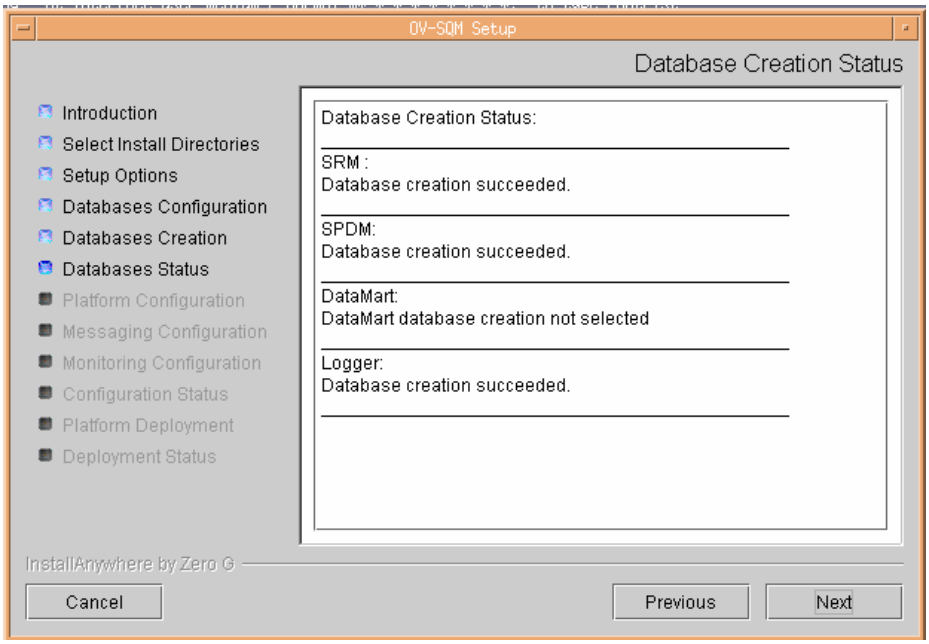

**Note**

Database creation takes a long time (up to a few hours). During the creation, a window is displayed to show the actions performed. This window displays only a summary of the creation process. If you want to follow the deployment steps in detail, you can look at the log files located in `/var/opt/SQM/xxxx/oracle/<product>log`.

**Note**

Log messages "*`cannot access: No such file or directory`*" log may appear in the log, there are just information messages and not error messages.

Once all databases are created, a status window is displayed.

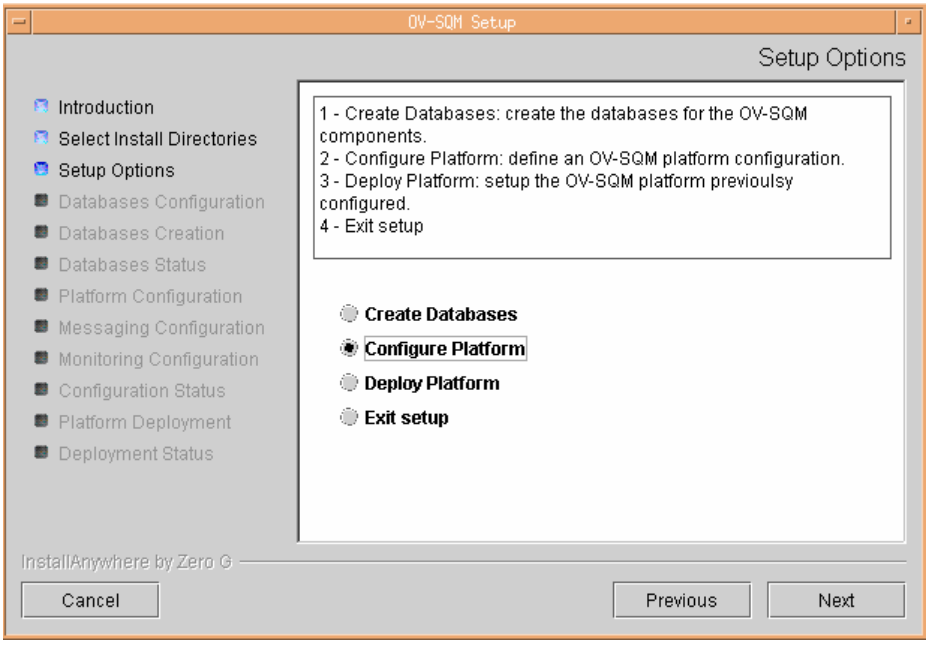


3. Make sure that the information displayed in the Status window is correct before proceeding to platform configuration. The “Database creation succeeded” message should be displayed for all selected SQM databases.
4. Click on **‘Next’** to return to **Setup Tool Options**.

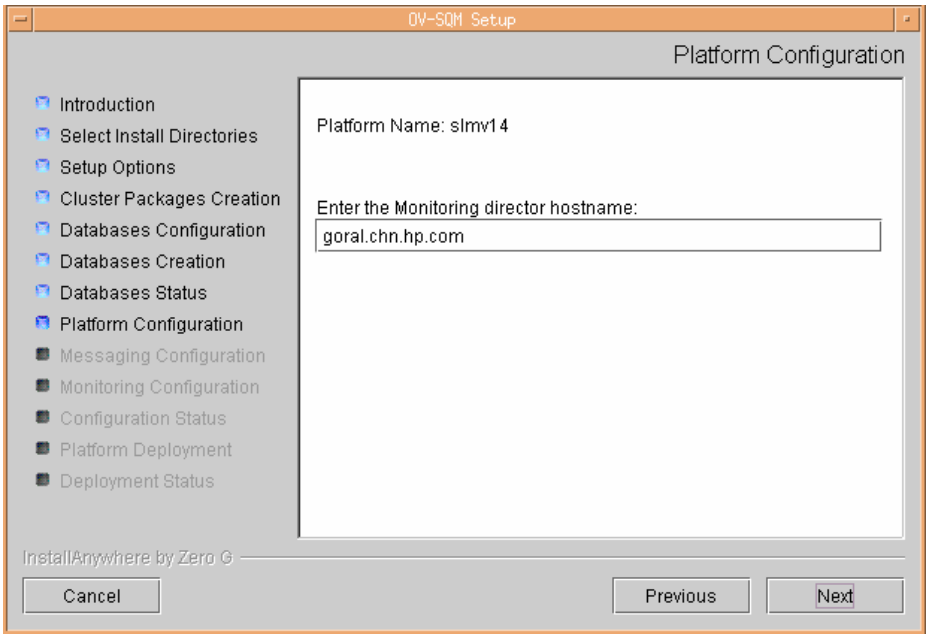
## Platform Configuration

Platform configuration defines the OV-SQM platform that can be deployed later on this host. As you configure a typical platform, the SLM Server will host the Monitoring and Presentation directors. From the SQM Setup Options window, proceed as follows.

1. Select Configure Platform and click on **‘Next’**.



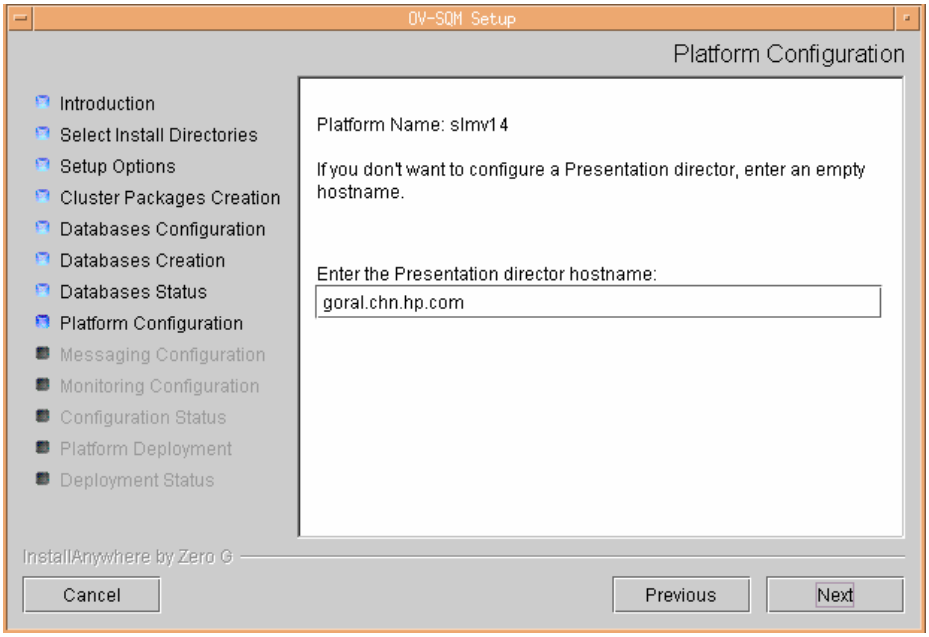

2. Select the host for the Monitoring director (this host corresponds to the SLM Server) and click on **‘Next’**.




**Note**

If you need to modify the director hostname, make sure to keep the format displayed by default (i.e. including the domain name).

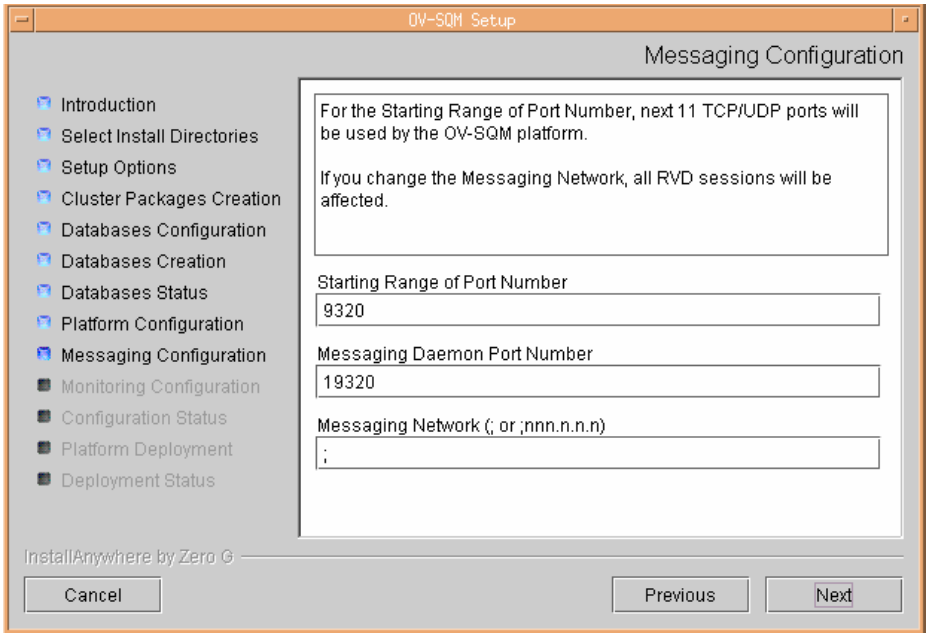
3. Select the host for the Presentation director (this host corresponds to the SLM Server) and click on **'Next'**.



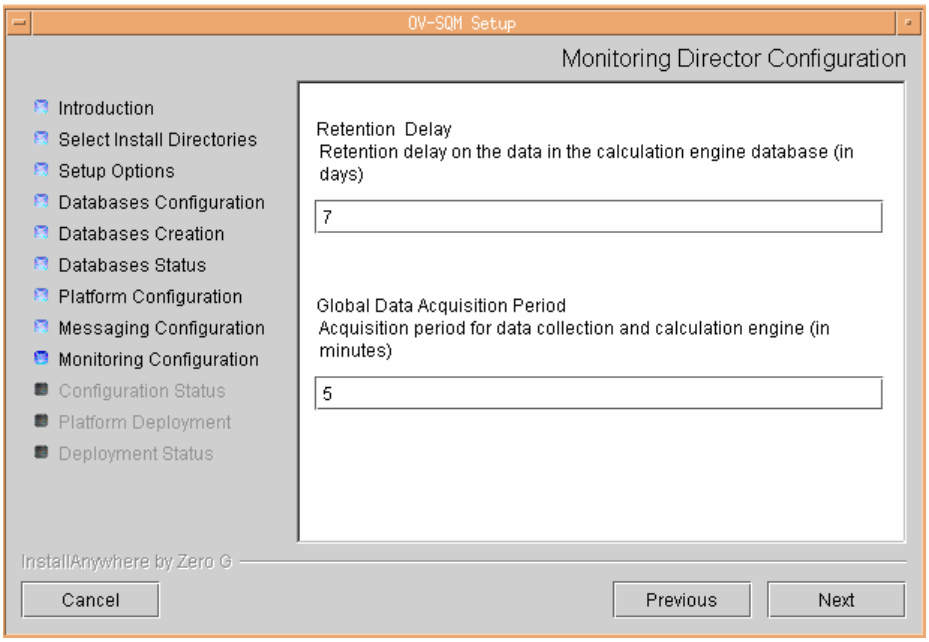

4. Set the messaging configuration. You have to enter in the *Starting Range Port Number* field, a port number that will be used by OV-SQM applications. This port number and the next 10 port numbers must be TCP/UDP free ports. In the messaging daemon port number you have to enter a port number that will be used by the Tibco Rendez-Vous Daemon. This must be a free TCP port number.

   All these port numbers must be in the limited range 1024 to 65535.

Click on **'Next'**.

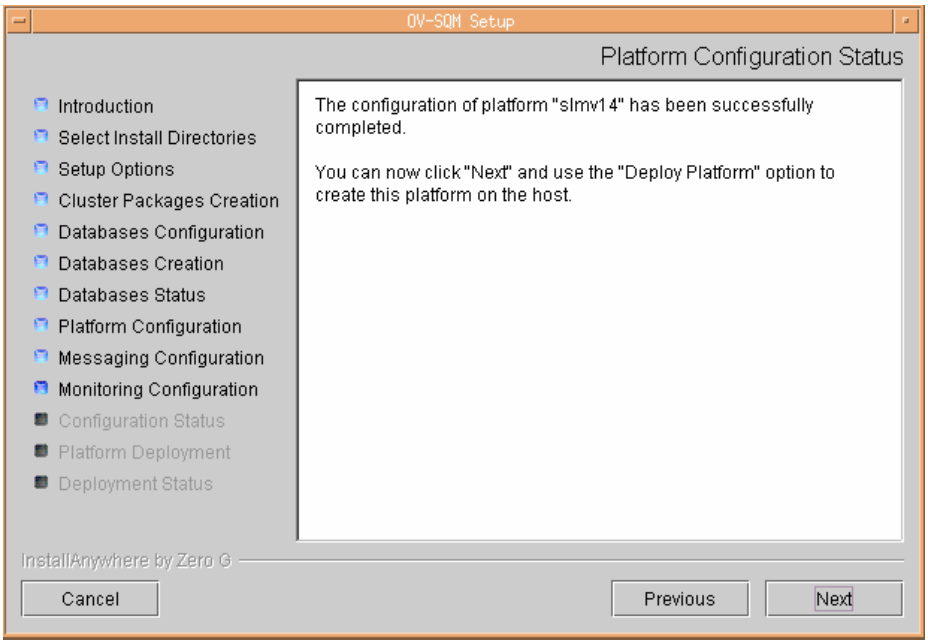



5. Set the Monitoring director configuration to your specific requirements, or leave them as the default values. Click on **'Next'**.




When the Status window is displayed, the platform is configured. It can be deployed on this host.

Click on **'Next'**.



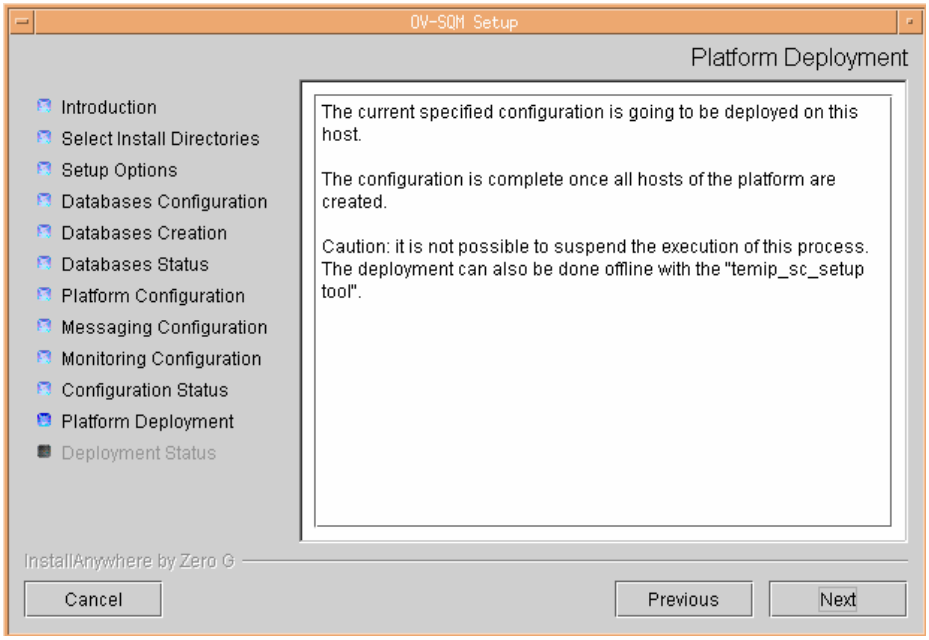

### Platform Deployment

Deploying the platform will configure the local host according to the platform configuration.

The OV-SQM kernel will be setup on this host.

