

# HP Storage Operations Manager

Software Version: 10.10

Windows® and Linux® operating systems

## Storage Resource Management Reports Guide

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# Acknowledgements

This product includes software developed by the Apache Software Foundation.  
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(<http://www.extreme.indiana.edu>)

This product uses the j-Interop library to interoperate with COM servers.  
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# Chapter 1: Introduction

The HP Storage Operations Manager (SOM) content packs for HPE Operations Bridge Reporter (OBR) provide detailed reports of current and historical information about hosts, storage systems, switches, and connectivity in the storage network. SOM also provides content packs for reporting the performance of various storage devices.

The SOM content packs determine what metrics to process, how to process those metrics, and display the processed data on the reports. A typical content pack defines the statistics and inventory associated with the particular domain content.

## HP Storage Operations Manager Content Packs

HP Storage Operations Manager provides the following content packs:

- ["HP Storage Operations Manager Common Content Pack" on the next page](#)
- ["HP Storage Operations Manager Content Pack for End-to-End Connectivity" on page 8](#)
- ["HP Storage Operations Manager Content Pack for Switches" on page 8](#)
- ["HP Storage Operations Manager Content Pack for Hosts" on page 9](#)
- ["HP Storage Operations Manager Content Pack for Storage Systems" on page 10](#)
- ["HP Storage Operations Manager Content Pack for HP 3PAR Performance Statistics" on page 11](#)
- ["HP Storage Operations Manager Content Pack for HP EVA Performance Statistics" on page 11](#)
- ["HP Storage Operations Manager Content Pack for EMC CLARiiON and VNX Performance Statistics" on page 12](#)
- ["HP Storage Operations Manager Content Pack for EMC DMX Performance Statistics" on page 13](#)
- ["HP Storage Operations Manager Content Pack for EMC VMAX Performance Statistics" on page 13](#)

- ["HP Storage Operations Manager Content Pack for NetApp C-Mode Performance Statistics"](#) on page 14
- ["HP Storage Operations Manager Content Pack for NetApp 7-Mode Performance Statistics"](#) on page 14
- ["HP Storage Operations Manager Content Pack for HP XP and HDS Performance Statistics"](#) on page 15

Each content pack includes standard reports for immediate access to the relevant storage management content. For information about the standard reports, see the help for each report in *HPE Operations Bridge ReporterOnline Help for Users*.

Additionally, you can customize reports by selecting from the list of objects in the classes of the Business Objects Universe provided with all installed content packs.

## **HP Storage Operations Manager Common Content Pack**

The HP Storage Operations Manager Common Content Pack contains common list of objects used across SOM content packs. It provides information about assets and node groups.

The list of objects in the common reporting universe are as follows:

- Assets
- Node groups

For more information, see the *HP Storage Operations Manager Common Content Pack Universe Reference* document.

## HP Storage Operations Manager Content Pack for End-to-End Connectivity

The HP Storage Operations Manager Content Pack for End-to-End Connectivity provides information that can be used to view and analyze the connectivity information for hosts, switches, and storage systems.

The list of classes in the connectivity reporting universe are as follows:

- Host Switch Connectivity
- Storage Switch Connectivity
- Host Path Connectivity
- Presented Storage Connectivity
- Switch ISL Connectivity
- NAS Client Connectivity

For more information, see the *HP Storage Operations Manager Content Pack for End-to-End Connectivity Universe Reference* document.

## HP Storage Operations Manager Content Pack for Switches

The HP Storage Operations Manager Content Pack for Switches provides detailed standard reports that display the utilization summary as well as the input and output performance data of switch ports.

The list of classes in the switches reporting universe are as follows:

- Switch Fabric
- Switch Capacity Statistics
- Switch Port Performance Statistics



For more information, see the *HP Storage Operations Manager Content Pack for Switches Universe Reference* document.

## **HP Storage Operations Manager Content Pack for Hosts**

The HP Storage Operations Manager Content Pack for Hosts provides detailed standard reports that display information about the host capacity utilization.

The list of classes in the host reporting universe are as follows:

- Host Disk Partitions
- Host Multipathing
- Host Volume Management
- HBA Target Port
- Host Processor
- HBA Port Performance Statistics
- Host CPU Utilization Statistics
- Host Disk Drive Performance Statistics
- Host Logical Volume Capacity Statistics
- Host Memory Utilization Statistics
- Host Unused Volume Group Capacity Statistics
- Host Unused Storage Statistics

For more information, see the *HP Storage Operations Manager Content Pack for Hosts Universe Reference* document.

# HP Storage Operations Manager Content Pack for Storage Systems

The HP Storage Operations Manager Content Pack for Storage Systems provides detailed standard reports that display information about the storage systems.

The list of classes in the storage systems reporting universe are as follows:

- Storage System Disks
- Block System Extents Associated with Disks
- Block System Extents
- Block Backend Storage System
- Block System Volumes
- Block System SCSI Controllers
- Block System Processors
- Block System Fiber Channel Ports
- Block System Replication
- File System Extents Associated with Disks
- File System Extents
- File Network Interface
- File System Volumes
- File QTree
- File System Replication
- Storage Tiers
- File Shares
- Storage System Capacity Statistics
- Tier Element Map
- File Logical Volume Capacity Statistics
- Block Pool Capacity Statistics
- File Quota Capacity Statistics
- File System Node Capacity Statistics

- File Snapshot Capacity Statistics
- File Extent Capacity Statistics

For more information, see the *HP Storage Operations Manager Content Pack for Storage Systems Universe Reference* document.

## **HP Storage Operations Manager Content Pack for HP 3PAR Performance Statistics**

The HP Storage Operations Manager Content Pack for HP 3PAR Performance Statistics provides information that can be used to view and analyze various performance metrics of HP 3PAR devices.

The list of classes in the HP 3PAR performance reporting universe are as follows:

- HP 3PAR Storage System Performance Statistics
- HP 3PAR Storage Volume Performance Statistics
- HP 3PAR Controller Performance Statistics
- HP 3PAR Disk Performance Statistics
- HP 3PAR FC Port Performance Statistics
- HP 3PAR AVG Storage System Volume Performance Statistics
- HP 3PAR AVG Storage Pool Volume Performance Statistics

For more information, see the *HP Storage Operations Manager Content Pack for HP 3PAR Performance Statistics Universe Reference* document.

## **HP Storage Operations Manager Content Pack for HP EVA Performance Statistics**

The HP Storage Operations Manager Content Pack for HP EVA Performance Statistics provides information that can be used to view and analyze various performance metrics of HP Enterprise Virtual Array (EVA) devices.

The list of classes in the HP Storage Operations Manager Content Pack for HP EVA Performance Statistics performance reporting universe are as follows:

- EVA Storage System Performance Statistics
- EVA Storage System AVG Performance Statistics
- EVA Storage Volume Performance Statistics
- EVA Storage Controller Performance Statistics
- EVA Pool AVG Performance Statistics
- EVA FC Port Performance Statistics
- EVA Disk Drive Statistics

For more information, see the *HP Storage Operations Manager Content Pack for HP EVA Performance Statistics Universe Reference* document.

## **HP Storage Operations Manager Content Pack for EMC CLARiiON and VNX Performance Statistics**

The HP Storage Operations Manager Content Pack for EMC CLARiiON and VNX Performance Statistics provides information that can be used to view and analyze various performance metrics of EMC CLARiiON and VNX devices.

The list of classes in the HP Storage Operations Manager Content Pack for EMC CLARiiON and VNX Performance Statistics reporting universe are as follows:

- EMC CLARiiON\_VNX Storage System Performance Statistics
- EMC CLARiiON\_VNX Storage Volume Performance Statistics
- EMC CLARiiON\_VNX Storage Controller Performance Statistics
- EMC CLARiiON\_VNX Port Performance Statistics
- EMC CLARiiON\_VNX Disk Drive Performance Statistics

For more information, see the *HP Storage Operations Manager Content Pack for EMC CLARiiON and VNX Performance Statistics Universe Reference* document.

## **HP Storage Operations Manager Content Pack for EMC DMX Performance Statistics**

The HP Storage Operations Manager Content Pack for EMC DMX Performance Statistics provides information that can be used to view and analyze various performance metrics of EMC DMX devices.

The list of classes in the HP Storage Operations Manager Content Pack for EMC DMX Performance Statistics performance reporting universe are as follows:

- EMC DMX Storage System Performance Statistics
- EMC DMX Storage Volume Performance Statistics
- EMC DMX Storage Front-end Controller Performance Statistics
- EMC DMX Front-end Port Performance Statistics

For more information, see the *HP Storage Operations Manager Content Pack for EMC DMX Performance Statistics Universe Reference* document.

## **HP Storage Operations Manager Content Pack for EMC VMAX Performance Statistics**

The HP Storage Operations Manager Content Pack for EMC VMAX Performance Statistics provides information that can be used to view and analyze various performance metrics of EMC VMAX devices.

The list of classes in the HP Storage Operations Manager Content Pack for EMC VMAX Performance Statistics performance reporting universe are follows:

- EMC VMAX Storage System Performance Statistics
- EMC VMAX Storage Volume Performance Statistics
- EMC VMAX Storage Front-end Controller Performance Statistics
- EMC VMAX Front-end Port Performance Statistics

For more information, see the *HP Storage Operations Manager Content Pack for EMC VMAX Performance Statistics Universe Reference* document.

## **HP Storage Operations Manager Content Pack for NetApp C-Mode Performance Statistics**

The HP Storage Operations Manager Content Pack for NetApp C-Mode Performance Statistics provides information that can be used to view and analyze various performance metrics of NetApp C-mode devices.

The list of classes in the HP Storage Operations Manager Content Pack for NetApp C-Mode Performance Statistics performance reporting universe are as follows:

- NetAppC Storage System Performance Statistics
- NetAppC LUN Performance Statistics
- NetAppC Disk Drive Performance Statistics
- NetAppC File System Performance Statistics
- NetAppC Aggregate Performance Statistics
- NetAppC vServer Performance Statistics

For more information, see the *HP Storage Operations Manager Content Pack for NetApp C-Mode Performance Statistics Universe Reference* document.

