

HP Service Health Reporter

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Windows[®] and Linux operating systems

Oracle Content Pack Reference

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About This Document

This document provides an overview of SHR and Oracle Content Pack. This document provides the list of Oracle reports available with the Oracle Content Pack. The document also lists the prerequisite aspects and policies required for Service Health Reporter (SHR) to integrate with HP Operations Smart Plug-ins (SPIs) and HP OMi Management Packs.

This document helps you to deploy the topology views and install and configure the data source for the Oracle Content Pack. It provides information on report navigation, metric mapping for report and calculate instance availability.

Getting Started

This section provides SHR overview, deployment scenarios, and types of reports.

Service Health Reporter (SHR) Overview

SHR is a cross-domain historical infrastructure performance reporting solution. It displays top-down reports from Business Service Management (BSM) Business Service and Business Application, HP Operations Manager (HPOM) Node Group or HP OMi10 perspective to the underlying infrastructure. It also displays bottoms-up reports from the infrastructure to the impacted Business Services and Business Applications or Node Groups. It leverages the topology information to show how the underlying infrastructure health, performance and availability affects your Business Services and Business Applications or Node Groups in the long term. You can navigate from higher level crossdomain reports to detailed domain level reports.

Deployment Scenarios

Following are the deployment scenarios supported on SHR:

- **Deployment with BSM/OMi** - In this deployment, Run-time Service Model (RTSM) is the source of topology information. SHR discovers and synchronizes topology information from OMi. In a BSM environment with underlying HPOM servers, this synchronization technique receives discovered topology data from multiple HPOM systems and updates the Configuration Items (CIs) and CI relationships in the RTSM as soon as changes are discovered. However, you can also use the HPOM D-MoM dynamic topology synchronization technique to discover and synchronize the topology information in RTSM. In an environment with OMi 10.00, SHR uses RTSM to obtain topology information and metrics from HP Operations Agent or HP SiteScope systems that are configured with OMi.
- **Deployment with HP Operations Manager** - In this deployment, the topology information is a group of managed nodes defined in HPOM that are logically combined for operational monitoring. These logical node groups are created by HPOM users to classify the nodes as specific organizations or entities within their enterprise. For example, a group called Exchange Servers can be created in HPOM to organize the specific Exchange Servers and Active Directory nodes for reporting or monitoring purposes. SHR uses the node groups from HPOM for its topology computation.
- **Deployment with VMware vCenter** - VMware vCenter is a distributed server-client software solution that provides a central and a flexible platform for managing the virtual infrastructure in business-critical enterprise systems. VMware vCenter centrally monitors performance and events, and provides an enhanced level of visibility of the virtual environment, thus helping IT administrators to control the environment with ease.
- **Other deployments** - Apart from the basic deployment scenarios, you can collect data from the following sources independently:

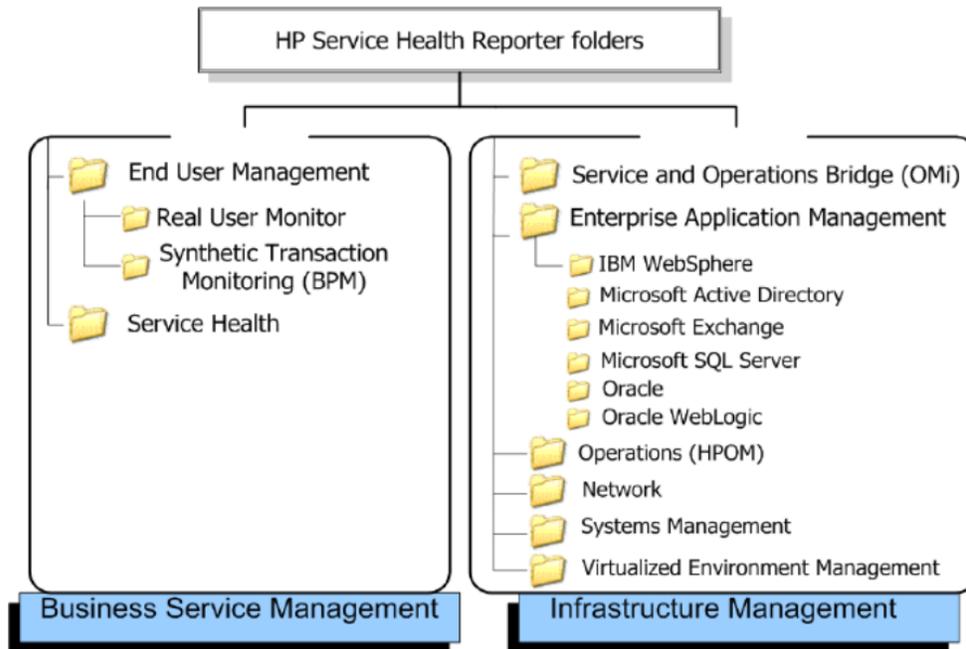
- Deployment with NNMi
- Deployment with a generic database
- Deployment with other applications using CSV