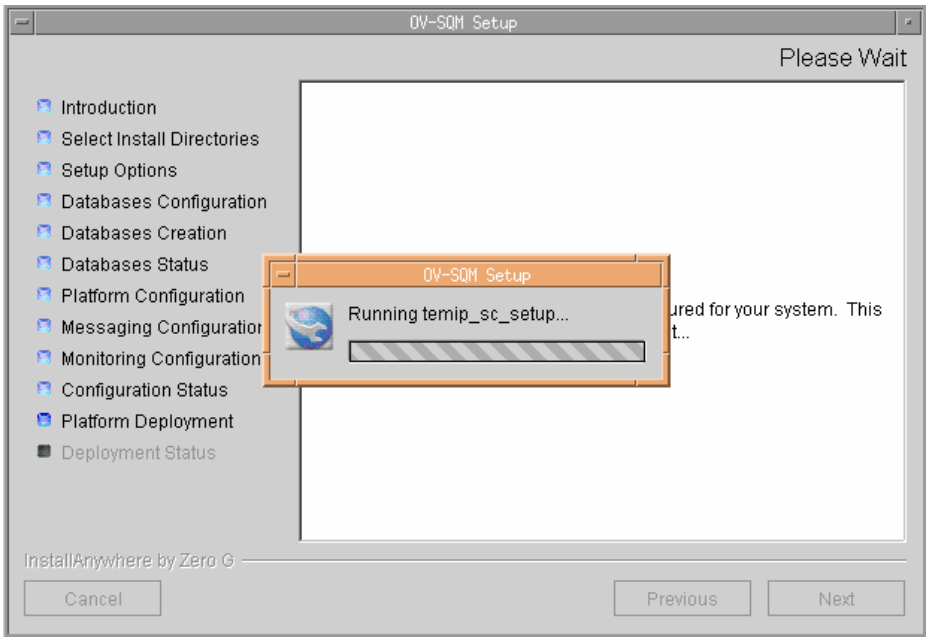
All the directors defined for this host will be created.

6. If the platform is configured on this host, select **Configure Platform** and click on **'Next'**.




7. The Setup Tool requests confirmation. Click on **'Next'** to perform the deployment on this host.

No progress window is displayed during the deployment. The panel below is displayed during the deployment (10 min).




You can view the setup log under `$TEMIP_SC_VAR_HOME/trace/`

At the end of the deployment, the status is displayed.

**Note**

The installation procedure has modified the .profile file of the sqmadm user to launch the ***temip_sc_env.sh*** command automatically.

### 5.3.2.2 Reporting Server Setup

This phase consists in adding a new director (the Reporting director) on a new secondary host (the Reporting server) to the SQM platform.

To configure manually this new director, refer to the *OpenView SQM Administration Guide* Section 2.2.8.1. Otherwise follow the steps described below.

Before configuring the Reporting server, you need to start the kernel on the SLM server

1. On the SLM server, run the temip_sc_kernel_start tools under sqmadm user:

```
# temip_sc_kernel_start
```

2. On the Reporting server, copy the platform_desc.cfg file from the SLM server (`>:$TEMIP_SC_HOME/tmp/platform_desc.cfg`):

```
# cd $TEMIP_SC_HOME/tmp
# rcp <SLM server>:$TEMIP_SC_HOME/tmp/platform_desc.cfg .
```

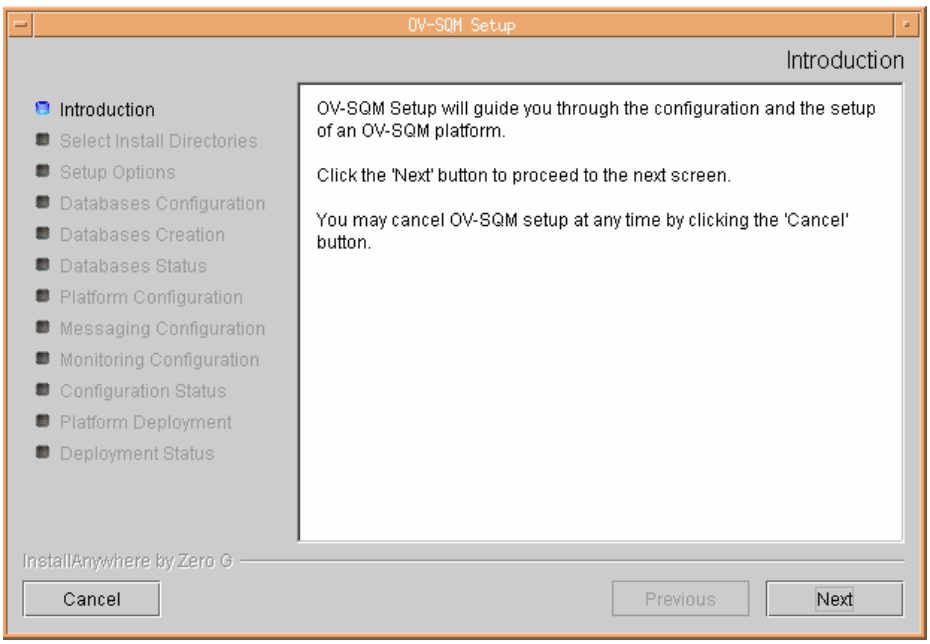
If rcp is not working, use another transfer mechanism (ftp or copied file on shared files system (NFS)

3. On the Reporting server, run the OV-SQM setup tools under the **root** user:

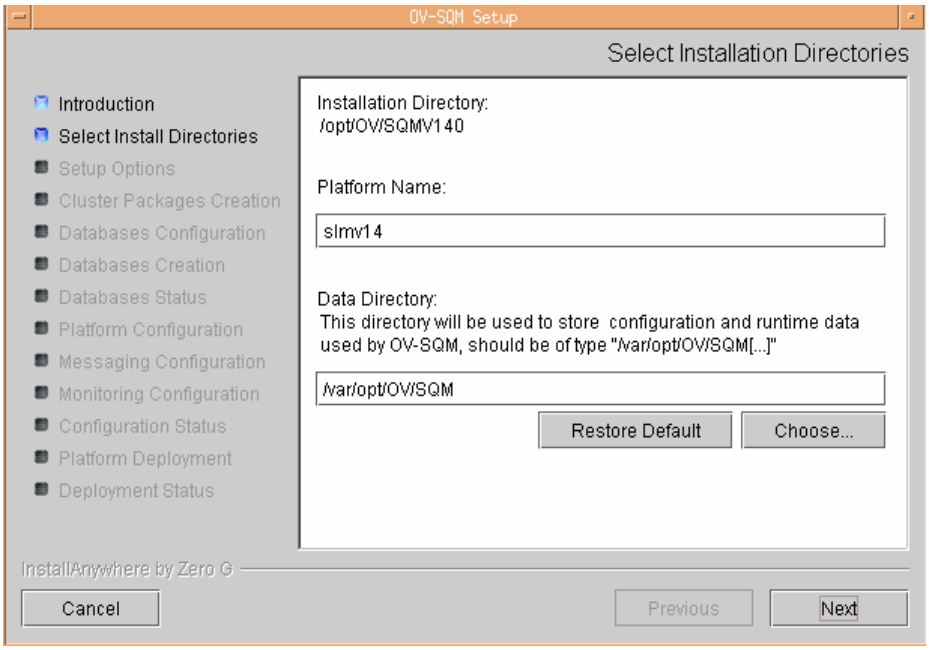
```
# export TEMIP_SC_HOME=/opt/OV/SQM<xxx>
# export ORACLE_HOME=<your oracle directory installation>
# export DISPLAY=<your display>
# cd $TEMIP_SC_HOME/setup
# temip_sc_gui_setup
```

```
# cd $TEMIP_SC_HOME/setup
# temip_sc_gui_setup
```

4. When the following window is displayed, click on **'Next'**.

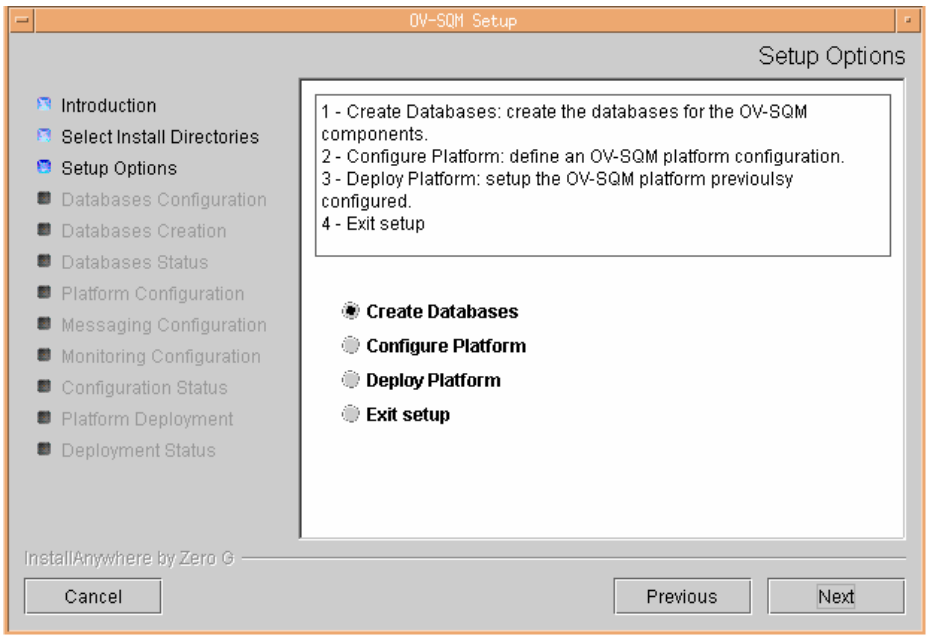


5. Select the installation directory, the platform name and click on **'Next'**.




6. Select the Setup Options. To complete the setup you must:

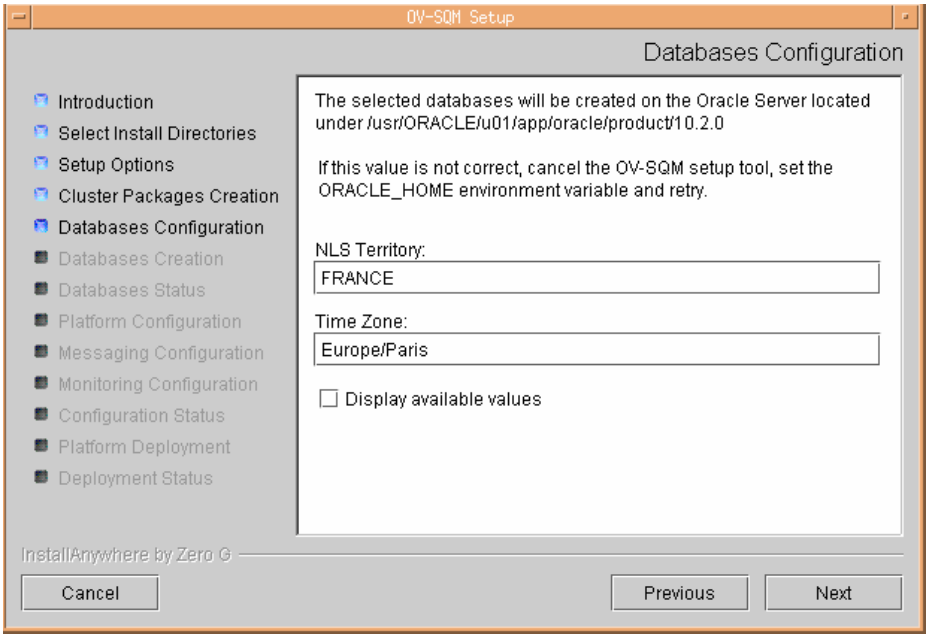
    1. Create the databases (see Section SQM Databases Creation)
    2. Configure the platform on the Reporting host (see Section Platform Configuration)
    3. Deploy the platform (see Section Platform Deployment).




7. Select **Create Database** and click on **'Next'**.

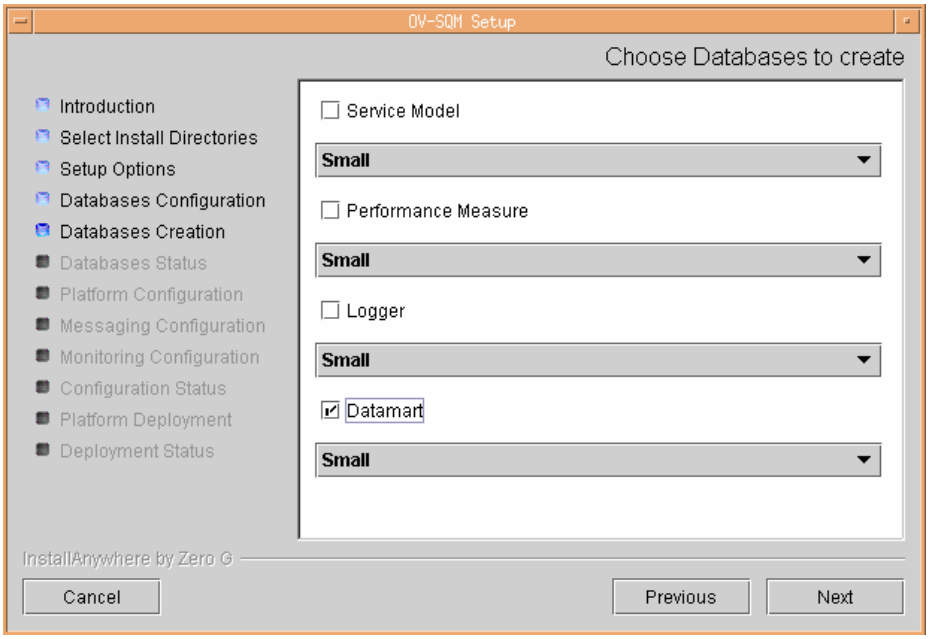
## SQM Databases Creation

1. Specify the Local Territory and the time zone, and click on **'Next'**

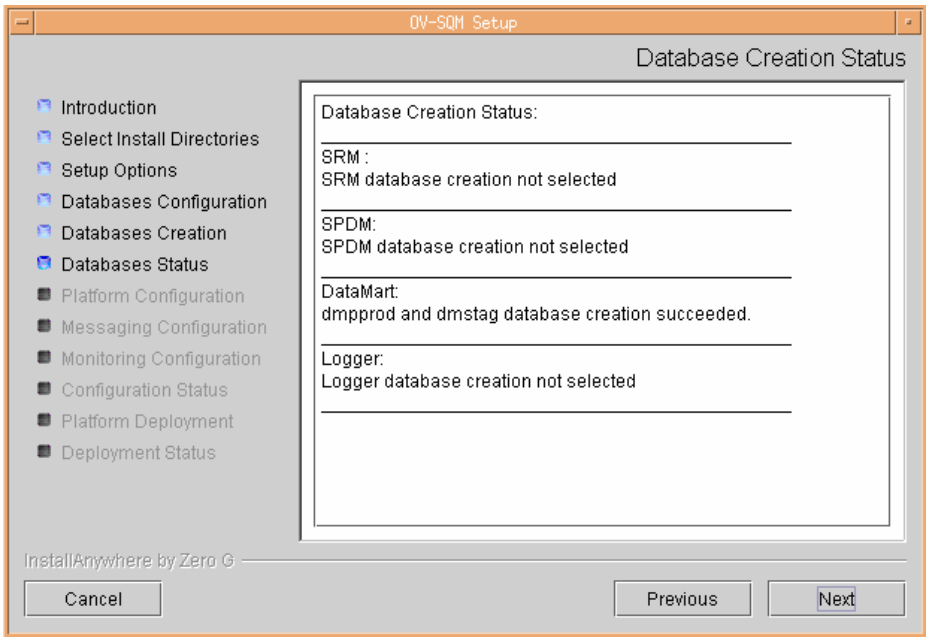



2. Select the databases to create on this host, their size, and click on **'Next'**.

3. Create the DataMart databases on the reporting server.



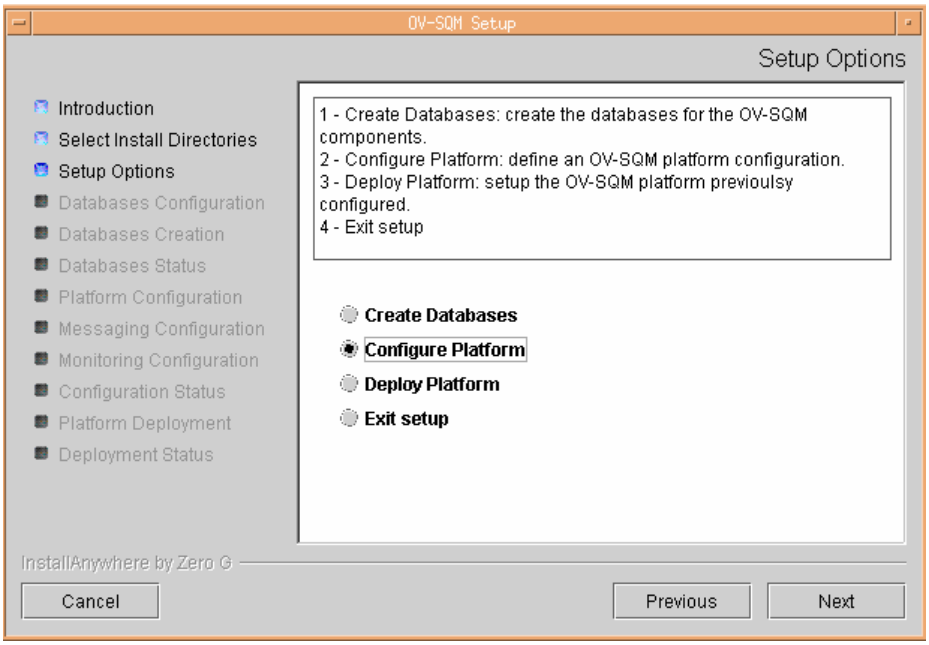

Once the database is created, a status window is displayed.