## **HP Storage Operations Manager Content Pack for NetApp 7-Mode Performance Statistics**

The HP Storage Operations Manager Content Pack for NetApp 7-Mode Performance Statistics provides information that can be used to view and analyze various performance metrics of NetApp 7-mode devices.

The list of classes in the HP Storage Operations Manager Content Pack for NetApp 7-Mode Performance Statistics performance reporting universe are as follows:

- NetApp7 Storage System Performance Statistics
- NetApp7 LUN Performance Statistics
- NetApp7 Disk Drive Performance Statistics
- NetApp7 File System Performance Statistics
- NetApp7 Aggregate Performance Statistics
- NetApp7 IPPort Performance Statistics
- NetApp7 Q Tree Performance Statistics

For more information, see the *HP Storage Operations Manager Content Pack for NetApp 7-Mode Performance Statistics Universe Reference* document.

## **HP Storage Operations Manager Content Pack for HP XP and HDS Performance Statistics**

The HP Storage Operations Manager Content Pack for HP XP and HDS Performance Statistics provides information that can be used to view and analyze various performance metrics of HP XP and HDS devices.

The list of classes in the HP Storage Operations Manager Content Pack for HP XP and HDS Performance Statistics performance reporting universe are as follows:

- HDS-XP Array Group Statistics
- HDS-XP Back-end Controller Statistics
- HDS-XP FC Port Performance Statistics
- HDS-XP Front-end Controller Statistics
- HDS-XP Storage Volume Statistics
- HDS-XP Storage System Statistics
- HDS-XP MPB Controller Statistics

For more information, see the *HP Storage Operations Manager Content Pack for HP XP and HDS Performance Statistics Universe Reference* document.

# Prerequisites to use the HP Storage Operations Manager Content Packs

Before you install an SOM content pack, HPE Operations Bridge Reporter (OBR) must be installed and configured. For the supported OBR version, see the *SOM Support Matrix*.

OBR must be installed on a separate server from the SOM management server. Before you install an SOM content pack, do the following:

1. Install OBR using the instructions in the *HPE Operations Bridge Reporter Interactive Installation Guide*.

The Installation Guide is available as a compressed file, `OBR_Interactive_Installation.zip`, in the `Documentation/en_US` directory, after you extract the `OBR.tar` installer file.

To view the Installation Guide, open the `OBR_Interactive_Installation.htm` file after extracting the `OBR_Interactive_Installation.zip` file.

2. Post installation, configure OBR for SOM. For more information, see "[Post-Installation Configuration of HPE Operations Bridge Reporter \(OBR\)](#)" on page 17

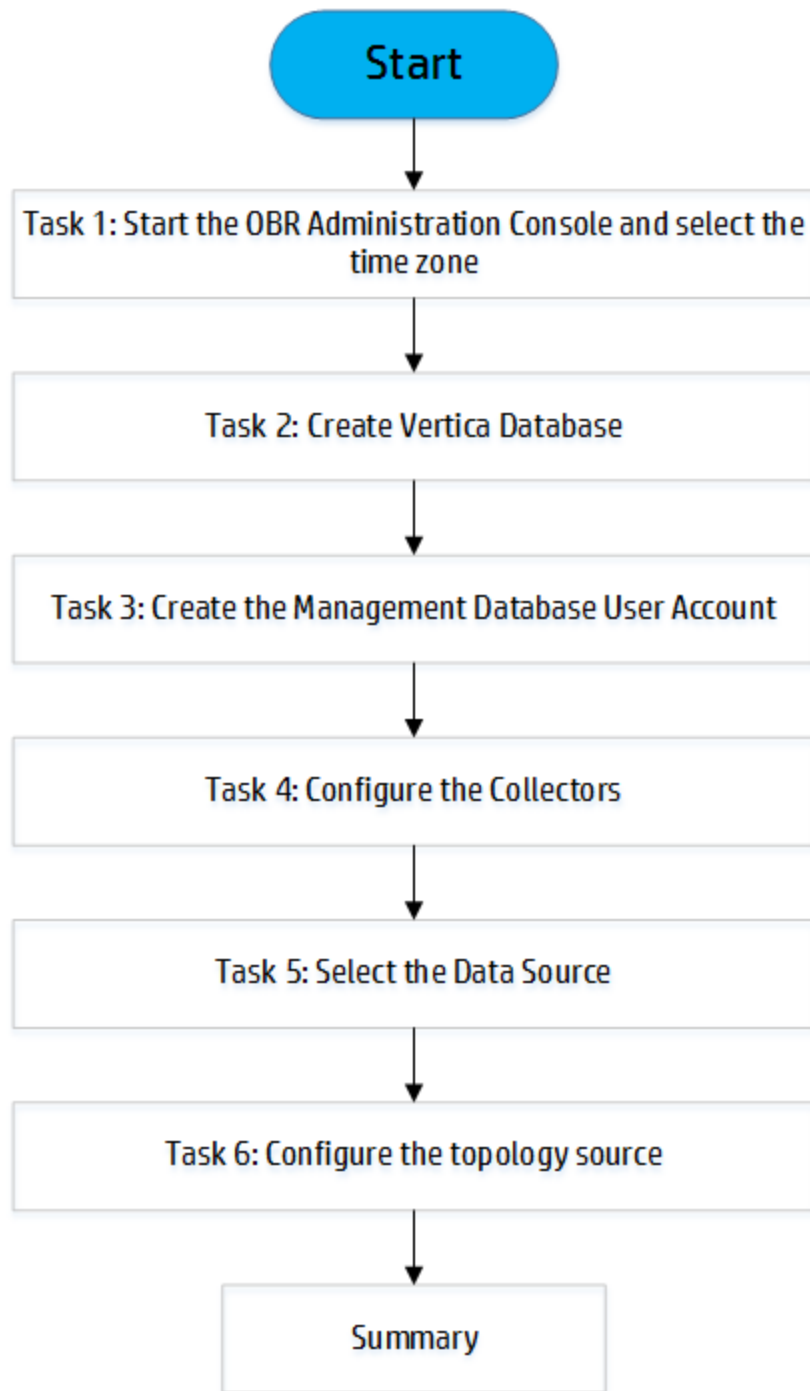


# Chapter 2: Post-Installation Configuration of HPE Operations Bridge Reporter (OBR)

You must perform all the post-installation configuration tasks described in this chapter immediately after installing HPE Operations Bridge Reporter (OBR) 10.00 and before installing the SOM content packs through the Deployment Manager.

**Note:** Skip this chapter if OBR is already installed along with different Content Packs other than SOM.

The following flowchart gives you an overview of the post-install tasks for OBR with embedded Vertica database:



# Task 1: Launching the Administration Console

To launch the Administration Console, follow these steps:

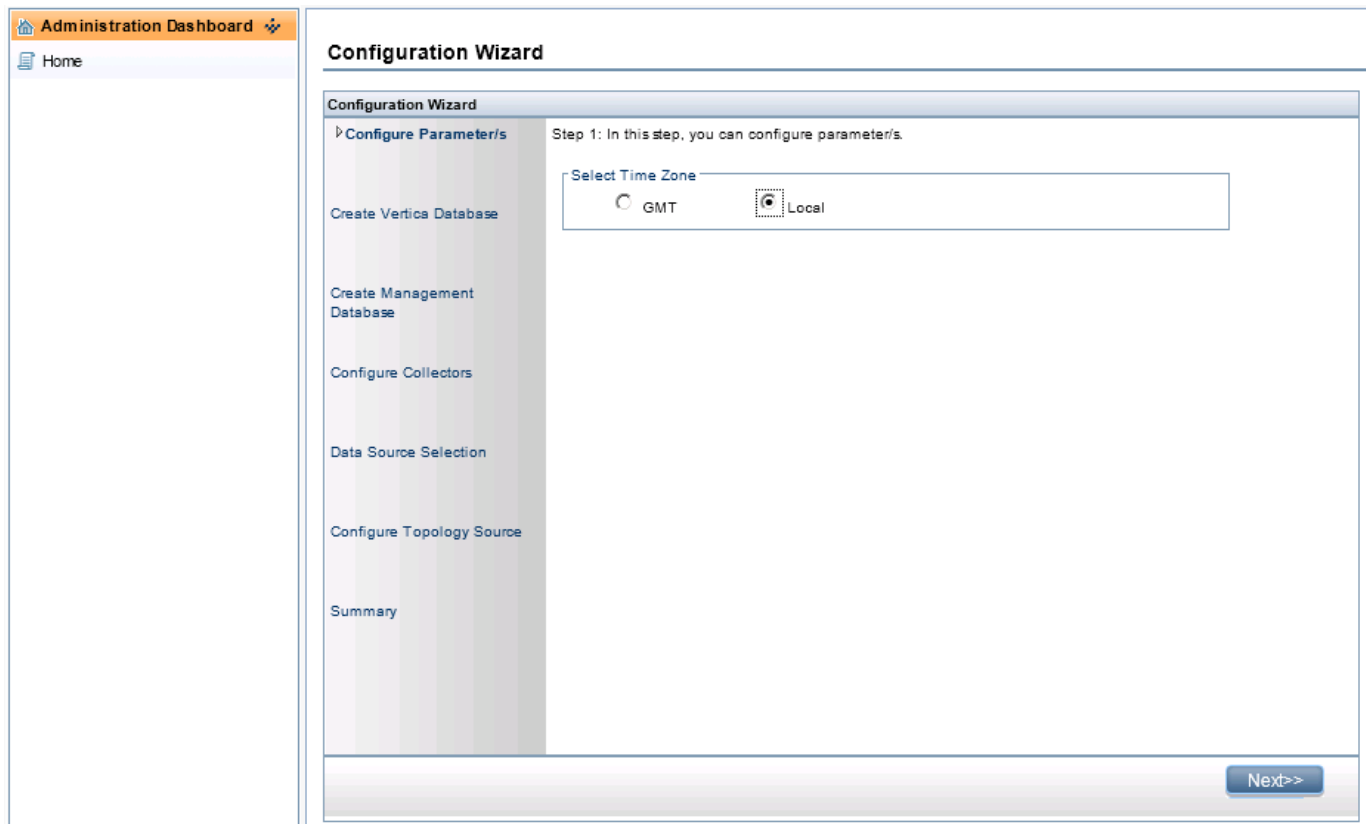
1. Launch the Administration Console in a web browser using the following URL:

```
https://<OBR_Server_FQDN>:21412
```

2. Type **administrator** in the Login Name field and **1ShrAdmin** in the Password field , and then click **Log In** to continue. The Change Password page appears and it is mandatory to change the password when you log in for the first time.
  - a. Enter **1ShrAdmin** in the **Old Password** field.
  - b. Enter new password in the **New Password** field
  - c. Re-enter the new password in the **Confirm Password** field and then click **Log In**. The Home page appears.