Types of Reports

The reports available in HP Service Health Reporter (SHR) are divided into two broad categories:

- Business Service Management
- Infrastructure Management

The following image shows the supported list of reports folders under both these categories:



To view a map of all the reports available in the Oracle Content Pack, see [Report Navigation](#).

For more information on HP Service Health Reporter concepts, see *HP Service Health Reporter Concepts Guide* and *HP Service Health Reporter Content Development Guide*.

Oracle Content Pack Overview

This section provides an overview of Oracle Content Pack, target audience, and supported data sources.

The Oracle Content Packs determine the fact data that are to be collected from the various data sources, and the interval at which the data is collected. Configuration of the data source connections for the Oracle Content Packs depends on the type of deployment scenario used.

Target Audience

Target audience for Oracle reports are Operations Center Managers and Database Administrators, who help to setup and maintain the database systems in the IT infrastructure. Oracle reports help to identify and analyze the best and worst performing database instances, in a specific period, based on availability, space usage, and I/O metrics. These instances and metrics help users to optimize the database parameters and appropriately allocate or merge resources to the applications.

Data Sources for Oracle Data

SHR integrates and collects historical and ongoing database performance metrics from the HP Operations Smart Plug-In and HP OMi Management Pack for Oracle data stores in BSM Run-time Service Model (RTSM) and HPOM deployment scenarios.

The Oracle Content Pack identifies the list of metrics or facts that SHR must collect from each of these data sources. The corresponding dimension data is collected from the RTSM or HPOM topology source, depending on SHR deployment scenario.

SHR collects data from different data sources at periodic intervals based on the collection policies predefined in the **Oracle_ETL_DBSPI Content Pack**. From each data source, summarized fact data is collected at a 5-minute interval. This fact data is called rate data and is stored in the database in rate tables as individual records. For a 60-minute interval, there are 12 records in the tables. SHR aggregates these records and converts the data to hourly and daily data. This aggregated data is displayed in the reports along with monthly and yearly aggregates that are derived by online aggregation.

Integrating with Data Sources for HP Operations Smart Plug-ins

To show reports on the data collected from Oracle, SHR relies on the metrics collected by collectors of HP Operations Smart Plug-ins for Oracle (Oracle SPI). SPI collectors store the data into the data store provided by the HP Operations agent. SHR's integration with SPI data sources facilitate transfer of data from HP Operations agent's data store to SHR's database. This integration is established when you deploy SHR in the HPOM deployment scenario.

SHR provides performance reports for the Oracle Database enterprise application.

Working of the Integration

1. Installation and configuration of the SPI ensures that necessary instrumentation, scripts, programs, and policies are transferred to a node where the application is running and the HP Operations agent is already installed.

Tip: For successful installation and configuration of the Oracle SPI, see the SPI documentation.

2. SPI collectors start collecting data on the node based on rules and specifications available with the policies deployed on the node.
3. SPI stores the collected data into HP Operations agent's data store. The SPI creates at least one *data source* in agent's data store.
4. After configuring SHR to collect data from a data source and installing Oracle, SHR starts collecting historical data from agent's data store.

Prerequisite Policies for Oracle Database Reports

The following table lists the Oracle Database SPI policies required by each Oracle Database report.

Note: Policy Configuration Requirement is not required; deploy the policy with default settings.