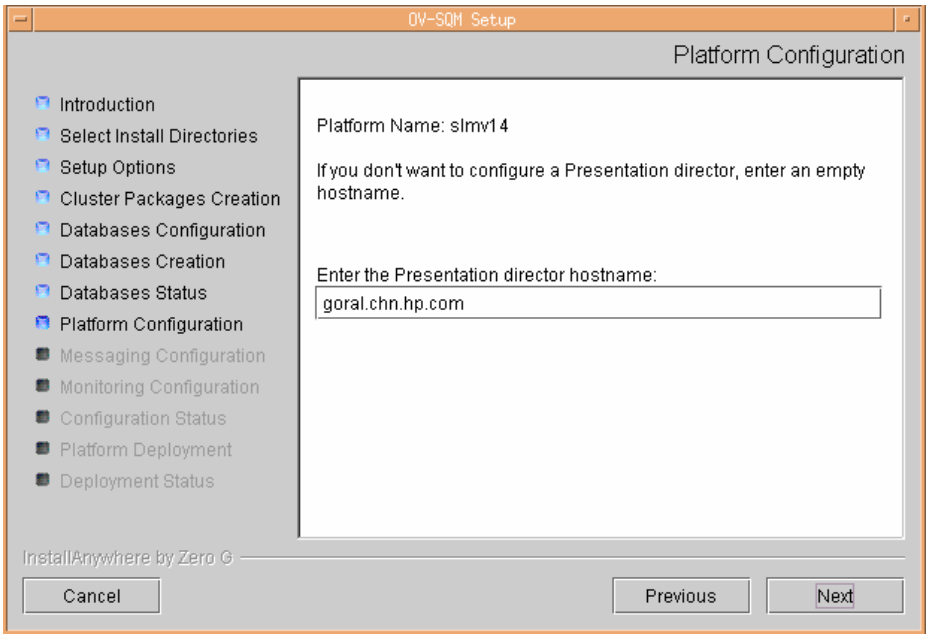

Click on **'Next'** to return to **Setup Tool Options**.

## Platform Configuration

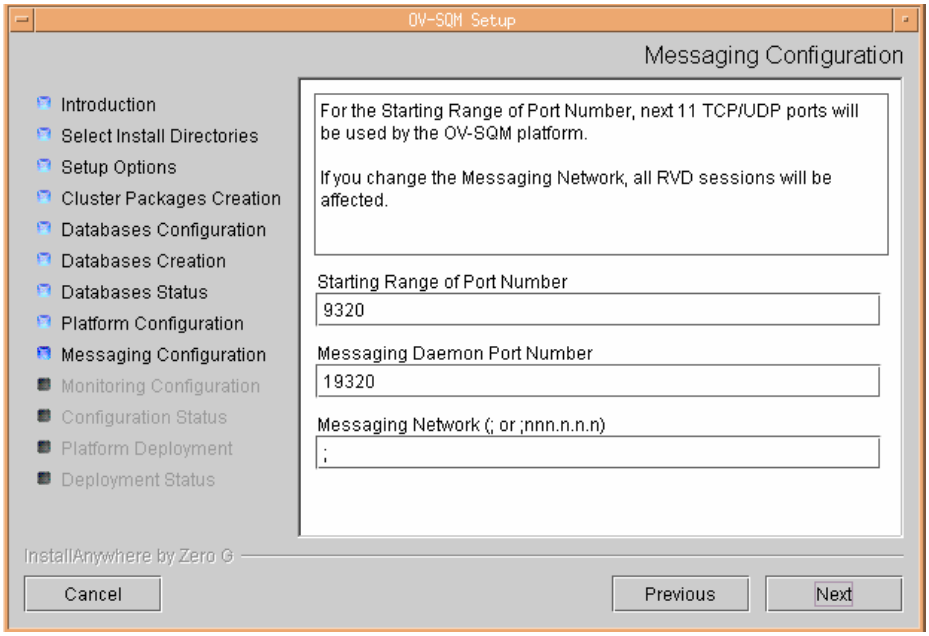
1. Select Configure Platform and click on **'Next'**.



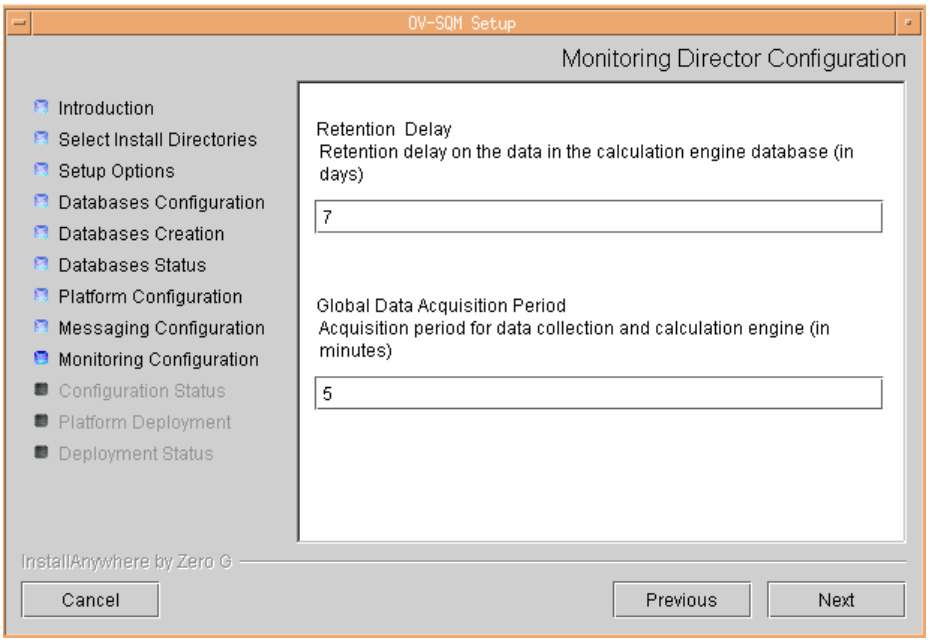

2. Select the host for the Reporting director (this host corresponds to the Reporting server) and click on **'Next'**.



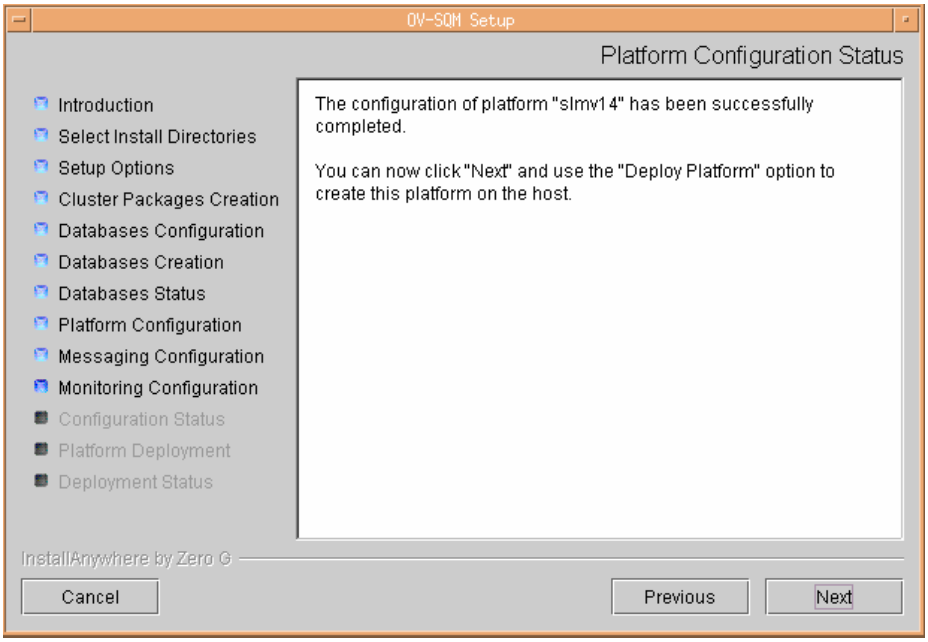

3. Set the messaging configuration and click on **'Next'**.




4. Set the Monitoring director configuration and click on **'Next'**.




When the Status window is displayed, the platform is configured. It can be deployed on this host. Click on **'Next'**.



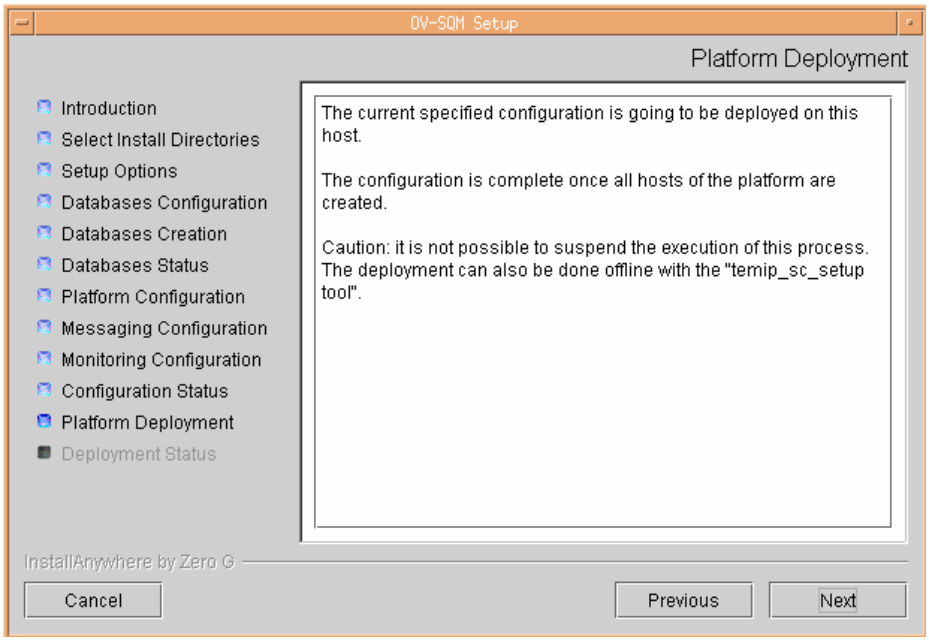

## Platform Deployment

Deploying the platform will configure the local host according to the platform configuration.

The OV-SQM kernel will be setup on this host.

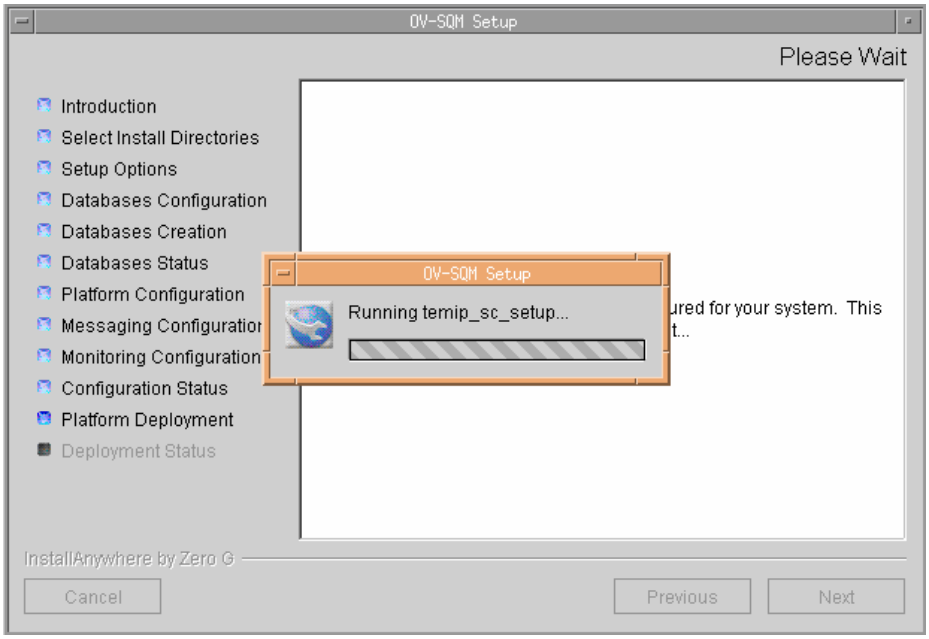
All the directors defined for this host will be created.

1. If the platform is configured on this host, select **Configure Platform** and click on **'Next'**.




2. The Setup Tool requests confirmation. Click **'Next'** to perform the deployment on this host.

No progress window is displayed during the deployment. The panel below is displayed during the deployment (10 min).




You can view the setup log under `$TEMIP_SC_VAR_HOME/trace/`

At the end of the deployment, the status is displayed.

3. If the deployment is successful, click on **Done** to exit the Setup tool.

The Reporting server hosts also the HTTP Server Web Intelligence, the Business Object Reporting.

To complete the configuration of the Reporting server, refer to *the Openview Service Quality Manager Reporting Installation, Configuration and Administration* Guide

#### 5.3.2.3 Acquisition Server Setup

To configure the Acquisition server, refer to the appropriate Service Adapter installation and configuration guide.

### 5.3.3 SQM Setup Procedures to Install a Monolithic Platform

To deploy a monolithic platform (all directors are hosted on the same UNIX system), use the following procedure:

1. Install all packages on the host
2. Set the DISPLAY, TEMIP_SC_HOME and ORACLE_HOME variables
3. Run the setup tools

```
# cd $TEMIP_SC_HOME/setup
# temip_sc_gui_setup
```

4. Select the Setup Options. To complete the setup you must:
    1. Create all the databases (all databases have to be selected),
    2. Configure the platform on the host (all directors have to be hosted to the current UNIX box),
    3. Deploy the platform on the host.

### 5.3.4 SQM Setup Procedures to Install a HP-UX MC/SG Cluster Platform

**Note**

You must be logged as ***root*** in order to setup SQM platform.

In order to simplify the installation of SQM on a HP-UX MC/SG platform, it is recommended to configure and deploy all features on the primary node, and then to restart the MC/SG packages on the cluster node with the planned dispatch of packages.

Use the following procedure:

1. Check carefully that all prerequisites are met, as described in chapter 5.3.1.
2. Install all packages on all the nodes of the cluster, as described in chapter 5.1.4.
3. Eventually modify the volume groups and logical volume information as described in chapter 5.3.1.4
4. Set the DISPLAY, TEMIP_SC_HOME and ORACLE_HOME variables and run the SQM setup tool. Check that the message is displayed after launching the temip_sc_gui_setup (if it is not displayed, The host you are configuring is not properly configured as part of a cluster, please check your cluster configuration )

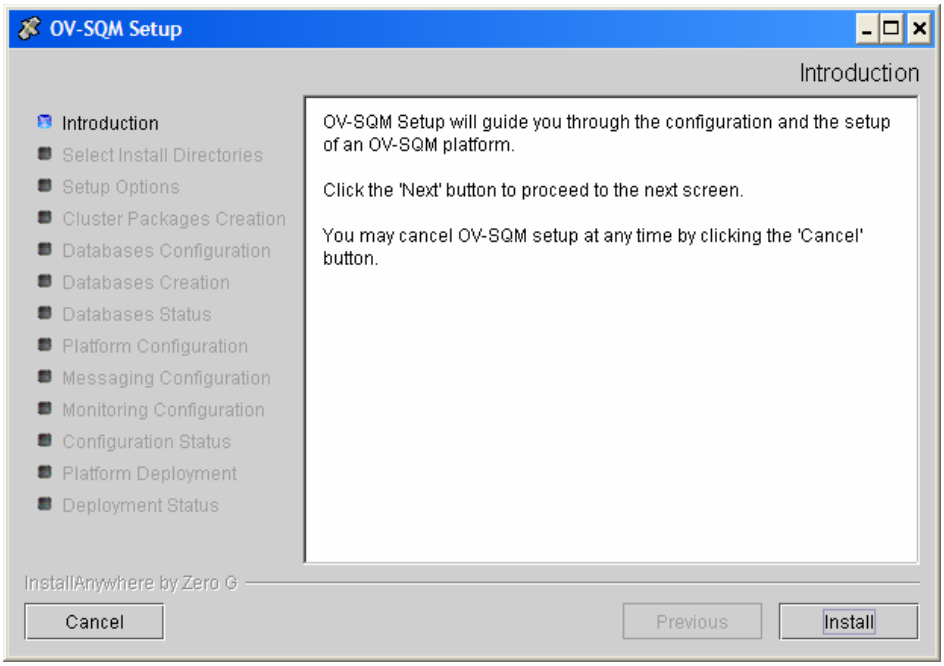
```
# export TEMIP_SC_HOME=/opt/OV/SQM<xxx>
# export ORACLE_HOME=<your oracle directory installation>
# export DISPLAY=<your display>
# cd $TEMIP_SC_HOME/setup
# temip_sc_gui_setup
The current host <hostname> is member of a HP-UX MC/SG cluster
Setup will be done for a cluster environment
```

**Notes**

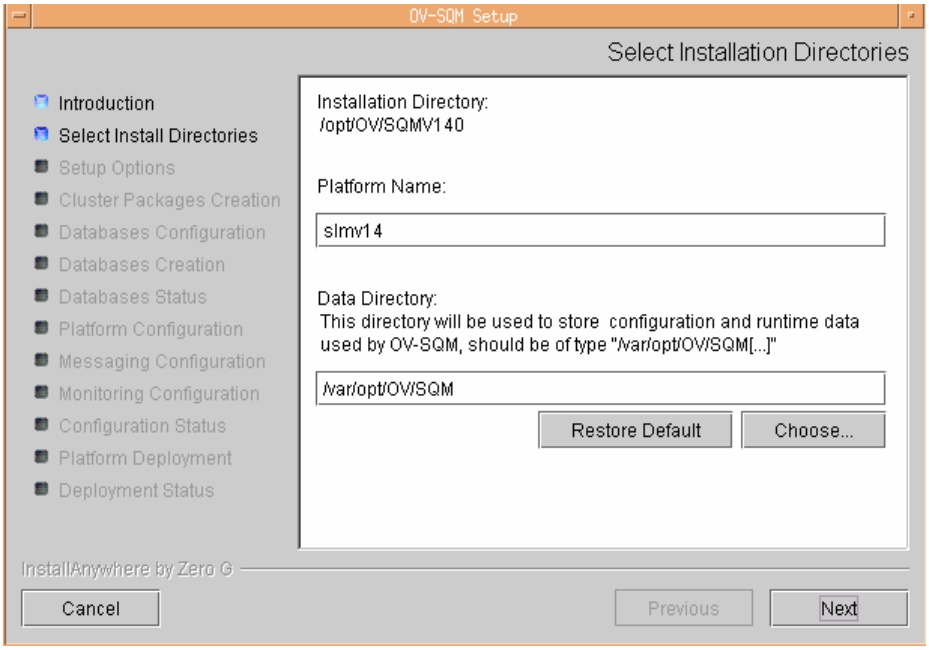
If you don’t want or cannot create MC/SG packages with the GUI setup tool (for example because you have different IP Subnet for MC/SG packages, or you want to put more than one SQM director per package) you must create the MC/SG packages manually with the SQM cluster command line tools as described in the SQM Administration document.

Packages must be created before the next steps of the setup, as the databases creation need the volume groups and logical volumes of the packages to be mounted.