**Note:** If you use any other user account to access the Administration Console, make sure that the user account has administrator privileges.

The following OBR Configuration Wizard appears only if you did not complete the post-install configuration tasks. The wizard supports session-state-persistence, which enables you to resume and continue a previously-interrupted configuration session.



3. On the Configure Parameter/s page, select the time zone, that is, GMT or Local, under which you want OBR to operate.

Under Select HPE Operations Bridge Reporter Time Zone, select one of the following:

- **GMT** if you want OBR to follow the GMT timezone.
- **Local** if you want OBR to follow the local system timezone.

**Note:** The time zone that you select here applies to the OBR system and reports. However, the run-time information for processes such as collection and work flow streams is always based on local timezone irrespective of selection.

4. Click **Next**. The Create Vertica Database page opens.

## Task 2: Creating the Vertica Database

To create the database schema for Vertica database embedded with OBR, follow these:

1. On the Create Vertica Database page, type the required information. The following table describes the fields that appear under this section:

Field	Description
Host name	Name or IP address of the host where the Vertica database server is running .
Port	Port number to query the database server. The default port is 5433.
Vertica Database User name	Name of the Vertica database user. The user must have DBA privileges.
Vertica Database Password	Password of the Vertica Database user.
Confirm Password	Password confirmation of the Vertica Database user. Re-type the same password to confirm it.

**Note:** By default, the administrator console credentials are displayed in the vertica database username and password fields. Clear these credentials, and then enter the vertica database credentials.

2. In the **Database File Location** field, do the following:
  - a. Type the location to store the database files.

Example: `/opt/myVerticadb.`

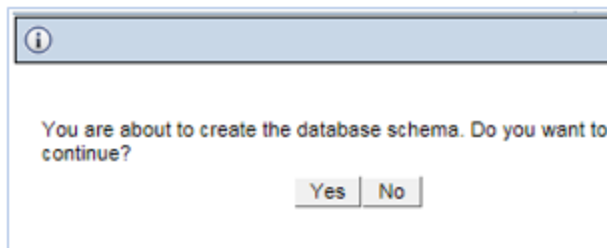
**Caution:** Ensure that you have sufficient system resources to support the OBR data collection volume that you select. For information about the resource requirements for the selected volume, see the *HPE Operations Bridge Reporter Support Matrix*.

3. In the **Catalog File Location** field, do the following:

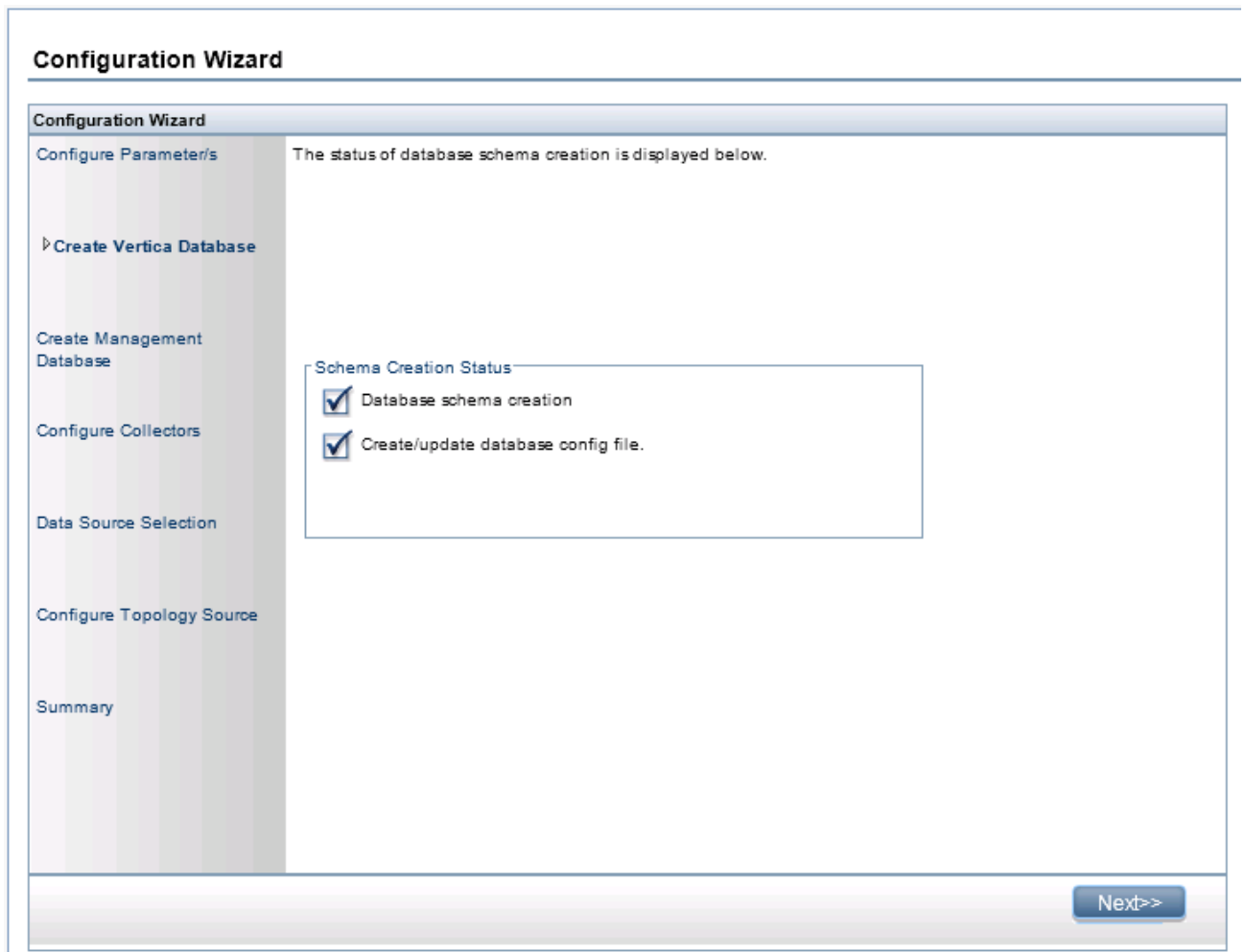
- a. Type the location to store the catalog files.

**Example:** /opt/mycatalog.

- b. Click **Next**. A confirmation dialog box opens.



- c. Click **Yes**. If the database connection and schema creation is successful, a confirmation page opens with the schema creation status.



- d. Click **Next** to continue.
- e. If the database connection and schema creation fails, click the **Previous** button to check the values provided.

## Task 3: Creating the Management Database User Account

The management database refers to the Online Transaction Processing (OLTP) store used by OBR to store its run-time data such as data process job stream status, changed tables status, and

datasource information.

On the Create Management Database page, provide the user details for the management database.

To create the management database user account, follow these steps:

1. Under **Enter Management Database User (DBA Privilege) and Password**, type the required information. The following table describes the fields that appear under this section:

Field	Description
User name	Name of the Postgres database administrator. The default value is <code>postgres</code> .
New DBA Password	Password of the Postgres database administrator. The default is <code>PMDB92_admin@hp</code> .
Confirm New DBA Password	Retype the same password to confirm it.

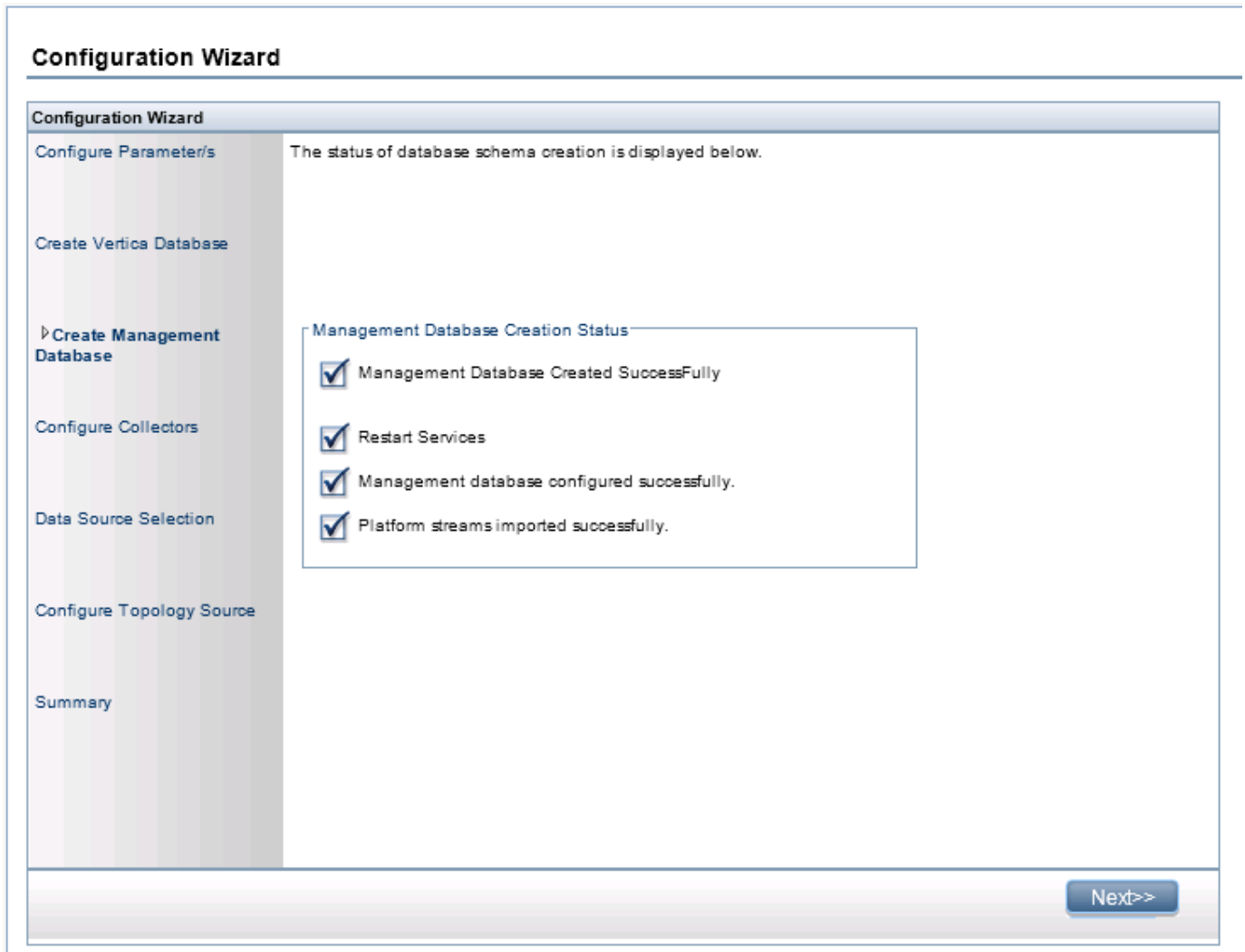
2. Under **Enter Management Database User Information**, type the required values if you want to change the password of the management database user. The following table describes the fields that appear under this section:

Field	Description
User name	Name of the management database user. The default value is <code>pmdb_admin</code> .
New Password	Password of the management database user.
Confirm New Password	Retype the same password to confirm it.

3. Click **Next**. The Management Database Creation Status page appears.
4. Review the tasks completed as part of database connection and management database details



and then click **Next**. The Configure Collectors page opens.



## Task 4: Configuring the Collectors

On the Configure Collector page, skip taking any actions and click **Next**. The Data Source Selection page opens.

### Configuration Wizard

Configuration Wizard

Configure Parameter/s

Create Vertica Database

Create Management Database

Configure Collectors

Data Source Selection

Configure Topology Source

Summary

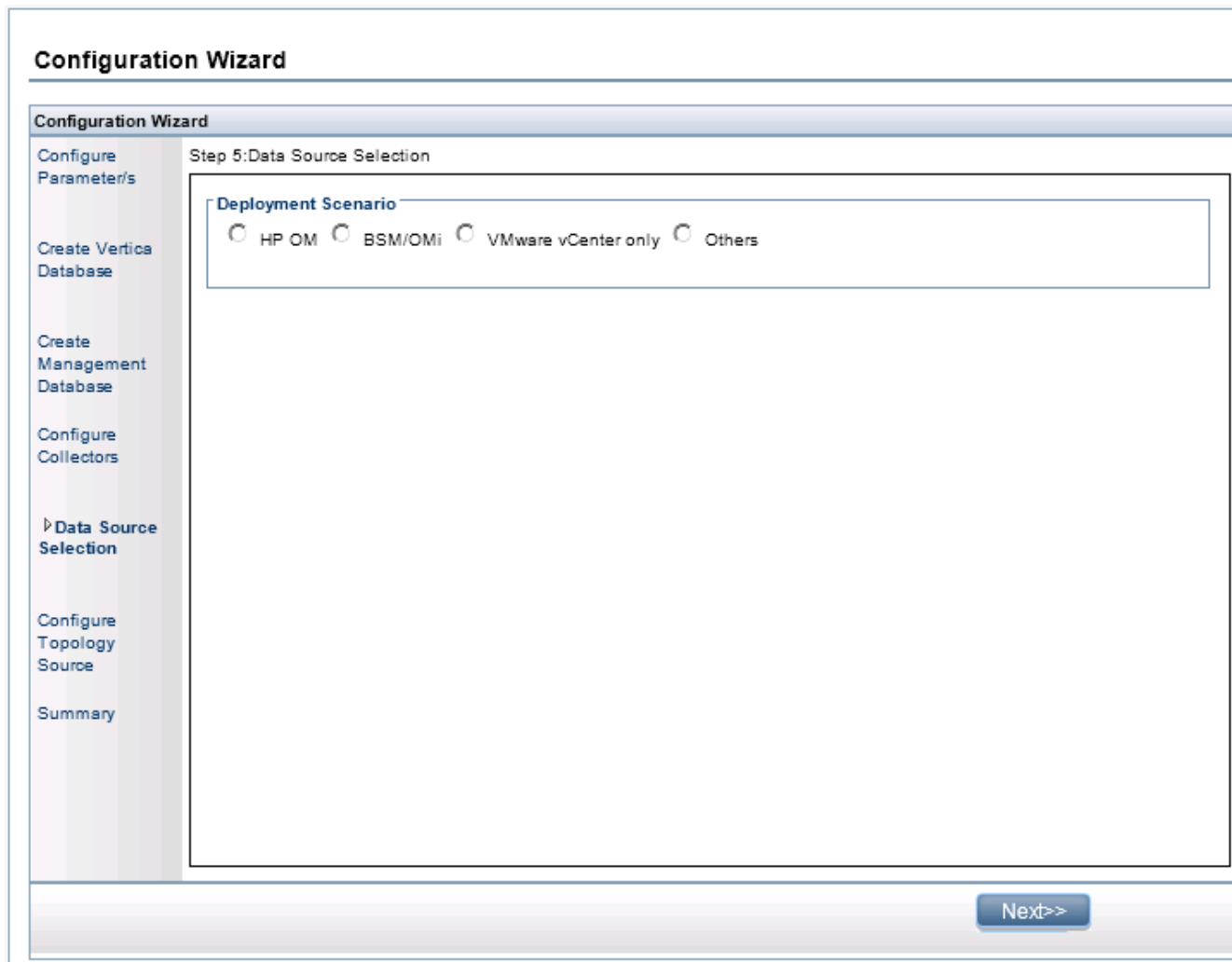
Step 4: Configure Collectors

#### Collector Summary

	Name	Enable	Connection	Install	Configuration		
					Policy	Data Source	Collector
<input type="checkbox"/>	local	<input checked="" type="checkbox"/>					<a href="#">Configure</a>

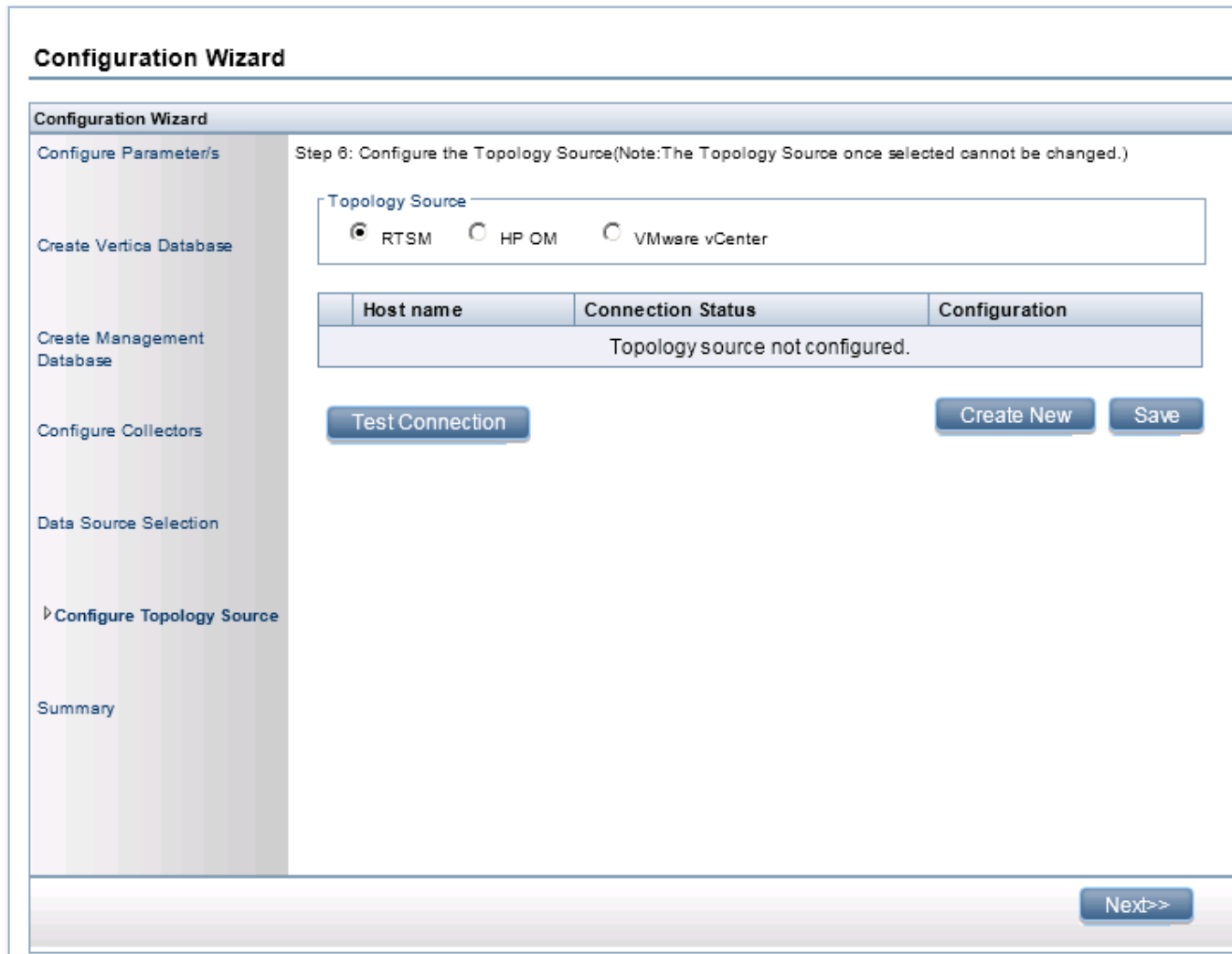
## Task 5: Selecting the Data Source

On the Data Source Selection page, do not select any deployment scenario. Click **Next**, the Configure Topology Source page opens.



## Task 6: Configuring the Topology Source

On the Configure Topology Source page, skip taking any actions and click **Next** to continue. The Summary page opens.



## Task 7: Summary

On the Summary page, click **Finish** to complete the post-install configuration tasks.