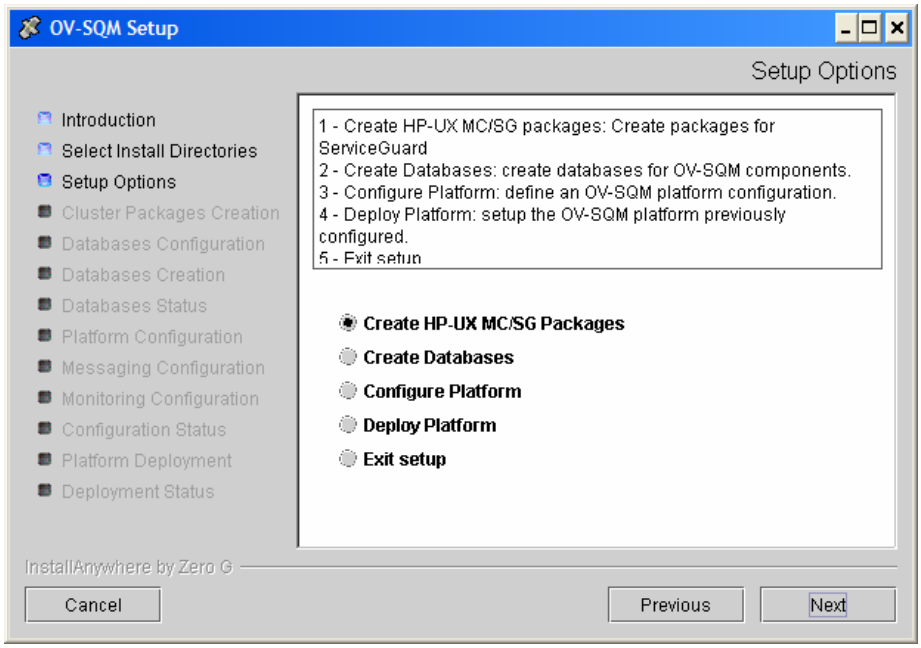
5. When the following window is displayed, click on **‘Install’**




6. Select the installation directory, the platform name and click on **‘Next**



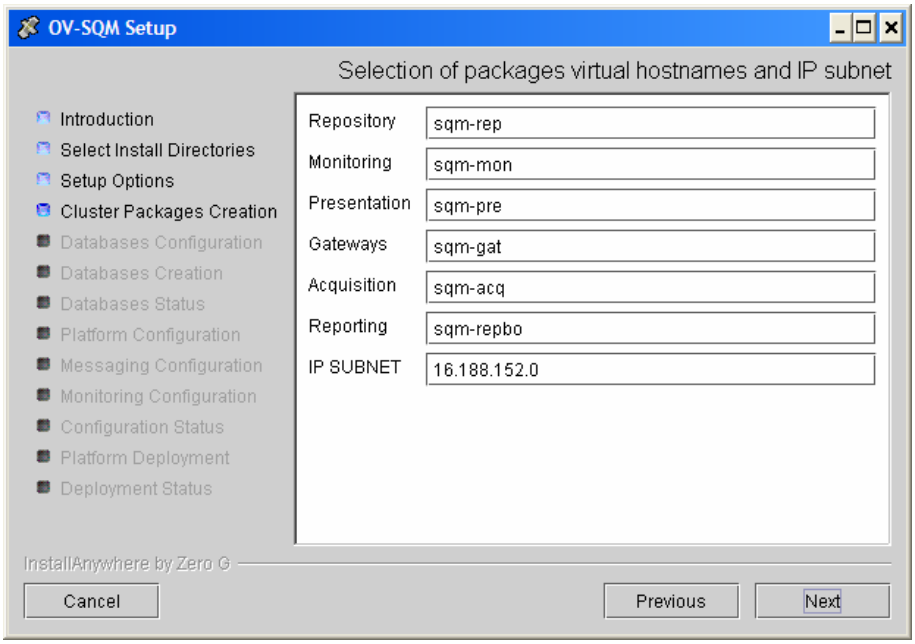
7. If you want to create the MC/SG Cluster packages with the GUI, select the first option and click on Next.




**Notes**

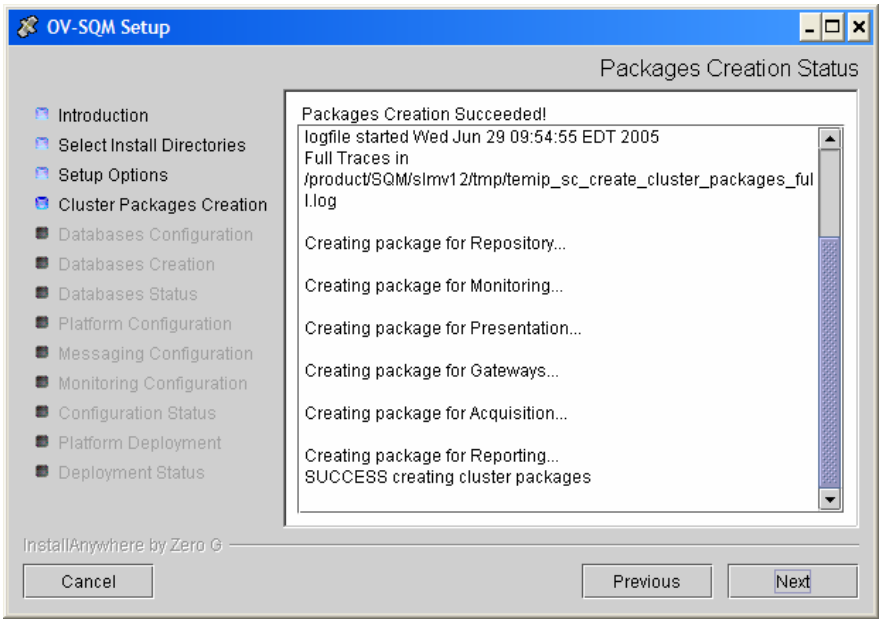
If your packages are already created, select Create Database and go to the section “SQM Database Creation” , but make sure that packages are running in “norun” mode, so that the mount points for databases are up. Refer to the SQM admin guide for a detailed SQM cluster tools description and see how start_SQM_PKG can be used with the –n option to mount disks without running SQM products

8. Read carefully the warnings that are displayed in the window. Check specially the activation of volume groups in exclusive mode and the activation of all virtual IP addresses on this node of the cluster
9. In the “Selection of packages virtual hostnames and IP Subnet”, fill the required information and click “Next”. If you don’t want a package to be created, keep the value empty.




10. After a few minutes, check the result of package creation in the dialog that appears. If errors are encountered, check in the log file what has caused the error, click previous and retry the packages creation.

    Warning: If one of the MC/SG packages creation failed, the packages that might have been created are deleted to cleanup the environment. Before retrying, recheck all the volume groups and Virtual IP prerequisites (activation in exclusive mode, etc.) before they might be disabled




**Note**

The MC/SG package name is created with the following scheme:

<short_alias_name>_SQM

For example, for the package containing the Repository, the hostname sqm-rep.mycomp.net was given

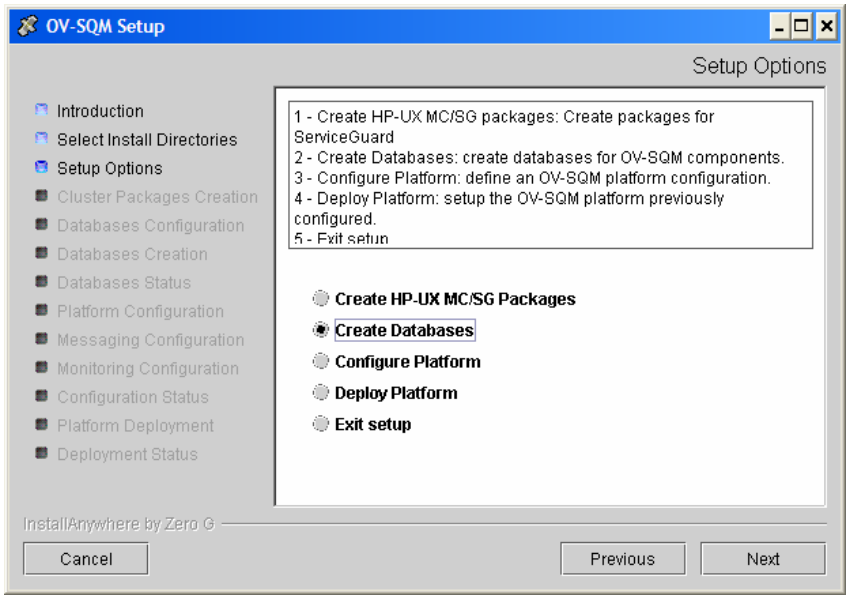
The MC/SG package name will be: “sqm-rep_SQM”

## SQM Databases Creation

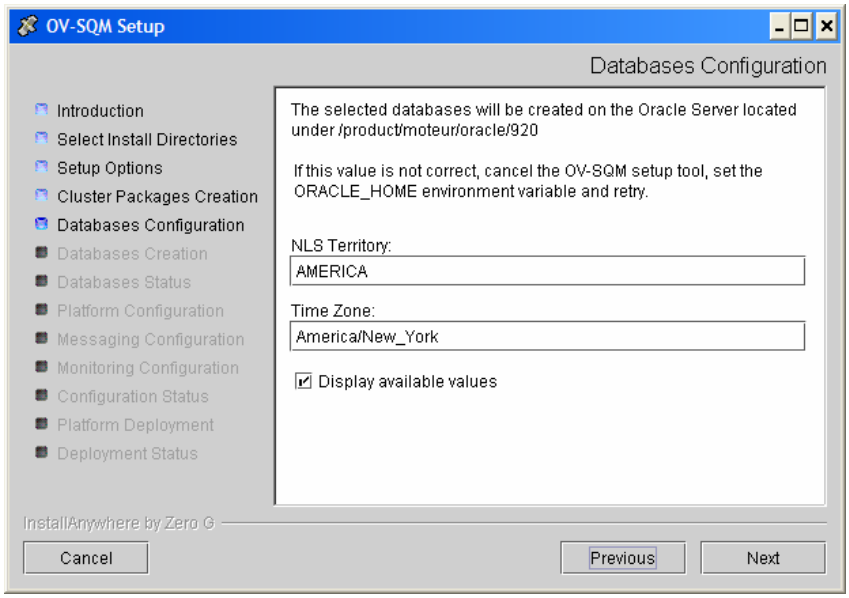
Before creating the database, make sure that the packages that will own database are in running state (check with *cmviewcl*). This is because the volume groups where the databases are installed must be mounted.

If the setup was not interrupted after previous steps, this should be the case.

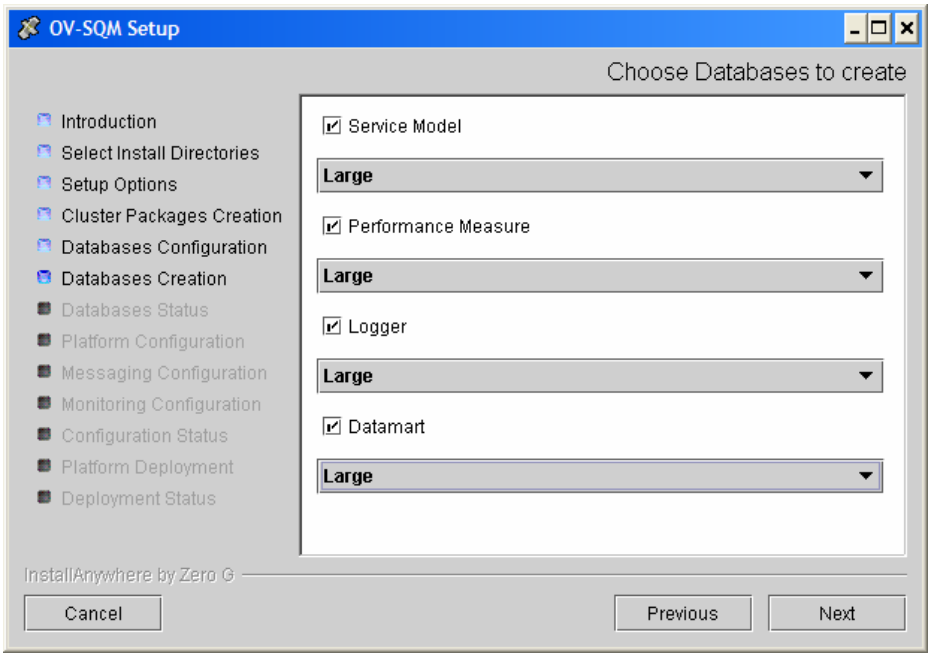
11. After the packages creation, the menu dialog is displayed. Choose Create Database and Click “Next”,




12. Specify the Local Territory and the time zone, and click on **‘Next’**



13. Select all databases. Before clicking next, please make sure that the databases mount points are up, or the databases will not be created in the mount points!




**Note**

Database creation takes a long time (up to a few hours). During the creation, a window is displayed to show the actions performed. This window displays only a summary of the creation process. If you want to follow the deployment steps in detail, you can look at the log files located in `/var/opt/SQM/xxxx/oracle/<product>log`.

**Note**

Log messages "*`cannot access: No such file or directory`*" log may appear in the log, there are just information messages and not error messages.

Once all databases are created, a status window is displayed.

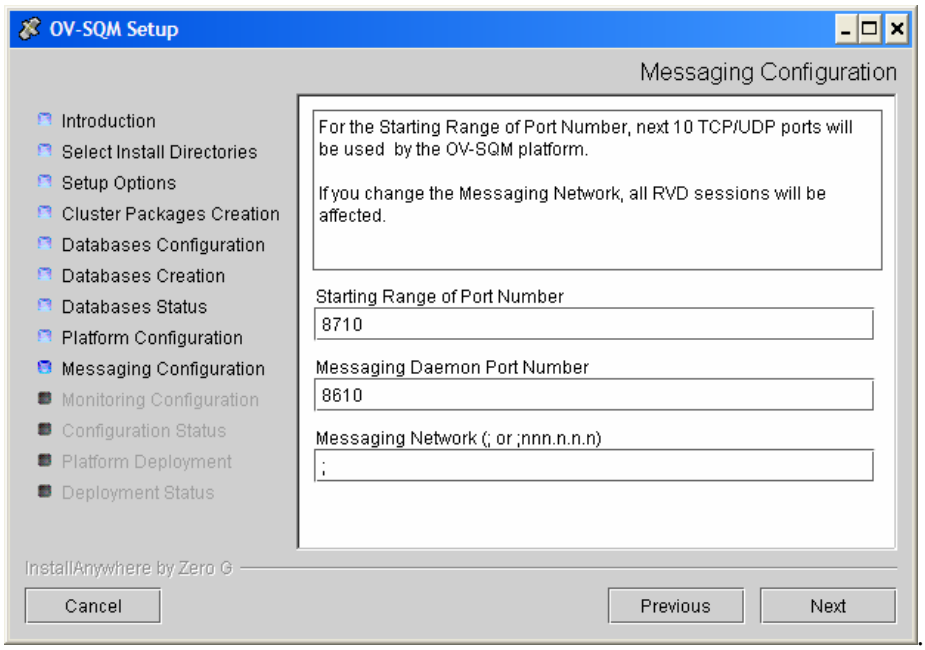
14. Check the result of the database creation. If the status is OK, it might be safe to stop manually the databases, as they are up and running after creation. Click “Next”. The setup options dialog is displayed.

### Platform Configuration

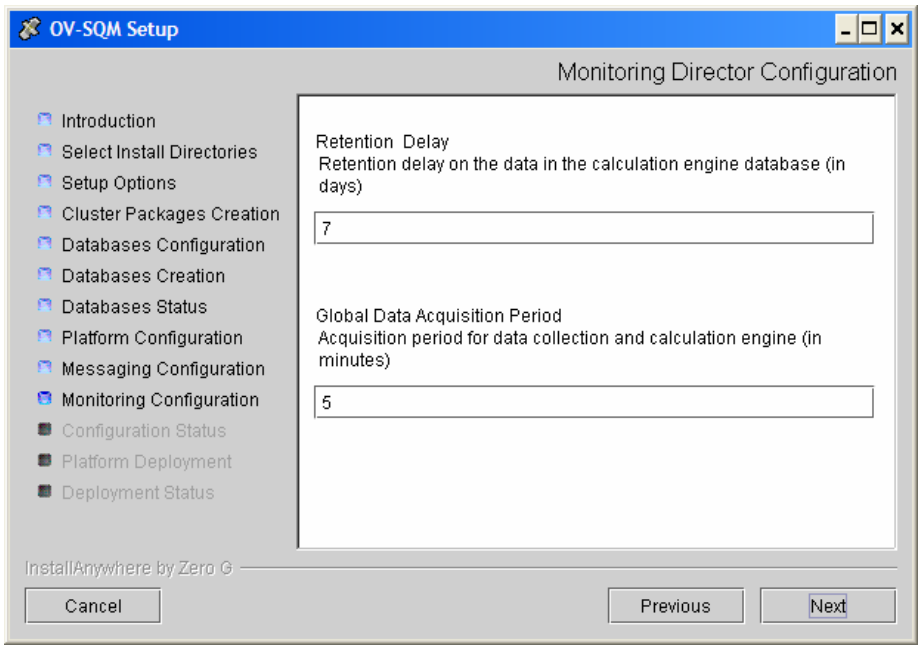
Platform configuration defines the OV-SQM platform that can be deployed on this host. As you configure a HP-UX MC/SG platform, it is recommended to create all application on the current primary host. From the SQM Setup Options window, proceed as follows

15. Select Configure Platform and click on **‘Next’**.
16. The next four windows will ask for the Repository, Monitoring, Presentation and Reporting virtual hostname. If you created the packages with the SQM Setup tool, the hostnames should be the right one. Click Next in each dialog
17. Set the messaging configuration. You have to enter in the *Starting Range Port Number* field, a port number that will be used by OV-SQM applications. This port number and the next 10 port numbers must be TCP/UDP free ports. In the messaging daemon port number you have to enter a port number that will be used

by the Tibco Rendez-Vous Daemon. This must be a free TCP port number. All these port numbers must be in the limited range 1024 to 65535. Click on **'Next'**




18. Set the Monitoring director configuration to your specific requirements, or leave them as the default values. Click on **'Next'**




19. When the Status window is displayed, the platform is configured. It can be deployed on this host. Click "Next" and the Setup menu options are displayed.