### Configuration Wizard

---

**Configuration Wizard**

Configure Parameter/s      Step 7: Summary Page

Create Vertica Database       Database Connection  
Host name: corona.ind.hp.com  
Port: 5433

Create Management Database

Configure Collectors       Management Database  
Host name: corona.ind.hp.com  
Port: 21425

Data Source Selection

Configure Topology Source      Topology Source  
No Topology Source Configured.

▶ Summary

**Finish**

# Chapter 3: Installing SOM Content Packs

This section provides information about installing and uninstalling the SOM content packs on a SOM reporting server.

## Installation Package

The content packs are available in the folder, `<contentpack>` after you extract the SOM package to the local host server.

The following are the `.rpm` installer files for the SOM content packs:

SOM Content Packs	Installer File Names
Common Content Pack	<code>HPSOMOBR-&lt;version_number&gt;-Linux2.6_64.rpm</code>
Content Pack for End-to-End Connectivity	For example, the installer file for HP Storage Operations Manager 10.10 is as follows:
Content Pack for Switches	<code>HPSOMOBR-10.10.001-Linux2.6_64.rpm</code>
Content Pack for Hosts	
Content Pack for Storage Systems	
Content Pack for HP 3PAR Performance Statistics	<code>HPSOMOBR_HP3PARPerf-&lt;version_number&gt;-Linux2.6_64.rpm</code>

SOM Content Packs	Installer File Names
Content Pack for HP EVA Performance Statistics	HPSOMOBR_EVAPerf-<version_number>-Linux2.6_64.rpm
Content Pack for HP XP and HDS Performance Statistics	HPSOMOBR_HDS-XPPerf-<version_number>-Linux2.6_64.rpm
Content Pack for EMC CLARiiON and VNX Performance Statistics	HPSOMOBR_VNXPerf-<version_number>-Linux2.6_64.rpm
Content Pack for EMC DMX Performance Statistics	HPSOMOBR_EMCDMXPerf-<version_number>-Linux2.6_64.rpm
Content Pack for EMC VMAX Performance Statistics	HPSOMOBR_EMCVMAXPerf-<version_number>-Linux2.6_64.rpm
Content Pack for NetApp-C Mode Performance Statistics	HPSOMOBR_NetAppCPerf-<version_number>-Linux2.6_64.rpm
Content Pack for NetApp-7 Mode Performance Statistics	HPSOMOBR_NetApp7Perf-<version_number>-Linux2.6_64.rpm

The installer file for a SOM content pack comprises the following components that must be deployed on the SOM reporting server after installation:

- Domain
- Extraction, Transformation, Loading (ETL)
- Reporting

## Installing SOM Content Packs

To install a SOM content pack on the SOM reporting server, follow these steps:

1. Identify the `.rpm` installer file listed in the table above and copy it to a temporary directory.
2. Run the following command:

```
rpm -ivh <installer_file_name> --replacefiles
```

**For example,**

To install the HP Storage Operations Manager 10.10 content pack for Common, End-to-End Connectivity, Switches, Hosts, and Storage Systems, run the following command:

```
rpm -ivh -HPSOMOBR-10.10.001-Linux2.6_64.rpm --replacefiles
```

To install the HP Storage Operations Manager 10.10 content pack for HP 3PAR performance statistics, run the following command:

```
rpm -ivh HPSOMOBR_HP3PARPerf-10.10.001-Linux2.6_64.rpm --replacefiles
```

3. Deploy the individual components of the content pack as described in ["Deploying the Components of the SOM Content Packs"](#) on page 34

## Uninstalling SOM Content Packs

To uninstall a SOM content pack from the SOM reporting server, run the following command:

```
rpm -e <content_pack_name>-<version_number>-Linux2.6_64.rpm
```

**For example,**

To uninstall the HP Storage Operations Manager 10.10 content pack for Common, End-to-End Connectivity, Switches, Hosts, and Storage Systems, run the following command:

```
rpm -e HPSOMOBR-10.10.001-Linux2.6_64.rpm
```



To uninstall the HP Storage Operations Manager 10.10 content pack for HP 3PAR performance statistics, run the following command:

```
rpm -e HPSOMOBR_HP3PARPerf-10.10.001-Linux2.6_64.rpm
```

# Chapter 4: Deploying the Components of the SOM Content Packs

The Deployment Manager utility in the Administration console can be used to deploy the SOM Content Pack components such as Domain, ETL, and Reporting.

To deploy the components, follow these steps:

1. Launch the OBR Administration Console using the following URL:

`https://<OBR_Server_FQDN>:21412/BSMRApp`

2. Log on as an administrator.

- Type **administrator** in the **Login Name** field.
- Enter the password created in the [Launching the Administrator Console](#) task in *Chapter 2: Post-Installation Configuration of HPE Operations Bridge Reporter (OBR)*
- Click **Log in** to continue.

3. The Home page opens, in the left pane click **Administration** and select **Deployment Manager**. The Deployment Manager page displays the entire list of components that can be installed for SOM.

4. From the **Content Pack Component Name** column, select the check boxes of the Domain, the ETL, and the Reporting components for the specific Content Pack that you want to deploy.

For example, to deploy HP Storage Operations Manager Content Pack for HP EVA Performance Statistics, select the SOM\_EVAPerfDomain, the SOM\_EVAPerfETL, and the SOM\_

EVAPerfReporting components. The following screenshot illustrates the selection of the HP Storage Operations Manager Content Pack for HP EVA Performance Statistics components:

<input checked="" type="checkbox"/> Storage Operations Manager	<input checked="" type="checkbox"/> HP Storage Operations Manager	<input type="checkbox"/> SOM_EMCMAXPerfReporting
		<input checked="" type="checkbox"/> SOM_EVAPerfDomain
		<input checked="" type="checkbox"/> SOM_EVAPerfETL
		<input checked="" type="checkbox"/> SOM_EVAPerfReporting
		<input type="checkbox"/> SOM_HostDomain
		<input type="checkbox"/> SOM_HostETL
		<input type="checkbox"/> SOM_HostReporting

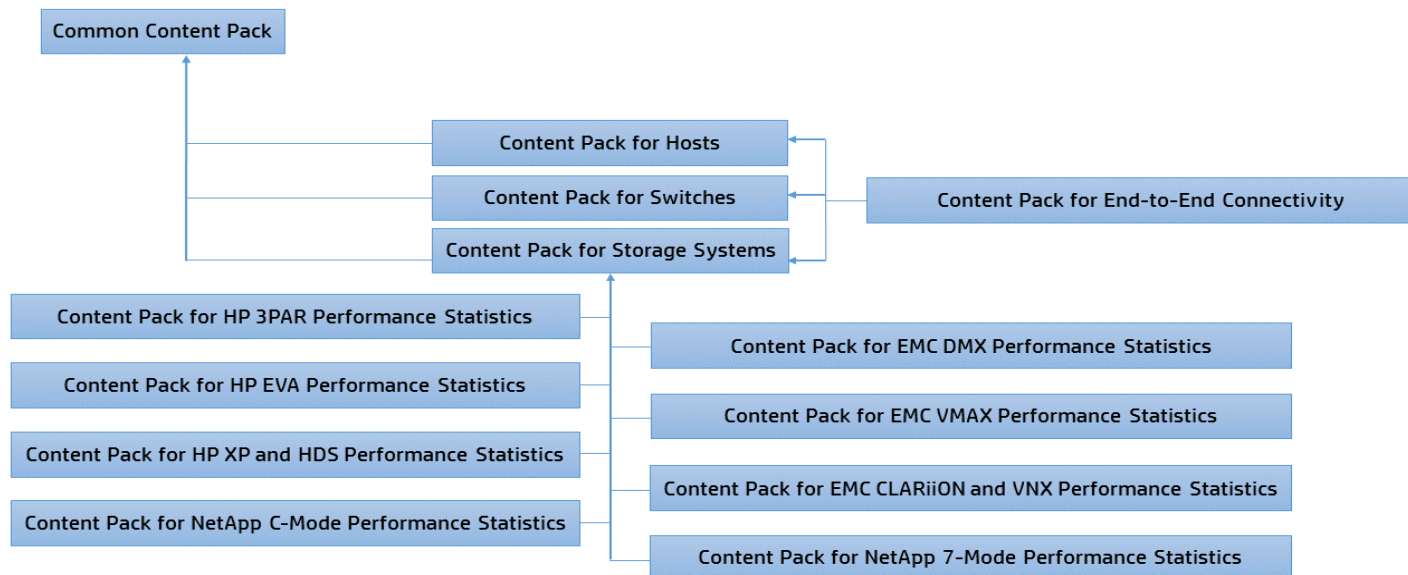
**Note:**

- When you select the components from the SOM Content Pack Component Name column, **Storage Operations Manager** and **HP Storage Operations Manager** are automatically selected from the Data Source Application and Content columns respectively.
- The Default Core Domain Content Pack is automatically selected and deployed the first time you deploy a SOM Content Pack.

5. Click the **Install/Upgrade** button to install the components. The **Status** column displays the progress of the installation. The Deployment Manager page refreshes automatically to display the updated status.


After the installation completes, the **Status** column displays the status as **Installation Successful** for each selected component of the SOM Content Pack.

The following figure illustrates the deployment dependencies of the HP Storage Operations Manager content packs:



## Removing the Components of the SOM Content Packs

To remove the components of the SOM Content Packs, follow this step:

- On the Deployment Manager page, click the  icon in the **Remove** column beside each component.

The **Status** column displays the progress of the uninstallation. The Deployment Manager page refreshes automatically to display the updated status.