**Note**

At this step, if you did not create the package with the Setup GUI, you have to modify the hostnames of the directors in the $TEMIP_SC_HOME/tmp/platform_desc.cfg file

You can also cleanup this file from the directors that will not be used in the HP-UX MC/SG cluster.

## Platform Deployment

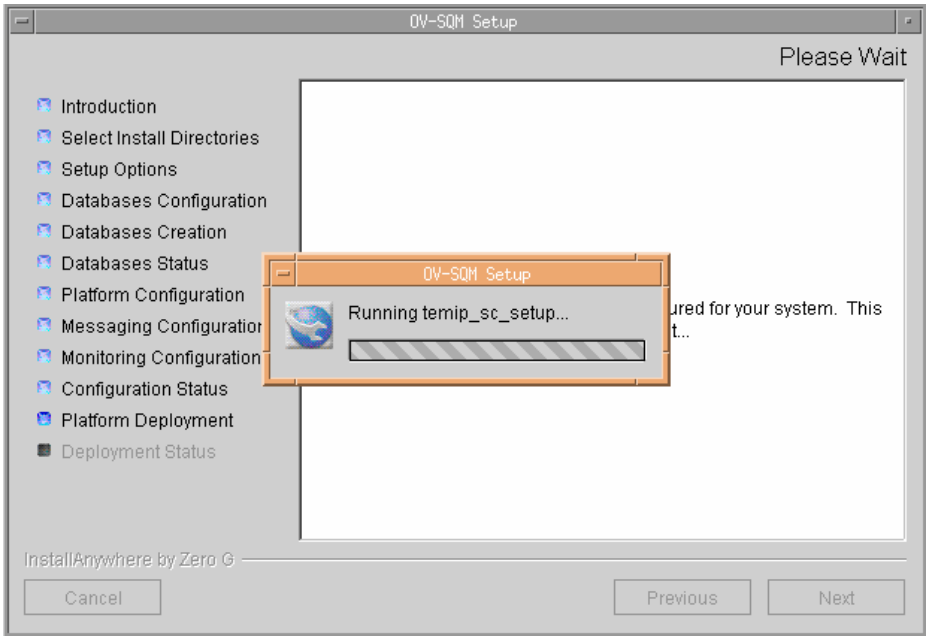
Deploying the platform will configure the local host according to the platform configuration.

The OV-SQM kernel will be setup on this host.

All the directors defined for this host will be created. This is why it is important at this step that all the virtual IP addresses run on the current node. You can check that the IP are active with the netstat –ni command. To activate a virtual IP, use the cmmodnet command.

In the setup options, select **Deploy Platform** and click on **'Next'**.

20. The Setup Tool requests confirmation. Click on **'Next'** to perform the deployment on this host.
    No progress window is displayed during the deployment. A panel like the one below is displayed during the deployment (10 min).




You can view the setup log under `$TEMIP_SC_VAR_HOME/trace/`

At the end of the deployment, the status is displayed

**Note**

The installation procedure has modified the .profile file of the sqmadm user to launch the ***temip_sc_env.sh*** command automatically.

If SQM has been correctly deployed on this, you have to copy the platform definition to other members and run a setup to configure the kernel

Before configuring the other members, you need to start the kernel on the primary member where the deployment was done

21. On the primary node, run the temip_sc_kernel_start tools under sqmadm user

```
# temip_sc_kernel_start
```

22. Log as root account, and start the repository package:

```
# cd $TEMIP_SC_HOME/cluster/utils
# ./start_SQM_PACKAGE -p <Repository Package Name> -v
```

23. On all other nodes of the cluster, copy the platform_desc.cfg file from the primary member (`>:$TEMIP_SC_HOME/tmp/platform_desc.cfg`):

```
# cd $TEMIP_SC_HOME/tmp
# rcp <primary member>:$TEMIP_SC_HOME/tmp/platform_desc.cfg .
```

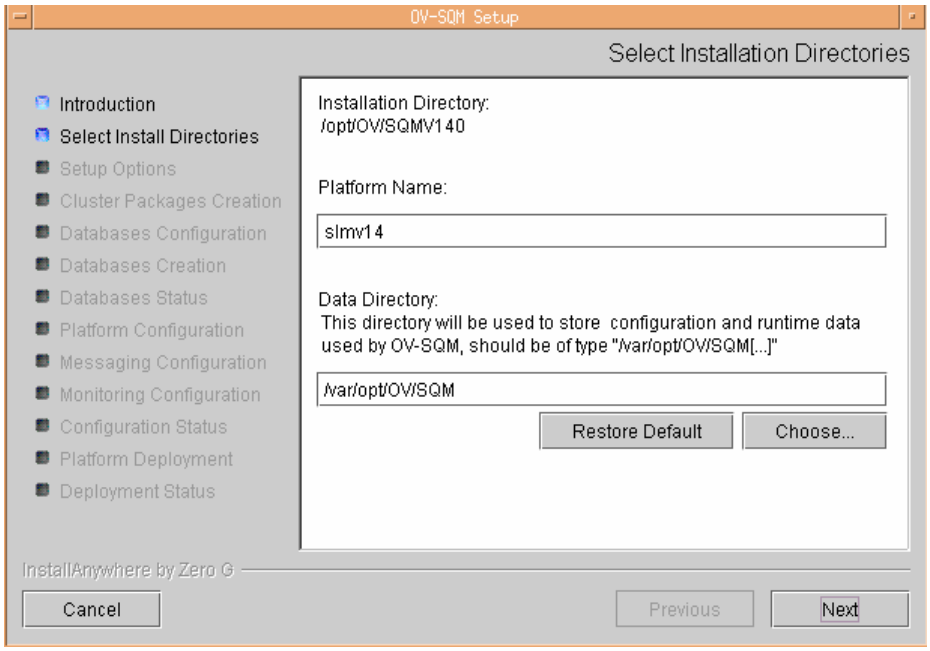
If rcp is not working, use another transfer mechanism (ftp or copied file on shared files system (NFS)

24. On all nodes except the primary one, run the OV-SQM setup tools under the **root** user:

```
# export TEMIP_SC_HOME=/opt/OV/SQM<xxx>
# export ORACLE_HOME=<your oracle directory installation>
# export DISPLAY=<your display>
# cd $TEMIP_SC_HOME/setup
# temip_sc_gui_setup
```

25. On the first dialog, click Install

26. The dialog displaying the installation directory and data directory is displayed. Make sure the information is the same as the primary server. Click “Next”



27. In the Setup menu options, select deploy platform and click next. Follow the instructions

**Note**

When deploying on a node where no director is created, you might receive the following error:

```
PLATFORM NAME RETRIEVED SUCCESSFULLY...
```

```
Platform Description file used to create directors :
/opt/OV/SQM/tmp/platform_desc.cfg ERROR : ERROR : Local
hostname doesn't match any of the host names specified in
platform_desc .cfg
```

You can ignore this error

### 5.3.5 Platform Start up

Once the deployment is successfully completed on all the hosts of the platform, you can start the platform.

Refer to the OpenView SQM Administration Guide Section 2.1.3.

In HP-UX MC-SG Cluster, the start of the platform needs to start packages on the corresponding nodes. It is first recommended to stop all packages with *cmhaltpkg* that will not run on the primary node where the setup was done (as no application is currently running in the package, the halt operation can be long and return an error message. You can ignore it).

Then, packages might then be restarted on the desired node.

Refer to the OpenView SQM Administration Guide.

### 5.3.6 Prepare connection of SLA Administrations from PCs on other domains

If you plan to use SLA Administration GUI on PCs that are not on the same sub-network than the UNIX SQM Servers, then you need to perform the following configuration.

1. If the kernel is not yet started, on the SLM server, run the temip_sc_kernel_start tools under sqmadm user:

```
# temip_sc_kernel_start
```

2. Export your DISPLAY
3. Run the Tibco Designer

```
# designer
```

d

5. Edit 2 Global variables

*See SQM Admin Guide, chapter "How to edit Global Variables"* to get more information about the edition of the global variables)

Change the value of the 2 global variables :

- SCRepoRvDaemon

- SCSDSIRvDaemon

Their default value is something like

```
tcp:6600
```

To allow the connection of a SLA Administration to the SQM Server, they must contain the full name (including the domain name) of the server. Their values must be like

```
tcp:myserver.unix.mycompany.com:6600
```

**Notes**

In a HP-UX MC/SG cluster, myserver.unix.mycompany.com has to be replaced with the virtual address used by the MC/ServiceGuard package that contains the Repository.

# Chapter 6

# Windows Installation and Configuration

The installation on Windows refers to the Service Designer, SLA Administration and SLA Monitoring User Interfaces product components

SQM also delivers Service Adapters running in a Windows environment. Please refer to the appropriate User's Guide for the installation and setup of these components.

**Note**

The installation of the SQM Kernel on Windows is a prerequisite to the installation of the Service Adapters running on Windows; it is also described in the Service Adapters installation guide documents.

## 6.1 Installing the Service Designer

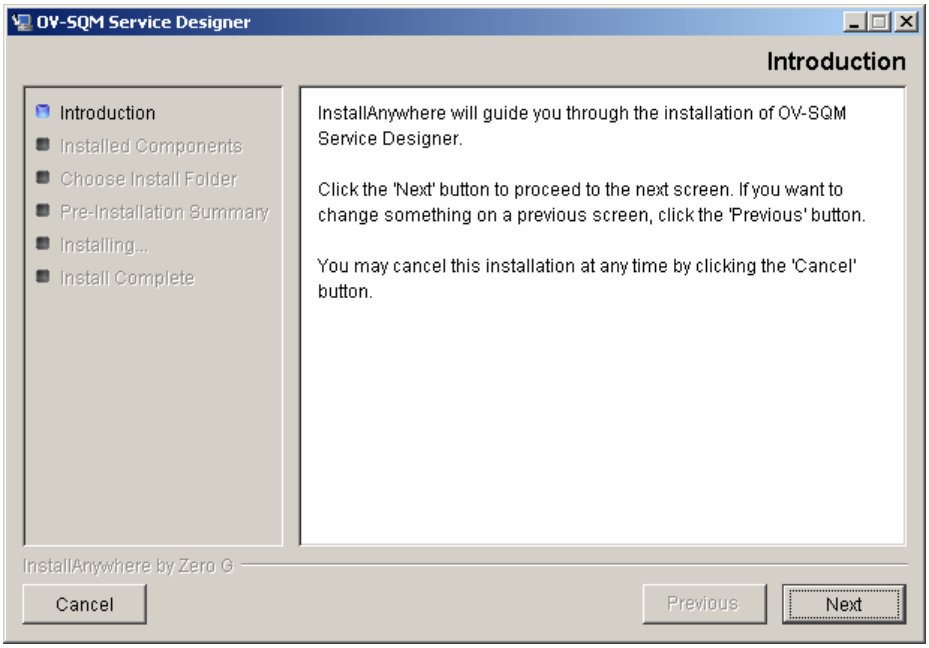
### 6.1.1 Installation

The SQM Service Designer is an add-in to IBM Rationale Rose. To activate the Service Designer, you must first install IBM Rational Rose Modeler or Enterprise Edition.

To install the Service Designer, use the following procedure.

1. Run the SQMDESIGNER-1.40.00.exe installer located in <Download directory>/SQM-1.40.00/SQM-1.40.00-COREWIN/Windows/User_Interfaces to begin the service designer installation.

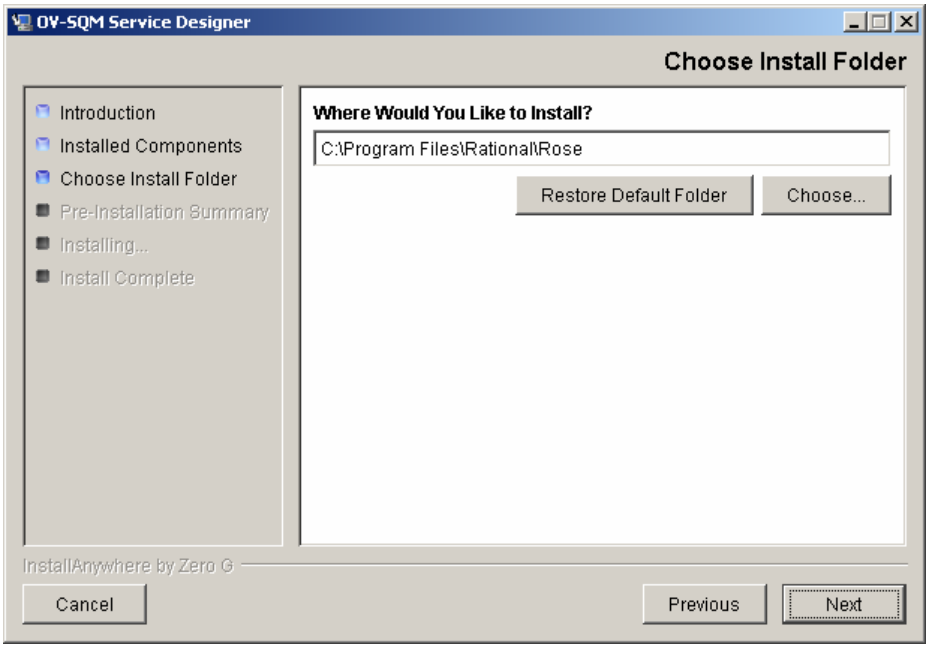
2. From the Introduction window, click on '**Next'** to begin the installation.



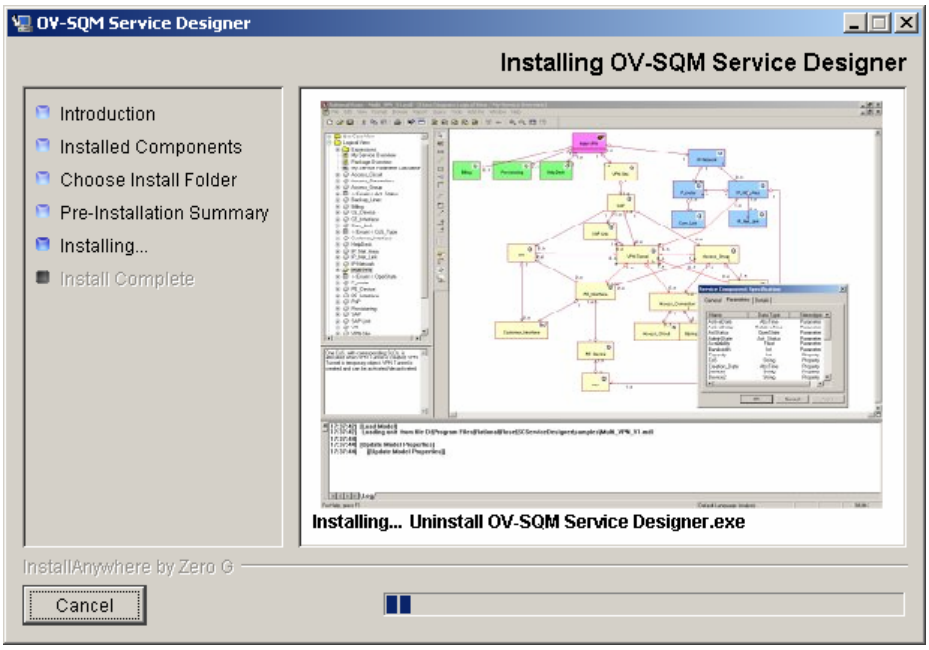

**Note**

If Rational Rose Modeler or Enterprise Edition is not installed, the installer displays an additional panel. In this case, cancel the installation and install Rational Rose first.

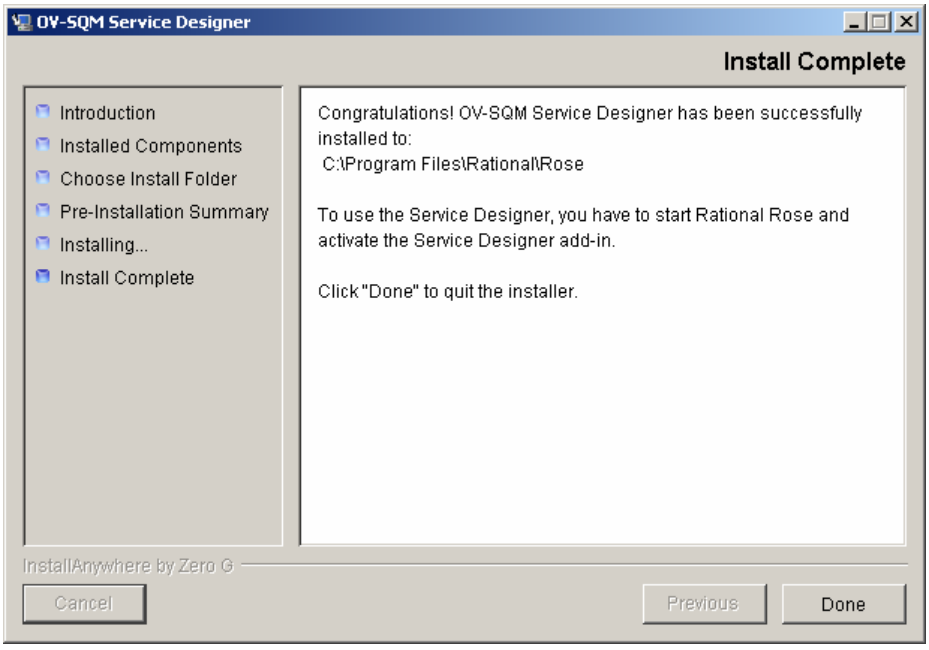
3. Select the installation directory for the Service Designer. By default, it will be installed under Rational Rose root directory, but you can select any other directory and click on '**Next'**.



4. The Summary window summarizes your settings. Click on '**Install'** to start the Service Designer installation. The Installing window indicates the installation progress.




5. When the following window appears, the installation is complete. Click on '**Done'** to exit the installer.




**Note**

Before using the Service Designer, you must logout and login.

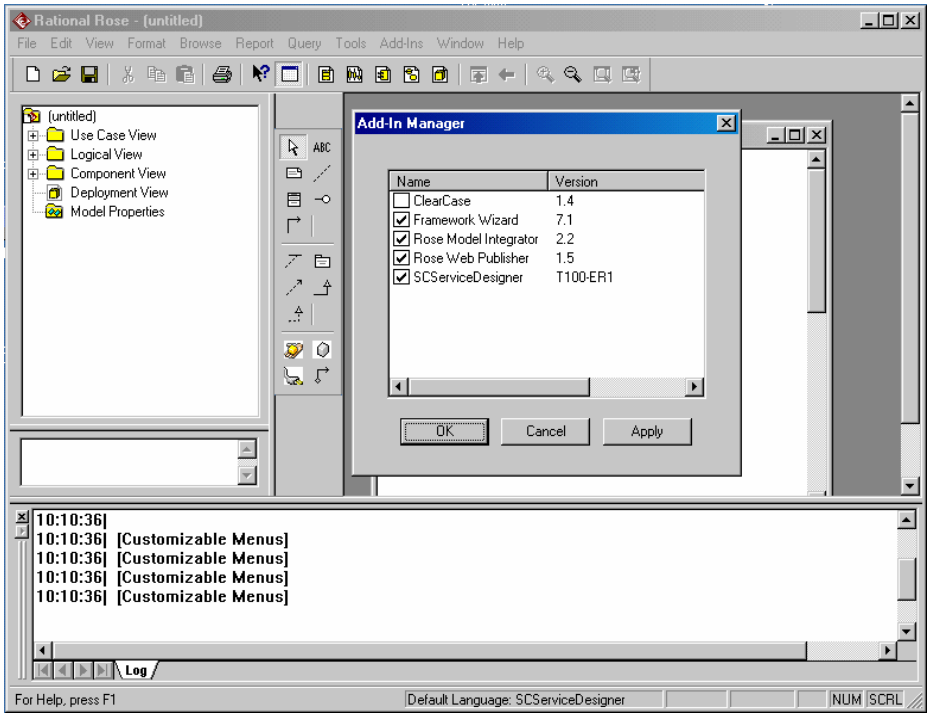
Once the Service Designer is installed, the following shortcuts are created:

- Rose: To start Rational Rose and access the Service Designer.
- Service Designer User Guide: Access to HTML and PDF documentation.
- Uninstall OV-SQM Service Designer.

### 6.1.2 Setting up the Service Designer

The first time you start Rational Rose, you have to:

- Activate the Service Designer add-in
- Create icons in the toolbar




For more information, refer to the *OpenView Service Designer User's Guide*, Chapter 2: **Getting Started with the Service Designer.**

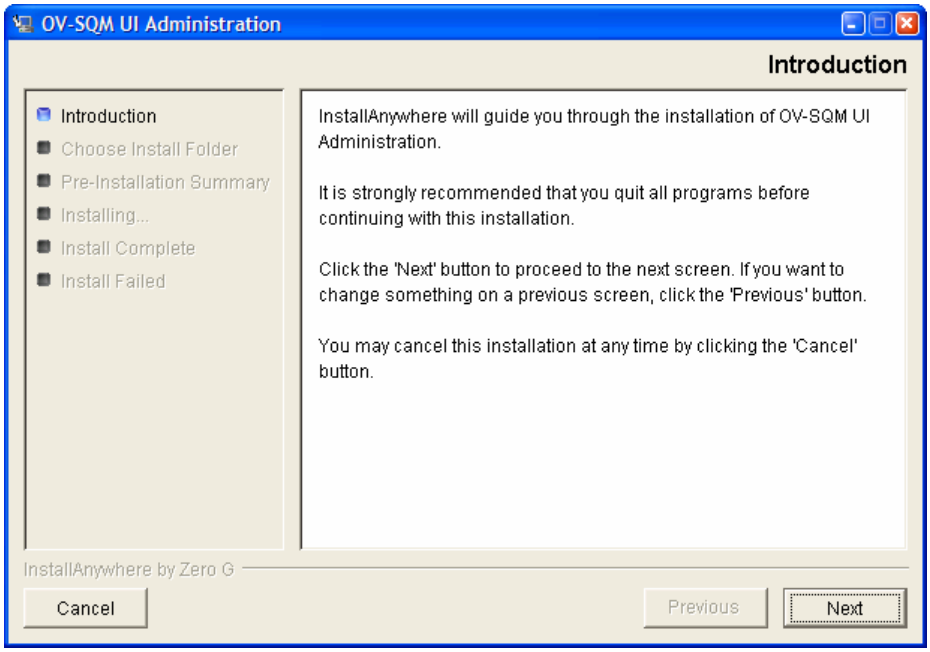
## 6.2 Installing the SLA Administration UI

### 6.2.1 Installation

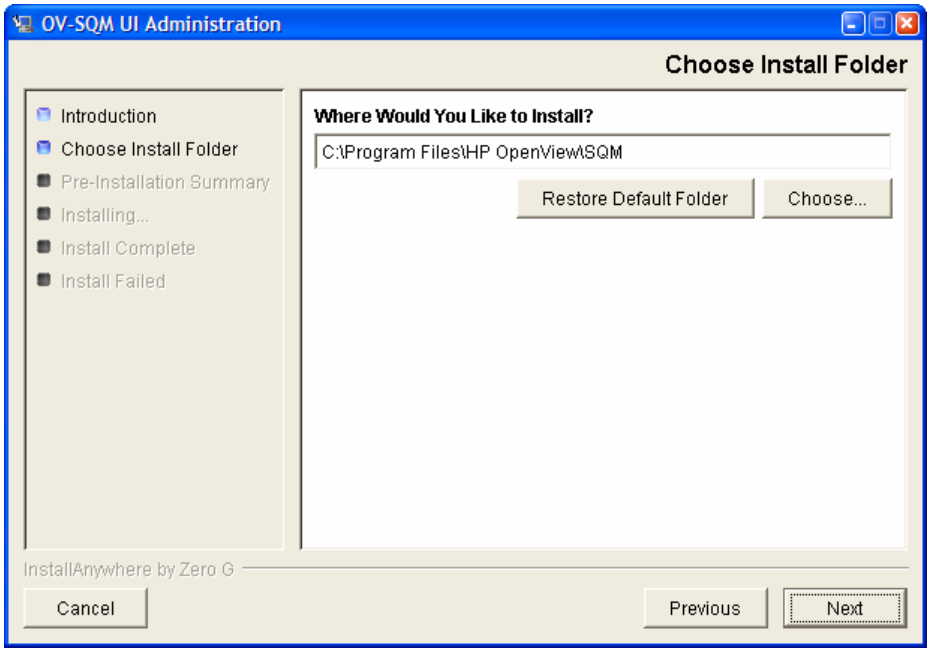
To install the SLA Administration GUI, use the following procedure.

1. Run the SQMUIA-1.40.00.exe, located in the <Download directory>/SQM-1.40.00/SQM-1.40.00-COREWIN/Windows/User_Interfaces

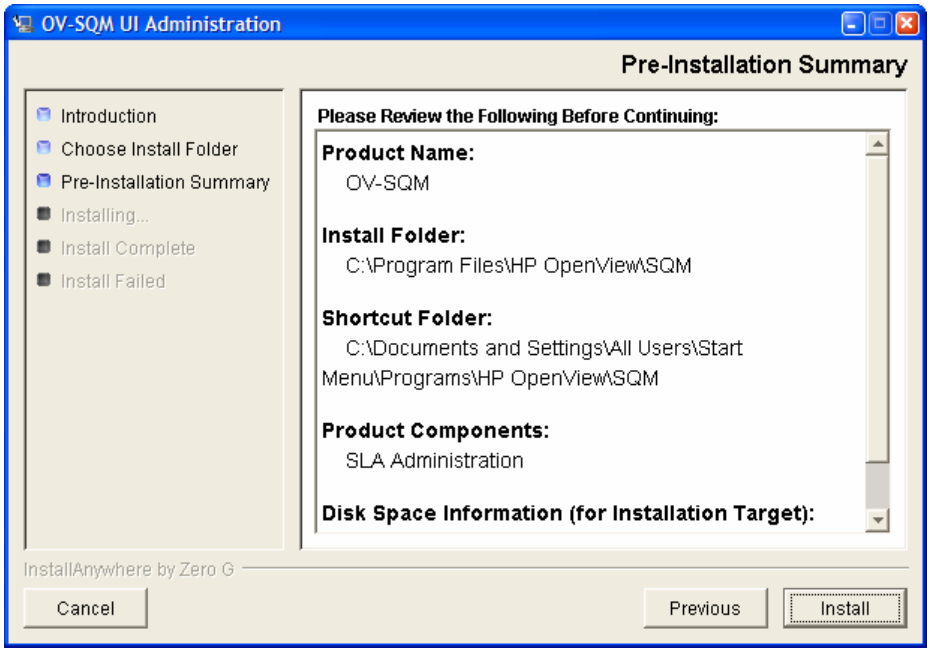
2. From the Introduction window, click on '**Next'** to begin the installation.



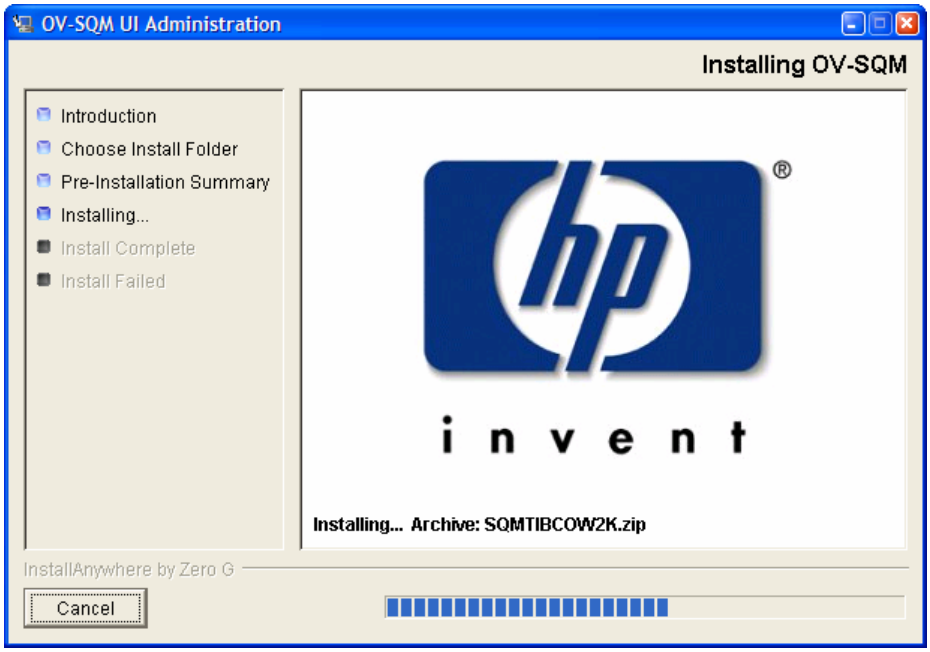

3. Select the destination directory of your OV SQM. If another SQM component has already been installed (for instance the SLA Monitoring UI), you **MUST** specify the same directory. Click '**Next'** to proceed.



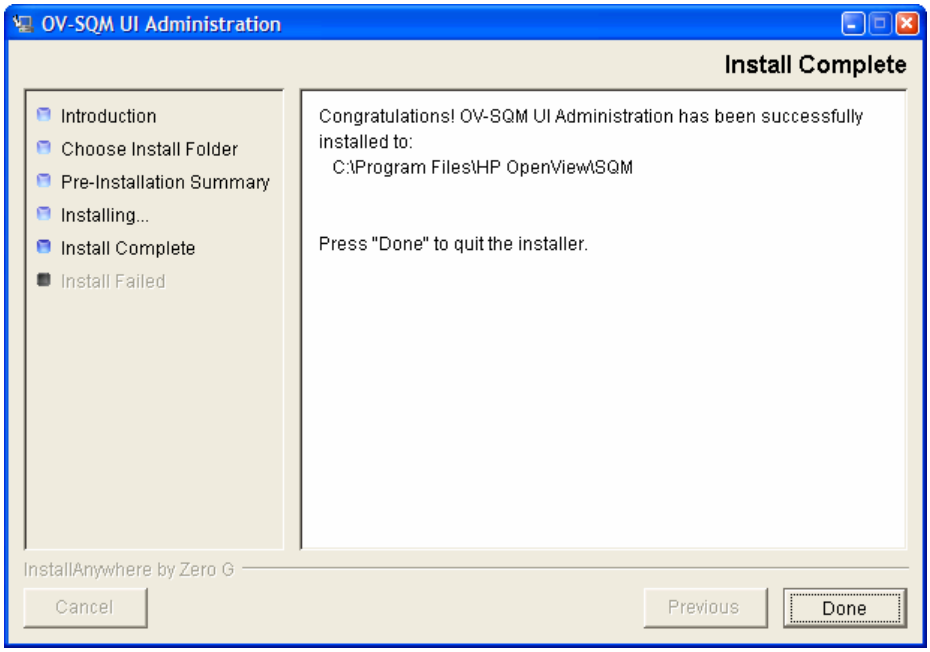
4. The Pre-installation Summary window allows you to check the selected options. Click '**Previous'** to modify them else '**Install'** to perform the installation.




5. The progress of the installation is indicated in the Installing window.



6. When the following window appears, the installation is complete. Click on '**Done'** to exit the installer.




**Note**

Installing the SLA Administration also installs the Tibco Hawk display and the Tibco Designer. Refer to the *SQM Administration Guide* chapters 3.1.1 and 5.1.1 for more information on these Tibco components.

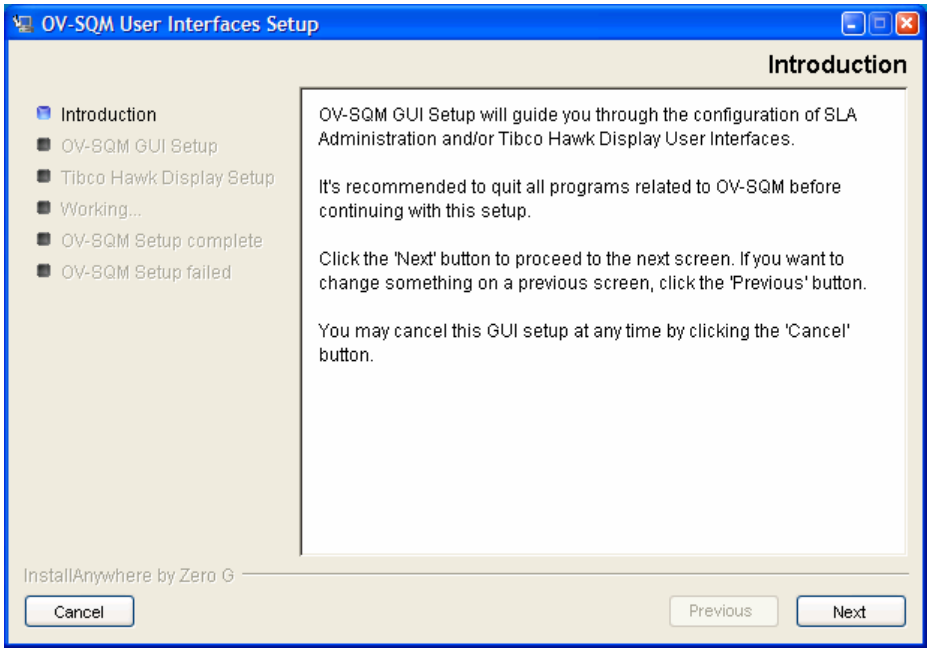
## 6.2.2 Setup

Since SQM V1.2, the SLA Administration GUI does not require a specific setup.

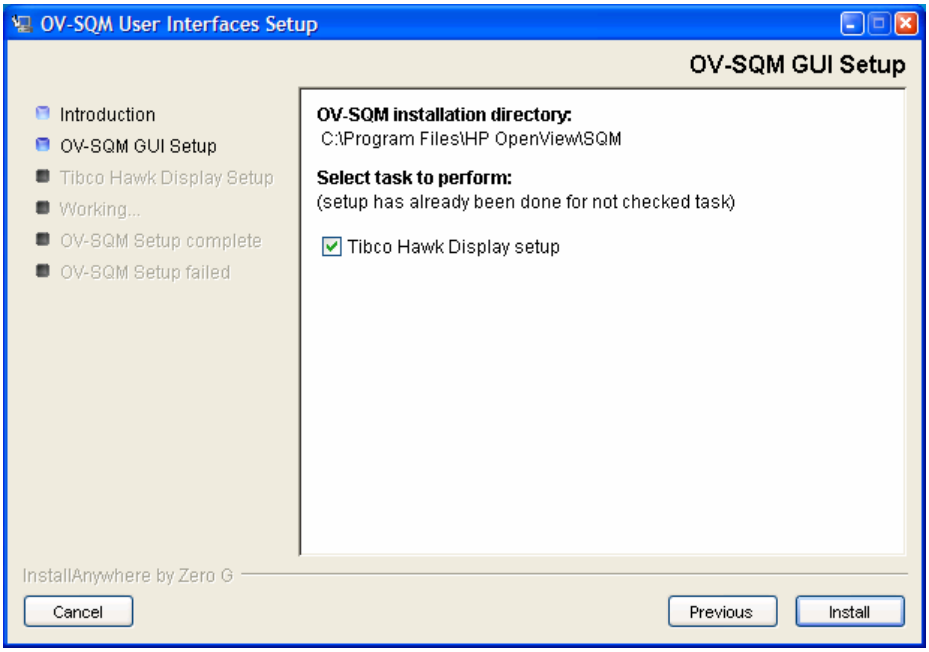
The setup of SQM User Interfaces is only necessary for the Tibco Hawk Display. This setup determines on which SQM platform to connect.

To setup the Tibco Hawk Display, launch from the Start menu:
HP OpenView/SQM/Setup OV-SQM.