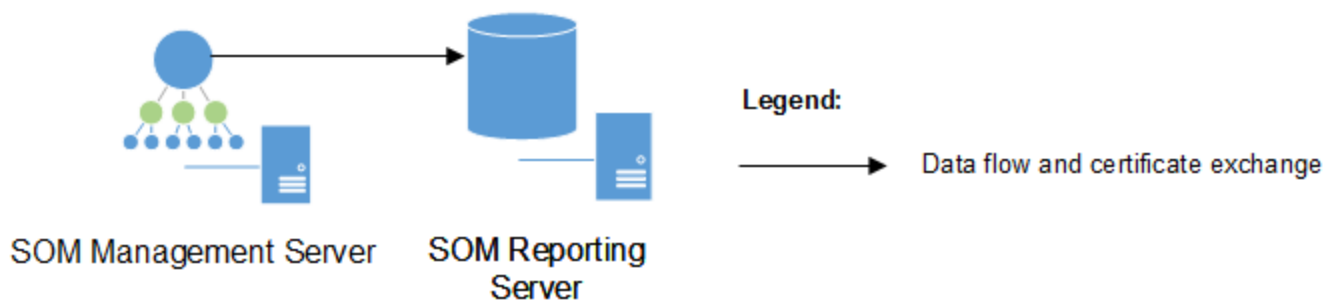
After the uninstallation completes, the **Status** column displays the status as **Uninstallation Successful** for each component of the Content Pack.

**Note:** Uninstalling the Storage System Content Pack removes the Connectivity Reporting Content Pack.

**Note:** Do not remove the SOM content pack RPMs without uninstalling the content pack.

# Chapter 5: Connecting the SOM Management Server and the SOM Reporting Server

The content in this chapter applies to the following architecture with the SOM reporting server as the certificate authority:



**Note:** If the HP Operations agent is or will be installed on the SOM management server, see ["Connecting the SOM Management Server, the SOM Reporting Server, and HPOM" on page 43.](#)

To connect an SOM management server with an SOM reporting server, complete all of the following tasks:

["Task 1: Connect the SOM Management Server to the SOM Reporting Server" on the next page](#)

["Task 2: Configure Data Transfer from the SOM Management Server to the SOM Reporting Server" on page 40](#)

["Task 3: Configure the SOM Reporting Server to Populate the Analytics Dashboards" on page 41](#)

# Task 1: Connect the SOM Management Server to the SOM Reporting Server

To configure the SOM management server to use the SOM reporting server as its certificate authority, follow these steps:

1. On the SOM management server, start the OVC service by running the following command:

- *Windows:* `%OvInstallDir%\bin\win64\ovc -start`
- *Linux:* `/opt/OV/bin/ovc -start`

2. On the SOM management server, delete any existing certificates and request a new certificate from the SOM reporting server by running the following command:

```
somdatatransfercertconfig.ovpl -certserver <OBR_server>
```

Replace `<OBR_server>` with the IP address or fully qualified domain name of the SOM reporting server.

3. On the SOM management server, copy the `somshrgrantcertrequest.ovpl` command from the following location to a known location on the SOM reporting server:

- *Windows:* `%OvInstallDir%\bin`
- *Linux:* `/opt/OV/bin`

4. On the SOM reporting server, set the execute permission for the copied files by running the following command:

```
chmod +x somshrgrantcertrequest.ovpl
```

5. From the known location on the SOM reporting server, grant a signed certificate to the requesting SOM management server by running the following command:

```
somshrgrantcertrequest.ovpl -reqserver <SOM_server>
```

Replace `<SOM_server>` with the IP address or fully qualified domain name of the SOM management server.

**Note:** Perl script runs by default.

## Task 2: Configure Data Transfer from the SOM Management Server to the SOM Reporting Server

To configure data transfer from the SOM management server to the SOM reporting server, follow these steps:

1. On the SOM management server, configure data transfer from the SOM management server to the SOM reporting server by running the following command:

```
somdatatransfercertconfig.ovpl -remoteserver <OBR_server> -  
remotefolder /opt/HP/BSM/PMDB/extract
```

Replace `<OBR_server>` with the IP address or fully qualified domain name of the local SOM reporting server.

`/opt/HP/BSM/PMDB/extract` is the location on the SOM reporting server that will receive the SOM data. This location is not configurable.

2. On the SOM reporting server, configure the SOM reporting server to use the SOM management server as a data source by running the following command (copied to the SOM reporting server in Task 1):

```
somshrgrantcertrequest.ovpl -datasource <SOM_server>
```



Replace `<SOM_server>` with the IP address or fully qualified domain name of the SOM management server.

**Note:** To send data from multiple SOM management servers to the reporting server, replace `<SOM_server>` with a whitespace separated list of SOM management servers. For example: `somshrgrantcertrequest.ovpl -datasource 10.226.151.10 10.226.153.10 10.226.153.25`

The value of the `-datasource` parameter overwrites the current OBR configuration. Always specify *all* SOM management servers that connect to this reporting server when running this command.

3. Verify data transfer from the SOM management server to the SOM reporting server.
  - a. On the SOM management server, send a test data file to all configured reporting servers by running the following command:

```
somdatatransfercertconfig.ovpl -testtransfer
```
  - b. On the SOM reporting server, change to the `/opt/HP/BSM/PMDB/extract` directory, and then verify that the `test_transfer_from_<SOM_server>.txt` file is present in the directory.

## Task 3: Configure the SOM Reporting Server to Populate the Analytics Dashboards

SOM analytics dashboards display information obtained from the SOM reporting server database.

To support the data gathering from OBR for the analytics dashboards:

- Port 5433 must be open on the SOM reporting server.
- SOM must be connected to the SOM reporting server database that processes the capacity utilization data exported from the SOM management server.

To configure the SOM Reporting Server to pull data for the analytics dashboard, run the following command:

```
somdatatransfercertconfig.ovpl -shfdbconfig <OBR_database_hostname>  
<OBR_database_port number> <OBR_database_username> <OBR_database_  
password>
```

Replace *<OBR\_database\_hostname>* with the IP address or fully qualified domain name of the database server used by the SOM reporting server.

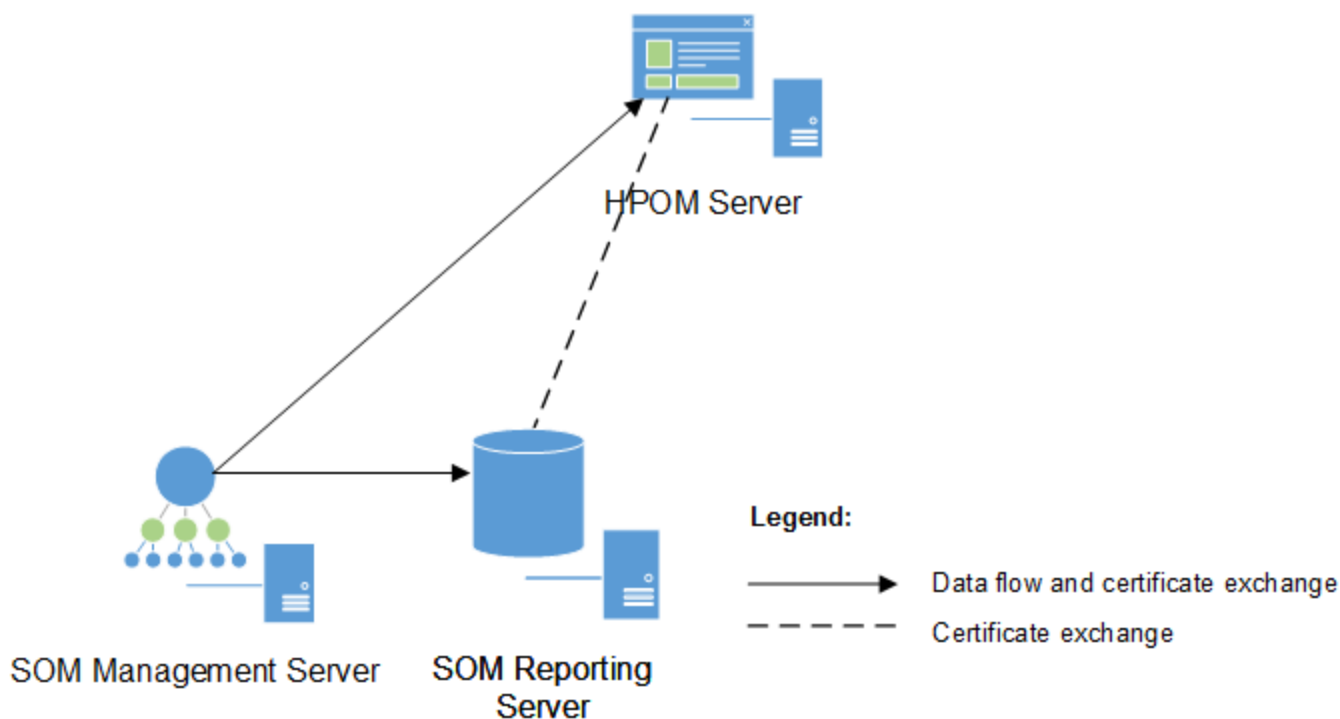
Replace *<OBR\_database\_port number>* with the port for connecting to the database used by the SOM reporting server. The default port number is 5433.

Replace *<OBR\_database\_username>* with the user name for accessing the database used by the SOM reporting server.

Replace *<OBR\_database\_password>* with the password for the specified user name as configured post installation of the SOM reporting server.

# Chapter 6: Connecting the SOM Management Server, the SOM Reporting Server, and HPOM

The content in this chapter applies to the following architecture with HPOM as the certificate authority:



**Note:** If the HP Operations agent is or will be installed on the SOM management server, read this section. The steps in this section take the place of those in "[Connecting the SOM Management Server and the SOM Reporting Server](#)" on page 38.

HPE Operations Bridge Reporter (OBR) and HP Operations Manager (HPOM) can each act as a certificate authority for SOM and the HP Operations agent. This section describes how to configure

the HPOM server to be the primary certificate authority for SOM, the HP Operations agent, and OBR (the SOM reporting server).

To connect an SOM management server with an SOM reporting server and an HPOM server, complete all of the following tasks:

["Task 1: Connect the SOM Management Server to the HPOM Server" below](#)

["Task 2: Connect the SOM Reporting Server to the HPOM Server" on the next page](#)

["Task 3: Configure Data Transfer from the SOM Management Server to the SOM Reporting Server" on page 47](#)

["Task 4: Configure the SOM Reporting Server to Populate the Analytics Dashboards" on page 48](#)

## Task 1: Connect the SOM Management Server to the HPOM Server

To configure the SOM management server to use the HPOM server as its certificate authority, follow these steps:

1. On the SOM management server, install the HP Operations agent.

The certificate request from the HP Operations agent does not automatically reach the HPOM server.