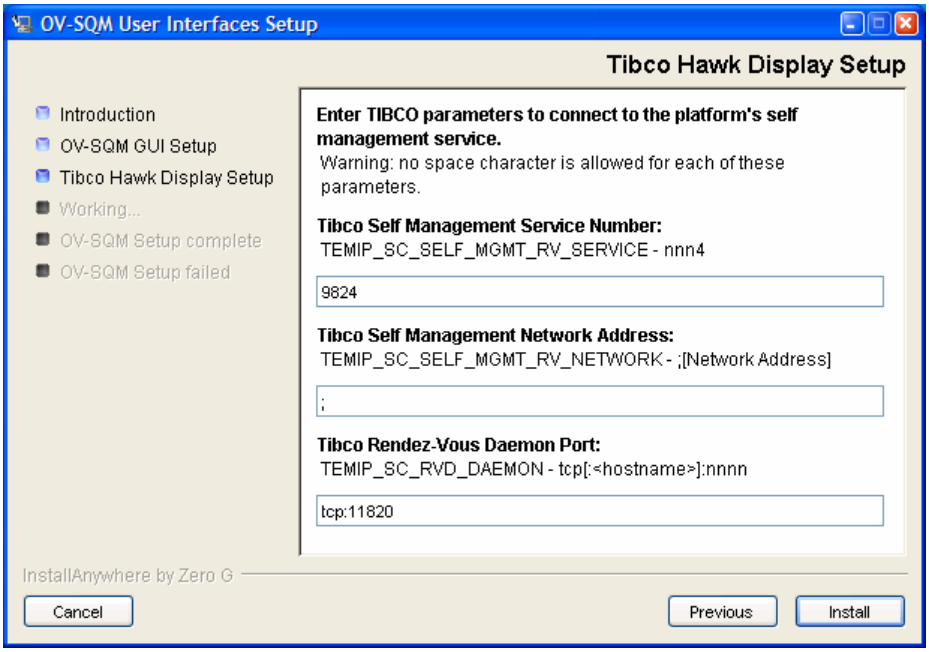
1. From the Introduction window, click on ‘**Next’** to start the setup.




2. Click on ‘**Install’**.



3. Enter the Tibco setup parameters you used to configure SQM HP-UX platform (slmonitoring function), then click on '**Install**'.

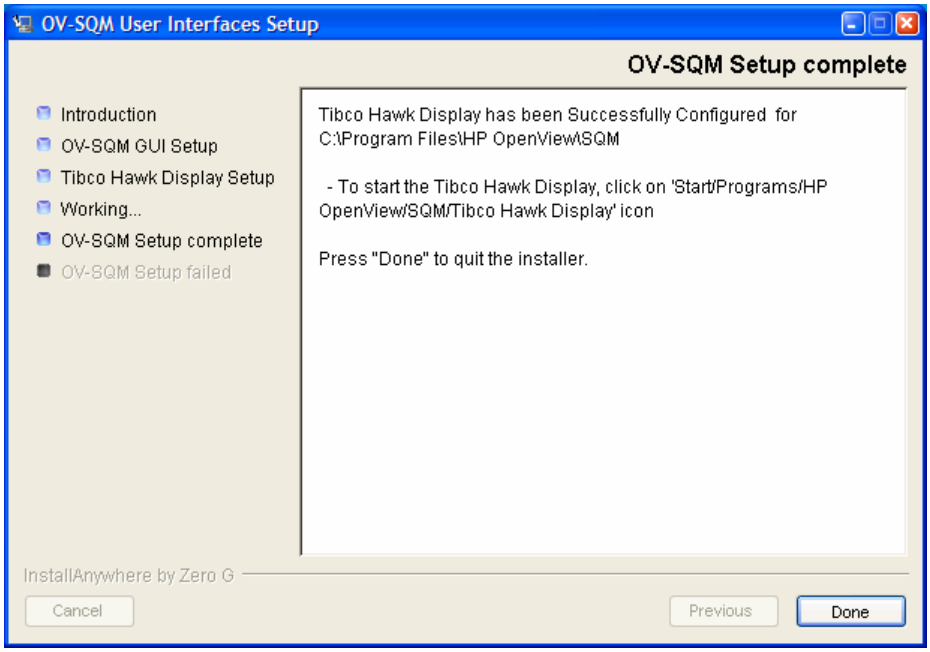



**Note**

You can retrieve these parameter values: edit the temip_sc_env.sh file located in the SQM Data Directory on your HP-UX system. The following environment variables are defined:

```
TEMIP_SC_REPOSITORY_SESSION_SERVICE,
TEMIP_SC_REPOSITORY_SESSION_NETWORK,
TEMIP_SC_RVD_DAEMON)
```

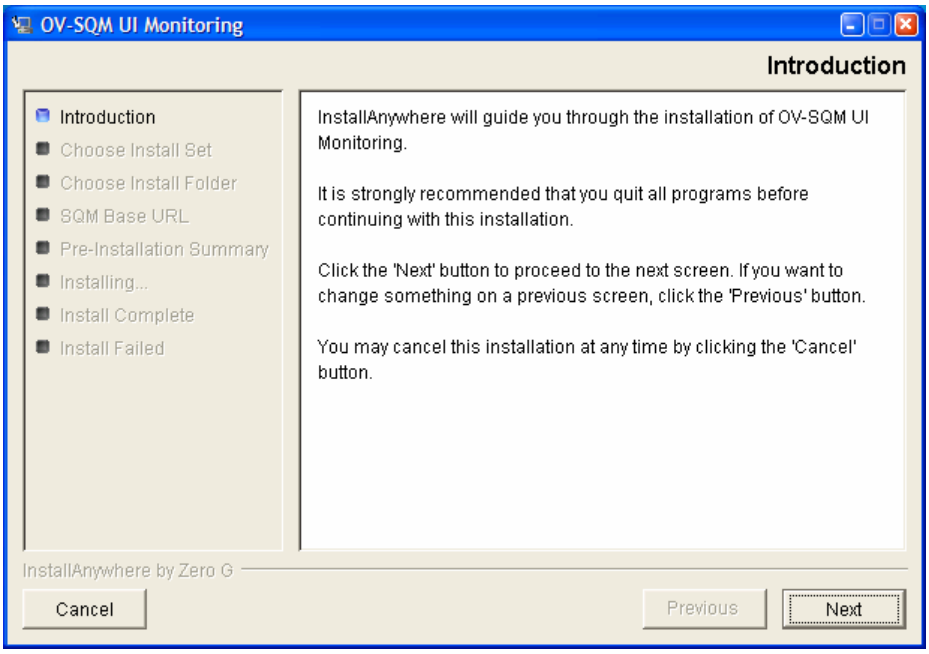
4. When the following window appears, click on '**Done'** to exit the setup



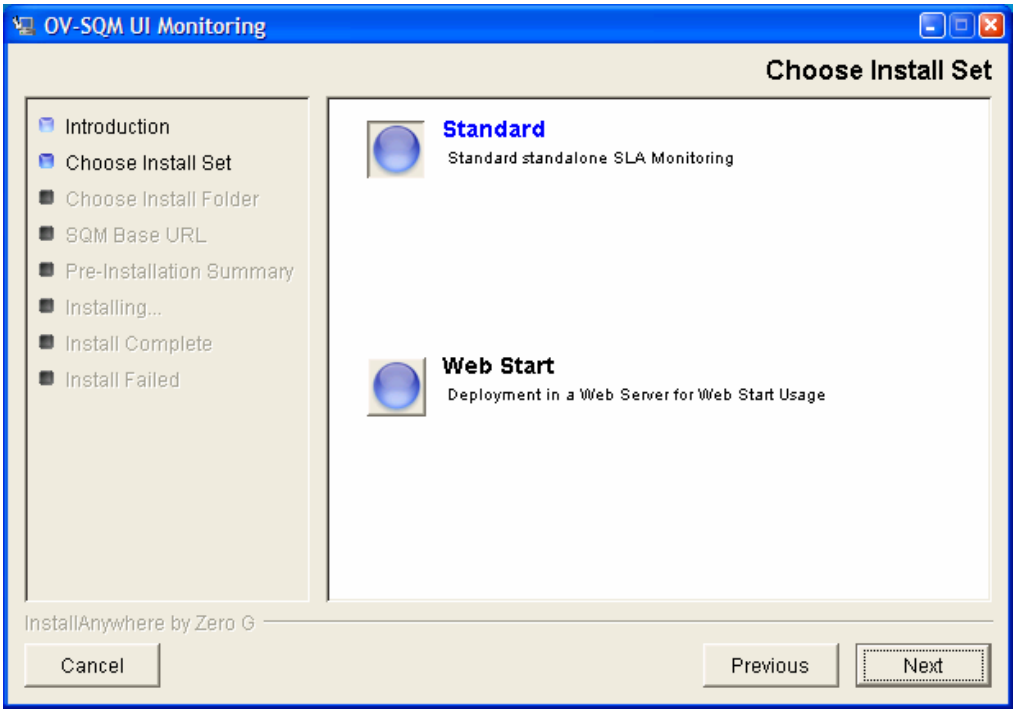
## 6.3 Installing the SLA Monitoring UI

To install the SLA Monitoring GUI, use the following procedure.

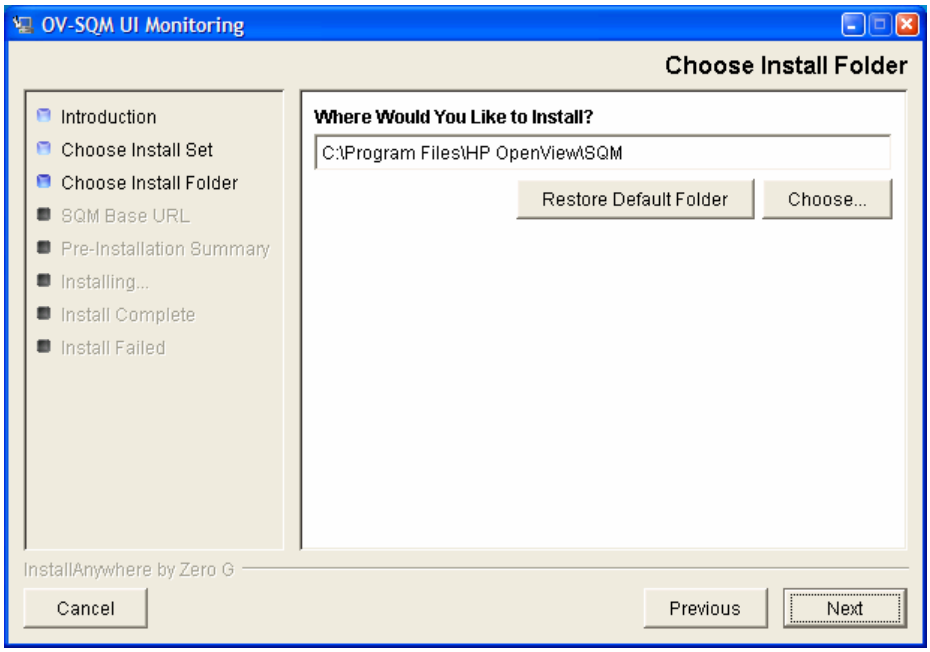
1. Run the SQMUIM-1.40.00.exe, located in the <Download directory>/SQM-1.40.00/SQM-1.40.00-COREWIN/Windows/User_Interfaces
2. From the Introduction window, click on **'Next'** to continue.



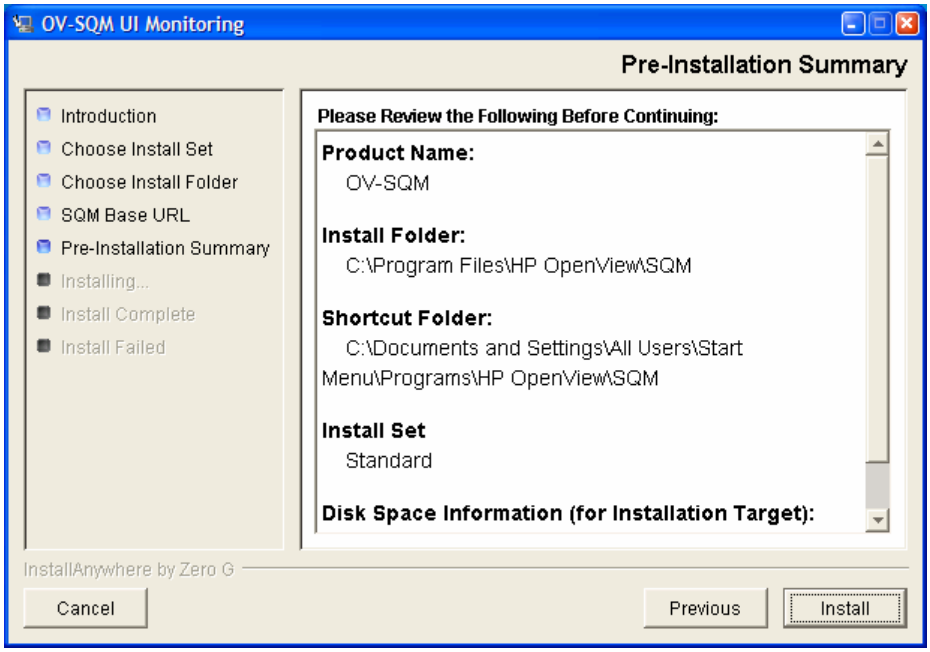
3. The SQM installation proposes a Standard or a WebStart installation. The WebStart installation is for the installation on the HTTP server for later deployment (refer to 5.1.5 for more details on the installation of the SLA Monitoring UI with WebSTart).
   Keep Standard and click on **'Next'**.



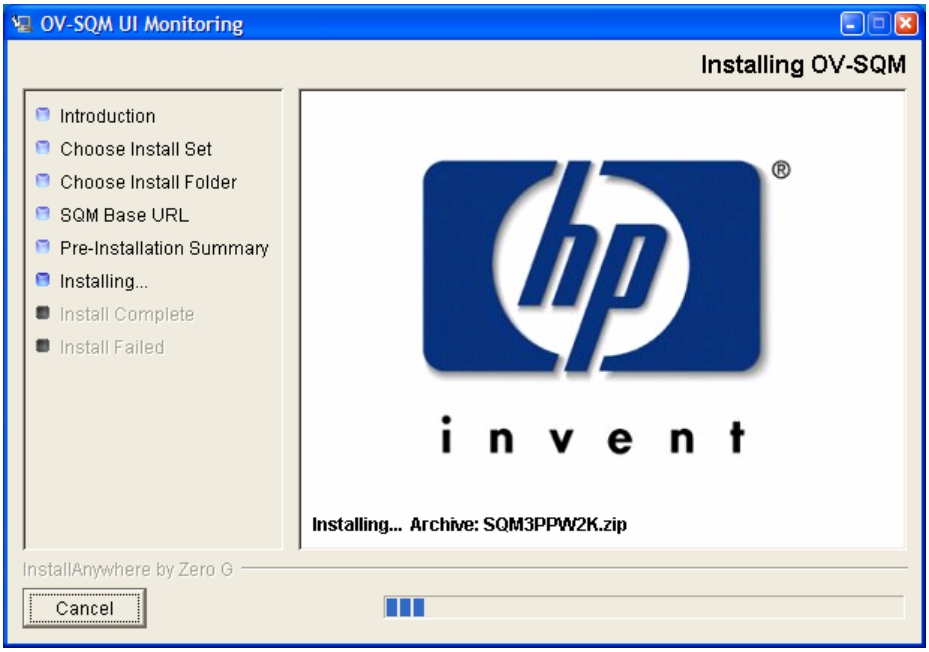

4. The SQM installation proposes a default folder that you can change. If another SQM component has already been installed (for instance the SLA Monitoring UI), you **MUST** specify the same directory. Click '**Next'** to proceed.



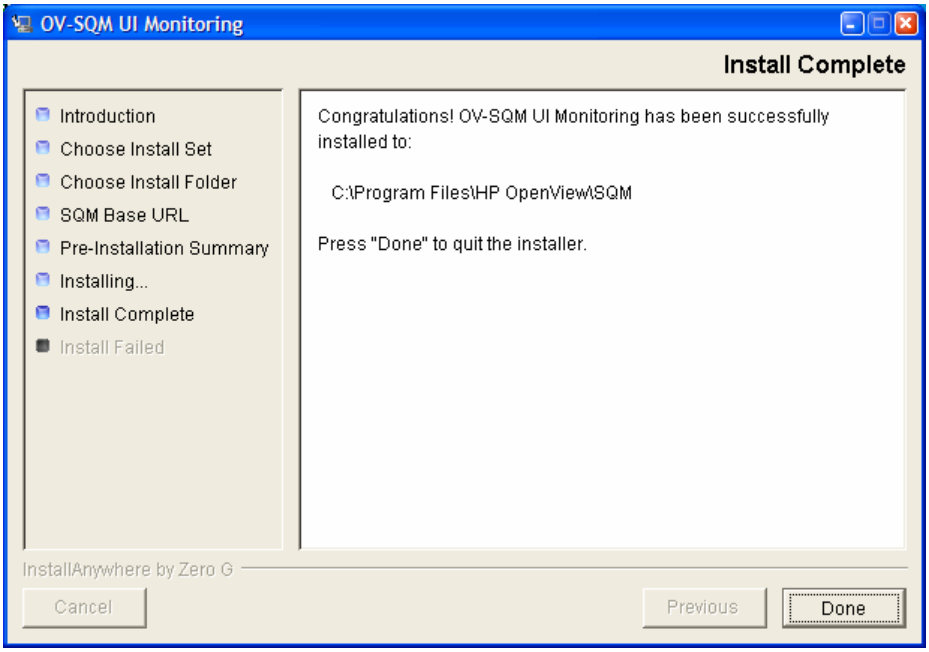
5. The Pre-Installation Summary window summarizes your settings. Click on '**Install'** to execute the installation.