2. On the SOM management server, delete any existing certificates configured on the SOM management server and request a new certificate by running the following command:

```
somdatatransfercertconfig.ovpl -certserver <HPOM_server>
```

Replace *<HPOM\_server>* with the IP address or fully qualified domain name of the HPOM server.

3. On the HPOM server, grant the certificate request.
4. Activate the HP Operations agent against the HPOM server.
5. On the HPOM server, add the SOM management server node, and then accept its certificate request.
6. To verify communication from the HPOM server to the SOM management server, send a test message from the HP Operations agent.

For example:

```
opcmsg s=critical o=test msg_g=OpC a=test msg_t="test"
```

## Task 2: Connect the SOM Reporting Server to the HPOM Server

To configure the SOM reporting server to use the HPOM server as its certificate authority, follow these steps:

1. On the SOM reporting server, install the HP Operations agent.

The certificate request from the HP Operations agent does not automatically reach the HPOM server.

2. On the SOM management server, copy the `somshrgrantcertrequest.ovpl` command from the following location to a known location:

- **Windows:** %OvInstallDir%\bin

- **Linux:** /opt/OV/bin

on the SOM reporting server.

3. From the known location on the SOM reporting server, delete any existing certificates configured on the SOM reporting server and request a new certificate by running the following command:

```
somshrgrantcertrequest.ovpl -certserver <HPOM_server>
```

Replace *<HPOM\_server>* with the IP address or fully qualified domain name of the HPOM server.

4. On the HPOM server, grant the certificate request.
5. Activate the HP Operations agent against the HPOM server.
6. On the HPOM server, add the SOM reporting server node, and then accept its certificate request.
7. To verify communication from the HPOM server to the SOM reporting server, send a test message from the HP Operations agent.

For example:

```
opcmsg s=critical o=test msg_g=OpC a=test msg_t="test"
```

## Task 3: Configure Data Transfer from the SOM Management Server to the SOM Reporting Server

To configure data transfer from the SOM management server to the SOM reporting server, follow these steps:

1. On the SOM management server, start the OVC service by running the following command:

- **Windows:** `%OvInstallDir%\bin\win64\ovc -start`
- **Linux:** `/opt/OV/bin/ovc -start`

2. On the SOM management server, configure data transfer from the SOM management server to the SOM reporting server by running the following command:

```
somdatatransfercertconfig.ovpl -remoteserver <OBR_server> -  
remotefolder /opt/HP/BSM/PMDB/extract
```

Replace `<OBR_server>` with the IP address or fully qualified domain name of the local SOM reporting server.

`/opt/HP/BSM/PMDB/extract` is the location on the SOM reporting server that will receive the SOM data. This location is not configurable.

3. On the SOM reporting server, configure the SOM reporting server to use the SOM management server as a data source by running the following command (copied to the SOM reporting server in Task 2):

```
somshrgrantcertrequest.ovpl -datasource <SOM_server>
```

Replace `<SOM_server>` with the IP address or fully qualified domain name of the SOM management server.

**Note:** To send data from multiple SOM management servers to the reporting server, replace `<SOM_server>` with a whitespace separated list of SOM management servers. For example: `somshrgrantcertrequest.ovpl -datasource 10.226.151.10 10.226.153.10 10.226.153.25`

The value of the `-datasource` parameter overwrites the current OBR configuration. Always specify *all* SOM management servers that connect to this reporting server when running this command.

4. Verify data transfer from the SOM management server to the SOM reporting server.
  - a. On the SOM management server, send a test data file to all configured reporting servers by running the following command:

```
somdatatransfercertconfig.ovpl -testtransfer
```
  - b. On the SOM reporting server, change to the `/opt/HP/BSM/PMDB/extract` directory, and then verify that the `test_transfer_from_<SOM_server>.txt` file is present in the directory.

## Task 4: Configure the SOM Reporting Server to Populate the Analytics Dashboards

SOM analytics dashboards display information obtained from the SOM Reporting Server database.

To support the data gathering from OBR for the analytics dashboards:

- Port 5433 must be open on the SOM reporting server.
- SOM must be connected to the SOM reporting server database that processes the capacity utilization data exported from the SOM management server.



To configure the SOM Reporting Server to pull data for the analytics dashboard, run the following command:

```
somdatatransfercertconfig.ovpl -shfdbconfig <OBR_database_hostname>  
<OBR_database_port number> <OBR_database_username> <OBR_database_  
password>
```

Replace *<OBR\_database\_hostname>* with the IP address or fully qualified domain name of the database server used by the SOM reporting server.

Replace *<OBR\_database\_port number>* with the port for connecting to the database used by the SOM reporting server. The default port number is 5433.

Replace *<OBR\_database\_username>* with the user name for accessing the database used by the SOM reporting server.

Replace *<OBR\_database\_password>* with the password for the specified user name as configured post installation of the SOM reporting server.

## Chapter 7: Verifying Data Collection

You can check the status of a stream for a component of the Content Pack in the Administration console to verify if data collection is successful.

To verify data collection, follow these steps:

1. Launch the OBR Administration Console by using the following URL:

```
https://<OBR_Server_FQDN>:21412/BSMRApp
```

2. Log on as an administrator,

- Type **administrator** in the **Login Name** field.
- Enter the password created in the [Launching the Administrator Console](#) task in *Chapter 2: Post-Installation Configuration of HPE Operations Bridge Reporter (OBR)*
- Click **Log in** to continue.

3. In the left pane, click **Internal Monitoring > Data Process Status**. The Data Process Status page appears in the right pane.

For the installed Content Packs, all SOM workflow streams must either be running or completed successfully, but not in the waiting state.

You can click the number in the **Number of Streams** column for a component of the Content Pack to display the status of the individual workflow streams that are running for the selected component.

**Note:** SOM workflow stream names have SOM as a prefix in the name. For example, `SOM_StorageSystemDomain@NASShare`

If data collection is successful, the **Step Status** column displays **SUCCESS** as the status for each stream.

## Data Process Status

Data Process Status						
					Stream Details	Historical Stream Overview
Content Pack Component name	Number of Streams	Stream Status Details				
		OK	Warning	Error	Total	
PMDB_Platform	8	8	0	0	8	
Core_Domain	1	1	0	0	1	
SOM_ConnectivityDomain	4	4	0	0	4	
SOM_StorageSystemDomain	23	23	0	0	23	
SOM_StorageSystemETL	23	23	0	0	23	
SOM_ConnectivityETL	3	3	0	0	3	

Stream Detail for Content Pack Component : SOM_StorageSystemDomain			
Stream Name	Step Status(Completed/Total)	Step Status	Start Time
SOM_StorageSystemDomain@StorageSystemCapacityFact	4/4	SUCCESS	01-Dec-2015 09:44:31
SOM_StorageSystemDomain@NASSystemNodeCapacityFact	3/3	SUCCESS	01-Dec-2015 09:41:12
SOM_StorageSystemDomain@NASShare	2/2	SUCCESS	01-Dec-2015 09:41:20
SOM_StorageSystemDomain@StoragePort	2/2	SUCCESS	01-Dec-2015 09:43:12
SOM_StorageSystemDomain@NASProcessor	2/2	SUCCESS	01-Dec-2015 09:41:21
SOM_StorageSystemDomain@NASLogicalVolumeCapacityFact	3/3	SUCCESS	01-Dec-2015 09:41:30

For more information about troubleshooting problems related to data collection, see the *Troubleshooting Data Collection Problems* chapter in the *HPE Operations Bridge Reporter Troubleshooting Guide*.

## Chapter 8: Generating CSV Files for Elements Discovered by SOM

As part of element data collection, SOM generates CSV files that contain data about discovered elements. You can manually generate CSV files for elements that are discovered before configuring the data transfer from the SOM management server to the SOM reporting server.

To manually generate and export the csv files to the SOM reporting server, run the following command:

```
sominventorydataexportondemand.ovpl -category <category>
```

Where *<category>* refers to the type of discovered element. Following are the categories of element types:

- Host: exports all host instances and their sub-components.
- Switch: exports all switch instances and their sub-components.
- StorageSystem: exports all storage system instances and their sub-components.
- Fabric: exports all fabric instances and their sub-components.
- Inferredhost: exports all inferred and created hosts instances, and their sub-components.

For more information about the `sominventorydataexportondemand.ovpl -category <category>`, see the *HP Storage Operations Manager CLI Reference Page*.

# Chapter 9: Running and Designing Reports

The SOM content packs provide detailed reports of current and historical information about hosts, storage systems, switches, and connectivity in the storage network. SOM also provides content packs for reporting on the performance of various storage devices.

## Access the Standard Reports

You can access the standard reports by launching the HPE OBR Launch pad. To launch the OBR Launch pad, follow these steps:

1. Go to **<https://<machine-name>:8443/BOE/BI>**

The Launch pad login page opens.

2. Enter user credentials Type **administrator** in **User Name** and click **Log On** to continue.

The Home page opens.

3. Click **Document**.
4. Click **Folders**.
5. Expand **Public Folders > Storage Operations Manager**.
6. Select the category for which you wish to generate reports.

The list of reports is displayed in the right pane.

7. Double-click on any report in the list of reports.

The reports opens in the new tab.

To view a help for a report, click the  icon on the report.

## Standard Reports

The SOM Content Packs for connectivity, switches, hosts, and storage systems include standard reports as listed in this section.

### **HP Storage Operations Manager Content Pack for End-to-End Connectivity**

- Host Connectivity
- Host Volume Dependency
- Presented Storage Summary
- NAS Dependency

For more information about the reports of HP Storage Operations Manager Content Pack for End-to-End Connectivity, see *Reports Delivered in the HP Storage Operations Manager Content Pack for End-to-End Connectivity* in HPE Operations Bridge Reporter Online Help for Users.

### **HP Storage Operations Manager Content Pack for Switches**

- Switch Port Input and Output Performance
- Virtual Switch Port Utilization

For more information about the reports of HP Storage Operations Manager Content Pack for Switches, see *Reports Delivered in the HP Storage Operations Manager Content Pack for Switches* in HPE Operations Bridge Reporter Online Help for Users.