6. The progress of the installation is indicated in the Installing window.



7. When the following window appears, the installation is complete. Click on **'Done'** to exit the installer.

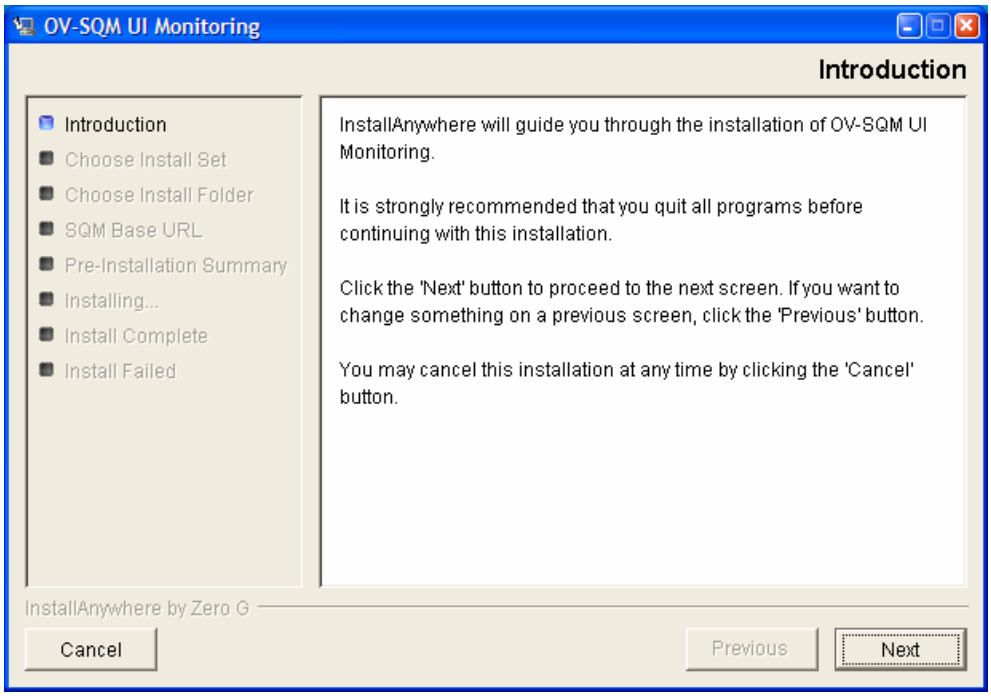



## 6.4 Installing SLA Monitoring UI binaries to deploy it through the Web (using Java Web Start)

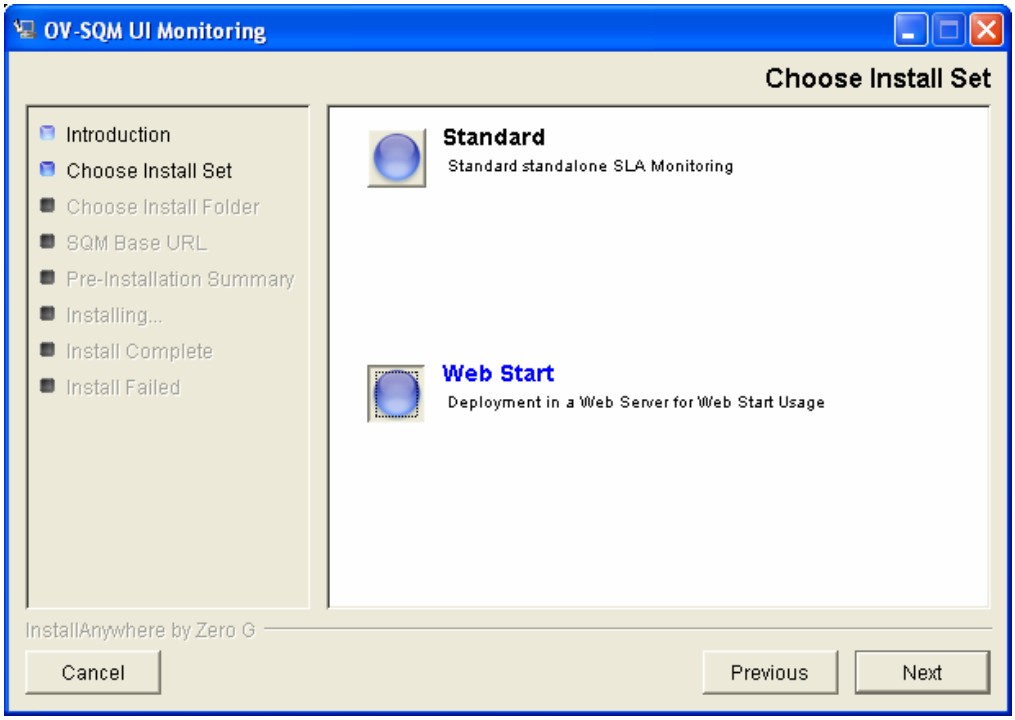
To install the SLA Monitoring GUI, use the following procedure.

Run the SQMUIM-1.40.exe, located in the <Download directory>/SQM-1.40.00/SQM-1.40.00-COREWIN/Windows/User_Interfaces

From the Introduction window, click on **'Next'** to continue.



8. Click on **'Web Start'** and then on button **'Next'**




9. Follow the steps described for the deployment of SLA Monitoring UI through WebStart using a HP-UX HTTP Server.

See chapter 5.1.5.

## 6.5 Installing a Patch

SQM patches for Windows are delivered in the Windows/Patches delivery directory. If a patch is delivered, refer to the associated readme file to install it.

# Chapter 7

# SQM Post-Installation Steps

## 7.1 Automatic Purge Configuration

The Service Performance Data Manager and the Logger databases must be purged on a regular basis. An example is described in the *OpenView SQM Administration Guide* Section 2.1.2.

**Warning**

The purge considers that the time is given in GMT time. The start time of your purge should take it into account.

## 7.2 SQM Automatic Start at Boot

After the end of the SQM setup, you may choose to install the boot scripts that will start the SQM platform and the required third products during the system boot.

To install boot scripts, refer to the *OpenView SQM Administration Guide* Section 2.1.2.

**Note**

This operation must not be done in HP-UX MC/SG Cluster environment. To start SQM packages at cluster boot time please refer to section 5.4 of *OpenView SQM Administration Guide.*

## 7.3 Time Synchronization between Hosts

In a distributed configuration, SQM requires network-synchronized time to ensure that SQM servers generate consistent timestamps. hp recommends Network Time Protocol (NTP) for this purpose.

# Chapter 8

# Uninstall

## 8.1 On UNIX

To uninstall SQM on UNIX, you need to log on as ***root*** user. Then:

### 8.1.1 If you are in a HP-UX MC/SG cluster

- Stop all packages with the command cmhaltpkg –n <node> <package_name>
- Log as root on the primary server (load sqmadm environment from $TEMIP_SC_VAR_HOME/temip_sc_env.sh) where the configuration of the platform was done and start packages that contains databases $TEMIP_SC_HOME/cluster/utils/start_SQM_PKG –p <package_name> -v
  - Deactivate probe monitoring of previously started packages: $TEMIP_SC_HOME/cluster/utils/stop_SQM_PKG –p <package_name> -m -v
  - Delete all the databases: $TEMIP_SC_HOME/oracle/scripts/temip_delete_database –ALL –NI
  - Delete all ledger files: rm –f $TEMIP_SC_VAR_HOME/*/ledger/*
- Delete all the packages $TEMIP_SC_HOME/cluster/utils/delete_SQM_PKG –p <Package_name> -v
- On all nodes of the cluster, log as sqmadm user and stop all kernels # temip_sc_kernel_stop -killrvd
- Delete the data tree rm –rf $TEMIP_SC_VAR_HOME
- Delete the release tree rm –fr $TEMIP_SC_HOME
- Remove the crontab jobs

### 8.1.2 If you are not in a MC/SG cluster

- stop SQM

  # temip_sc_stop_platform –platform slmv14

  # temip_sc_kernel_stop –killrvd

- Delete the data
  - To delete all the databases

    $TEMIP_SC_HOME/oracle/scripts/temip_delete_database –ALL –NI
  - To delete one of the database, launch the script in interactive mode

    $TEMIP_SC_HOME/oracle/scripts/temip_delete_database
  - Delete the data tree

    rm –rf $TEMIP_SC_VAR_HOME
  - Delete the release tree (the binaries)

    rm –rf $TEMIP_SC_ HOME
- Remove the crontabs

## 8.2 On Windows

To uninstall SQM on Windows, select the Uninstall menu and follow the instructions.

To uninstall the SLA Monitoring UI installed with Web start, open the Java Web Start Console and remove the application.

# Cluster configuration example

This annex gives an example of a cluster configuration (3 members cluster, nodes are: hello, heri, home). All packages running, in this example, on node home.

### Output of cmviewcl

```
CLUSTER      STATUS
clubby       up

  NODE         STATUS       STATE
  hello        up           running
  heri         up           running
  home         up           running

    PACKAGE        STATUS       STATE        AUTO_RUN     NODE
    sqm-rep_SQM    up           running      enabled      home
    sqm-mon_SQM    up           running      enabled      home
    sqm-pre_SQM    up           running      enabled      home
    sqm-acq_SQM    up           running      enabled      home
    sqm-repbo_SQM up            running      enabled      home

UNOWNED_PACKAGES

    PACKAGE      STATUS       STATE        AUTO_RUN     NODE
    NNM          down         halted       disabled     unowned
```

### Output of temip_sc_show

```
Applications
PID   UserId  Component  Platform  Director   Appli    Start   CPU%  Time  Size  State
5137  sqmadm  sqm_SAOvo  slmv13  acquisition  MyOVOSA  11:09:31 0.71  00:26   950    R
29105 sqmadm  sqm_uis    slmv13  presentation UIS      11:05:33 1.52  00:42  5508    R
13866 sqmadm  sqm_dc     slmv13  slmonitoring DC       10:55:08 3.49  01:30  2790    R
14293 sqmadm  sqm_logger slmv13  slmonitoring Logger   10:55:13 7.69  01:18  2318    R
13799 sqmadm  sqm_ns     slmv13  slmonitoring NS       10:55:01 2.88  00:57  2709    R
13763 sqmadm  sqm_slom   slmv13  slmonitoring SLOM     10:54:54 4.24  02:12  2961    R
13723 sqmadm  sqm_spdm   slmv13  slmonitoring SPDM     10:54:48 6.97  02:32  4180    R
13678 sqmadm  sqm_srm    slmv13  slmonitoring SRM      10:54:41 1.15  00:58  2276    R
22596 sqmadm  sqm_datamart slmv13 slreporting DataMart 11:02:14 0.74  00:25  1999    R

Kernel
MINE  PID    UserId  Component           Platform  Start     CPU%   Time  Size  State
Yes   27529  sqmadm  rvd tcp:16590 -http 16579  slmv13    Jan  8    3.63  26:13  1511
R
Yes   11684  sqmadm  Repository           slmv13    10:50:36  0.55  00:29  1929    R
Yes   9525   sqmadm  tibhawkhma           slmv13    Jan  9    0.35  01:03  1038    R
Yes   9527   sqmadm  schawkevent          slmv13    Jan  9    0.45  05:42  2554    R
Yes   11439  sqmadm  scha (sqm-rep)       slmv13    10:50:01  1.47  00:17  4395    R
Yes   12914  sqmadm  scha (sqm-mon)       slmv13    10:53:43  1.75  00:22  2958    R
Yes   16071  sqmadm  scha (sqm-acq)       slmv13    10:57:02  1.47  00:18  2684    R
Yes   21129  sqmadm  scha (sqm-repbo)     slmv13    11:00:57  1.52  00:15  2532    R
Yes   27256  sqmadm  scha (sqm-pre)       slmv13    11:04:20  1.59  00:15  2096    R
Yes   11441  sqmadm  schaw (sqm-rep)      slmv13    10:50:01  1.36  00:14  4095    R
Yes   12917  sqmadm  schaw (sqm-mon)      slmv13    10:53:43  1.33  00:14  3030    R
Yes   16073  sqmadm  schaw (sqm-acq)      slmv13    10:57:02  1.29  00:14  2163    R
Yes   21147  sqmadm  schaw (sqm-repbo)    slmv13    11:00:57  1.48  00:13  1287    R
Yes   27258  sqmadm  schaw (sqm-pre)      slmv13    11:04:20  1.36  00:11  1730    R
Yes   27527  sqmadm  Jacorb NS            slmv13    Jan  8    0.37  03:01   813    R
```

### Output of vgdisplay

```
--- Volume groups ---

VG Name                     /dev/vgSQMMon
VG Write Access             read/write
VG Status                   available, exclusive
Max LV                      255
Cur LV                      6
Open LV                     6
Max PV                      16
Cur PV                      1
Act PV                      1
Max PE per PV               8683
VGDA                        2
PE Size (Mbytes)            4
Total PE                    8681
Alloc PE                    7427
Free PE                     1254
Total PVG                   0
Total Spare PVs             0
Total Spare PVs in use      0

VG Name                     /dev/vgSQMPres
VG Write Access             read/write
VG Status                   available, exclusive
Max LV                      255
Cur LV                      3
Open LV                     3
Max PV                      16
Cur PV                      1
Act PV                      1
Max PE per PV               8683
VGDA                        2
PE Size (Mbytes)            4
Total PE                    8681
Alloc PE                    515
Free PE                     8166
Total PVG                   0
Total Spare PVs             0
Total Spare PVs in use      0

VG Name                     /dev/vgSQMGat
VG Write Access             read/write
VG Status                   available, exclusive
Max LV                      255
Cur LV                      3
Open LV                     3
Max PV                      16
Cur PV                      1
Act PV                      1
Max PE per PV               8683
VGDA                        2
PE Size (Mbytes)            4
Total PE                    8681
Alloc PE                    1027
Free PE                     7654
Total PVG                   0
Total Spare PVs             0
Total Spare PVs in use      0



VG Name                     /dev/vgSQMAcq
VG Write Access             read/write
VG Status                   available, exclusive
Max LV                      255
Cur LV                      2
Open LV                     2
Max PV                      16
Cur PV                      1
Act PV                      1
Max PE per PV               8683
VGDA                        2
PE Size (Mbytes)            4
Total PE                    8681
```

```
Alloc PE                  515
Free PE                   8166
Total PVG                 0
Total Spare PVs           0
Total Spare PVs in use    0

VG Name                   /dev/vgSQMRepbo
VG Write Access           read/write
VG Status                 available, exclusive
Max LV                    255
Cur LV                    5
Open LV                   5
Max PV                    16
Cur PV                    1
Act PV                    1
Max PE per PV             8683
VGDA                      2
PE Size (Mbytes)          4
Total PE                  8681
Alloc PE                  6928
Free PE                   1753
Total PVG                 0
Total Spare PVs           0
Total Spare PVs in use    0

VG Name                   /dev/vgSQMRep
VG Write Access           read/write
VG Status                 available, exclusive
Max LV                    255
Cur LV                    4
Open LV                   4
Max PV                    16
Cur PV                    1
Act PV                    1
Max PE per PV             8683
VGDA                      2
PE Size (Mbytes)          4
Total PE                  8681
Alloc PE                  56
Free PE                   8625
Total PVG                 0
Total Spare PVs           0
Total Spare PVs in use    0
```

### Output of mount | grep -i sqm

```
/var/opt/OV/SQM/slmv13/repository on /dev/vgSQMRep/lvDat log on Fri Jan 12 10:49:59
2007
/var/opt/OV/SQM/slmv13/sqm-rep on /dev/vgSQMRep/lvData log on Fri Jan 12 10:49:59 2007
/var/opt/OV/SQM/slmv13/sqm-mon on /dev/vgSQMMon/lvData log on Fri Jan 12 10:52:50 2007
/var/opt/OV/SQM/slmv13/SLM on /dev/vgSQMMon/lvSLM log on Fri Jan 12 10:52:50 2007
/var/opt/OV/SQM/slmv13/Definitions on /dev/vgSQMMon/lvDef log on Fri Jan 12 10:52:50
2007
/opt/OV/ORACLE/srm on /dev/vgSQMMon/lvOrasrm log on Fri Jan 12 10:52:50 2007
/opt/OV/ORACLE/spdm on /dev/vgSQMMon/lvOraspdm log on Fri Jan 12 10:52:50 2007
/opt/OV/ORACLE/logger on /dev/vgSQMMon/lvOralogger log on Fri Jan 12 10:52:51 2007
/var/opt/OV/SQM/slmv13/ServiceAdapters on /dev/vgSQMAcq/lvAcq log on Fri Jan 12
10:56:35 2007
/var/opt/OV/SQM/slmv13/sqm-acq on /dev/vgSQMAcq/lvData log on Fri Jan 12 10:56:35 2007
/var/opt/OV/SQM/slmv13/sqm-repbo on /dev/vgSQMRepbo/lvData log on Fri Jan 12 10:59:49
2007
/var/opt/OV/SQM/slmv13/Datamart on /dev/vgSQMRepbo/lvDatamart log on Fri Jan 12
10:59:50 2007
/opt/OV/ORACLE/dmstag on /dev/vgSQMRepbo/lvOradmstag log on Fri Jan 12 10:59:51 2007
/opt/OV/ORACLE/dmprod on /dev/vgSQMRepbo/lvOradmprod log on Fri Jan 12 10:59:51 2007
/var/opt/OV/SQM/slmv13/UI on /dev/vgSQMPres/lvUI log on Fri Jan 12 11:03:35 2007
/var/opt/OV/SQM/slmv13/sqm-pre on /dev/vgSQMPres/lvData log on Fri Jan 12 11:03:36
2007
```

### Output of netstat -i

```
Name      Mtu  Network         Address         Ipkts   Ierrs Opkts   Oerrs Coll
lan0:3    1500 16.188.152.0    sqm-mon.vbe.cpqcorp.net
                                               3678719 0     3678450 0     0
lan0:2    1500 16.188.152.0    sqm-rep.vbe.cpqcorp.net
                                               3954    0     0       0     0
lan0:5    1500 16.188.152.0    sqm-repbo.vbe.cpqcorp.net
                                               1056761 0     1056373 0     0
lan0:4    1500 16.188.152.0    sqm-acq.vbe.cpqcorp.net
                                               369     0     0       0     0
lan0:7    1500 16.188.152.0    sqm-pre.vbe.cpqcorp.net
                                               6340    0     0       0     0
lan0:6    1500 16.188.152.0    sqm-gat.vbe.cpqcorp.net
                                               8426    0     0       0     0
```