### **HP Storage Operations Manager Content Pack for Hosts**

- Host Capacity Utilization
- Host CPU and Memory Utilization
- Host Multipathing
- Host Reclamation Capacity
- Host Volume Manager Volumes

For more information about the reports of HP Storage Operations Manager Content Pack for Hosts, see *Reports Delivered in the HP Storage Operations Manager Content Pack for Hosts* in HPE Operations Bridge Reporter Online Help for Users.

### **HP Storage Operations Manager Content Pack for Storage Systems**

- Block System Capacity
- Block System Pool Capacity
- File System Capacity
- Storage System Historical and Forecasted Capacity
- Thin Volumes Capacity
- Top 25 Thin Volumes

For more information about the reports of HP Storage Operations Manager Content Pack for Storage Systems, see *Reports Delivered in the HP Storage Operations Manager Content Pack for Storage Systems* in HPE Operations Bridge Reporter Online Help for Users.

### **HP Storage Operations Manager Content Pack for HP XP and HDS Performance Statistics**

- Array Group Performance Graphs
- Array Group Performance Table

- Processor Performance Graphs
- Processor Performance Table

For more information about the reports of HP Storage Operations Manager Content Pack for HP XP and HDS Performance Statistics, see *Reports Delivered in the HP Storage Operations Manager Content Pack for HP XP and HDS Performance Statistics* in HPE Operations Bridge Reporter Online Help for Users.

## Customized Reports

The generic information about the content packs for HP Storage Operations Manager are as follows:

- **DATETIME:** Consists of objects related to date, time, month, year, and so on. You can drill down to year > quarter > month > day and vice versa. Drill down option is available for the following content packs:
  - HP Storage Operations Manager Content Pack for End-to-End Connectivity
  - HP Storage Operations Manager Content Pack for Switches
  - HP Storage Operations Manager Content Pack for Hosts
  - HP Storage Operations Manager Content Pack for Storage Systems
- **Raw:** Consists of the metrics collected by HP Storage Operations Manager.
- **Hourly:** Consists of the same metrics aggregated from Raw. It has different types of aggregation such as maximum, minimum, average, and sum.
- **Daily:** Consists of the same metrics aggregated from Hourly. It has different types of aggregation such as maximum, minimum, average, and sum.
- **Hourly OLAP:** Consists of the same data as Hourly but aggregations are faster generating quicker



reports due to online analytical processing.

- **Daily OLAP:** Consists of the same data as Daily but aggregations are faster generating quicker reports due to online analytical processing.

Raw data that is collected from SOM is rolled up and displayed in the hourly and daily tables. The hourly and daily data is rolled up into pre-aggregated hourly and daily OLAP tables.

You can generate the custom reports for the reporting universe by launching the HPE OBR Launch pad. To launch the OBR Launch pad, follow these steps:

1. Go to **http://<machine-name>:8443/BOE/BI**

The Launch pad login page opens.

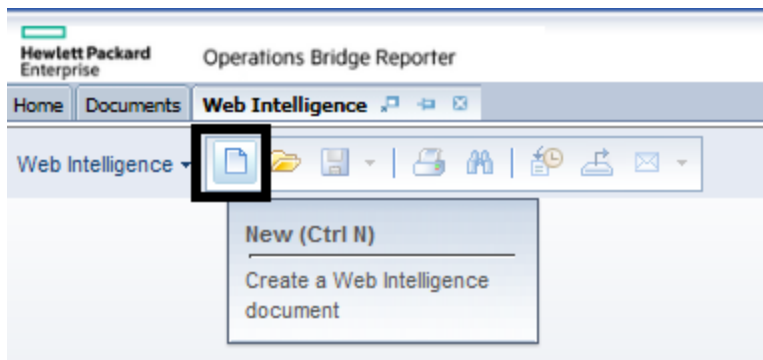
2. Type **administrator** in **User Name** and click **Log On** to continue.

The Home page opens.

3. On the home page, click the  **Web Intelligence** icon in **My Application** panel.

The Web Intelligence page opens.

4. Click the **New** icon on the Web Intelligence page.



The Create a Document window opens.

5. Select **Universe** and then, click **OK**.

The Universe page opens.

6. Select any SOM reporting universe from the list, and then click **Select**.

The New Web Intelligence Document window opens. The data tab shows the objects – dimensions and measures – available in each object of the selected universe.

For more information, see the *Universe Reference* documents for SOM content packs available at the following location on SOM reporting server:

**\$PMDB\_HOME/Documentation/SOM**

# Chapter 10: Remove a Configured SOM Reporting Server from the SOM Management Server

The SOM management server transfers data to all configured SOM reporting server. To quit sending data from the SOM management server to any decommissioned SOM reporting server, remove that SOM reporting server from the SOM management server.

To remove a configured SOM reporting server from the SOM management server, run the following command on the SOM management server:

```
somdatatransfercertconfig.ovpl -removeremoteserver OBR_server
```

Replace `<OBR_server>` with the IP address or fully qualified domain name of the SOM reporting server.

The above command does not remove the existing data from the SOM reporting server, it stops sending any new data to it.

# Chapter 11: Known Issues

- NAS Dependency Report shows incorrect data.
- Custom reports for SOM content packs show multiple value errors for reports.

**Workaround:** In **Display** of table properties, select the **Yes** check-box for **Avoid duplicate row aggregation**.

- Standard reports for SOM content packs show both local and external unused storage disks.
- Standard reports for SOM content packs show same element repeatedly with different UUIDs when an element is discovered, data is collected to SOM reporting server; and then the same element is deleted and rediscovered.
- Standard reports for SOM content packs show random period range when **Use Custom Range** option is selected for **Select Date Range** prompt.

**Workaround:** At the **Select Date Range** prompt, if you choose **Use Custom Range** option, provide the **Enter Start Date** and **Enter Stop Date** values to customize the period range of your report.

- Standard reports for SOM content packs show a breakage in the line graph if there are null values for any metric.
- Standard reports for SOM content packs do not show performance or capacity data for elements where data collection has not happened or is not possible.
- In the standard reports for SOM content packs, the Top 25 Thin Volumes report of HP Storage Operations Manager Content Pack for Storage Systems is not showing 25 unique thin volumes.
- Switch Port input and output performance report shows some random report period range when the **Use Custom Range** option is selected for Date Range.

- Drill-down reports cannot be viewed in PDF format.
- In some of the OBR Web reports, the coordinates of the Y-axis get repeated.
- OBR shows multiple records of an element that is managed in multiple CMS with a custom name set in one CMS. To override viewing duplicate data, set a common custom name (Properties page) to the element in all the CMS where the element is managed.
- In the SOM Host Reporting Universe, the OLAP statistics consider all the volumes of a Host. The custom report that is generated sums up individual volume capacities and hence displays incorrect OLAP statistics for Hosts with ZFS volumes. You can refer to the standard report and exclude the ZFS volumes at the host or CMS level.
- In the SOM Host Reporting Universe, the Host Capacity Report, does not display capacity details of host clusters that do not have OS details.
- In the SOM Host Reporting Universe, the Host capacity list of objects address the file systems only and hence data for raw volumes is not shown.
- The standard report for Switch Port Utilization might not load in HTML view if you are using Firefox. If you encounter this problem, you can view the page using a different web browser.
- On importing the BIAR files, the custom reports for SOM content packs show an error message that some objects are missing in the universe.

**Workaround:** Go to **Data Access** tab and click **Edit**; the Query Panel opens. Remove all the objects from the query panel and add the same objects back to the query.

- OBR inserts '0' as a default record in each table in the standard or custom reports for any SOM content packs. Users can ignore this if it listed as a part of prompts.
- To view the relationship between the parent and child incidents in custom reports for SOM content packs, select all the child events from the **Supplemental** folder along with Correlation Nature, Correlated Children UUID, and Correlated Parents UUID.

- In SOM Host Multipathing report, the values for the all filters are displayed as 0.

**Workaround Note:** Click **Refresh List** to populate values in the filters.

- OBR displays the following error when you execute a custom or a standard report for SOM content packs:

```
An internal error occurred while calling getsessioninfosEX API.
```

**Workaround Note:** This is an issue specific to BO. Log off and then log on again to BI Launch Pad or restart the BO services to resolve this issue.

- In the SOM Host Reporting Universe, the Host disk drive custom report, does not show any data when the disk drive name with the following pattern is applied as a filter:

```
\\.\PHYSICALDRIVE0
```

**Workaround Note:** This issue is because the BO eliminates the `\\` string in the disk drive name applied in filter. Do not use **equal to** or **Inlist** condition, use **Match Pattern** condition in Query filters.

- In standard or custom reports for SOM content packs, OBR displays information for the columns where you can drill down/up or use reset dependencies string only in English (it is not locale-specific).
- In standard or custom reports for SOM content packs, OBR displays the date/time on X-axis only in English only (it is not locale-specific).
- In the SOM Storage System Universe, the Block Pool Capacity Statistics report, displays an additional pool for storage devices. All extra pools shown in the reports are primordial pools. However, users can filter the pools to meet their requirements.
- When multiple SOM servers are integrated to a single OBR, the reports might display the same element for multiple SOM servers. This could result in an incorrect aggregated capacity in the

report.

**Workaround Note:** In the report, include the SOM server name and the element UUID, so that the report displays the values collected by each SOM server.

OR

Delete the element from one of the SOM server.

- If the node group object is used while creating reports in the HP Storage Operations Manager Content Pack for NetApp C-Mode Performance Statistics reporting universe, OBR does not display the File Logical Volume details for nodes and vservers.
- In the custom reports for SOM content packs, the OBR displays the shares of vfilers as the shares of the Physical node.

Example: If a physical node has two vfilers, the OBR displays the shares of both the physical node and vfilers in the physical node shares.

- Users are unable to generate the reports when the `Server Memory Full` pop-up message appears while generating the reports in OBR.

**Workaround Note:** Increase the default memory settings on BO.

- Unable to launch the OBR BO.

**Workaround Note:** Users cannot launch the OBR BO when the tomcat service is not running. Start the tomcat service, and then launch the OBR BO.

- OBR installation in GUI mode is not supported.

# We appreciate your feedback!

If you have comments about this document, you can [contact the documentation team](#) by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

**Feedback on Storage Resource Management Reports Guide, February 2016 (Storage Operations Manager 10.10)**

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to [storage-management-doc-feedback@hpe.com](mailto:storage-management-doc-feedback@hpe.com).