Report Name	Data Source	Data Class	SPI Policy
Database Oracle Executive Summary	DBSPI_ ORA_ REPORT	DBSPI_ ORA_ REPORT	<ul style="list-style-type: none"> • Scheduled task policy <ul style="list-style-type: none"> ■ DBSPI-Ora-05min-Reporter (for UNIX/Linux nodes) ■ DBSPI-Ora-05min-Reporter-NT (for Windows nodes) • Measurement threshold Policy <ul style="list-style-type: none"> ■ E201_InstUptime

Report Name	Data Source	Data Class	SPI Policy
Database Oracle Top 10 Instances and Tablespaces	DBSPI_ ORA_ REPORT	DBSPI_ ORA_ REPORT	<ul style="list-style-type: none"> • Scheduled task policy <ul style="list-style-type: none"> ■ DBSPI-Ora-05min-Reporter (for UNIX/Linux nodes) ■ DBSPI-Ora-1d-Reporter (for UNIX/Linux nodes) ■ DBSPI-Ora-05min-Reporter-NT (for Windows nodes) ■ DBSPI-Ora-1d-Reporter-NT (for Windows nodes) • Measurement threshold Policy <ul style="list-style-type: none"> ■ E201_InstUptime ■ E210_TblSpCSize ■ E212_Inst Size

Report Name	Data Source	Data Class	SPI Policy
Database Oracle Top 5 Instances Load and Efficiency	DBSPI_ORA_GRAPH	DBSPI_ORA_GRAPH	<ul style="list-style-type: none"> • Scheduled task policy <ul style="list-style-type: none"> ■ DBSPI-Ora-05min-Favorites ■ DBSPI-Ora-Add-Ons-05min ■ DBSPI-Ora-05min-SQLNet ■ DBSPI-Ora-1h-Favorites ■ DBSPI-Ora-1h-SQLNet ■ DBSPI-Ora-05min-Favorites • Measurement threshold Policy <ul style="list-style-type: none"> ■ E021_BufferBusyPct ■ E022_TotBufCacHitPct ■ E039_LibCacGetHitPct ■ E032_REDOLGSPCREQCNT ■ E019_SortDiskRate ■ E020_SortMemoryPct ■ E037_UserLogonCnt ■ E049_USERCALLRATE

Report Name	Data Source	Data Class	SPI Policy
Database Oracle Archive Device Detail	DBSPI_ ORA_ GRAPH	DBSPI_ ORA_ GRAPH	<ul style="list-style-type: none"> • Scheduled task policy <ul style="list-style-type: none"> ■ DBSPI-Ora-15min-Favorites ■ DBSPI-Ora-05min-Favorites ■ DBSPI-Ora-05min-SQLNet ■ DBSPI-Ora-Add-Ons-15min ■ DBSPI-Ora-1h-SQLNet ■ DBSPI-Ora-Add-Ons-15min-NT (for Windows nodes) • Measurement threshold Policy <ul style="list-style-type: none"> ■ E058_ArchvFreeSpcPct ■ E060_RedoUnarchvdCnt ■ E062_BkgrDumpSpcePct ■ E063_TraceFileAddCnt ■ E064_UserDumpSpacPct ■ E065_CoreDumpSpacPct

Report Name	Data Source	Data Class	SPI Policy
Database Oracle Disk And Memory Sort Detail	DBSPI_ORA_GRAPH	DBSPI_ORA_GRAPH	<ul style="list-style-type: none"> • Scheduled task policy <ul style="list-style-type: none"> ■ DDBSPI-Ora-1h-Favorites ■ DBSPI-Ora-1h-SQLNet ■ DBSPI-Ora-Add-Ons-05min ■ DBSPI-Ora-05min-SQLNet ■ DBSPI-Ora-Add-Ons-1h ■ DBSPI-Ora-1h-SQLNet ■ DBSPI-Ora-Add-Ons-1h-NT • Measurement threshold Policy <ul style="list-style-type: none"> ■ E019_SortDiskRate ■ E020_SortMemoryPct ■ E052_SortTotalRate
Database Oracle Instance Availability Detail	DBSPI_ORA_REPORT	DBSPI_ORA_REPORT	<ul style="list-style-type: none"> • Scheduled task policy <ul style="list-style-type: none"> ■ DBSPI-Ora-05min-Reporter (for UNIX/Linux nodes) ■ DBSPI-Ora-05min-Reporter-NT (for Windows nodes) • Measurement threshold Policy <ul style="list-style-type: none"> ■ E201_InstUptime

Report Name	Data Source	Data Class	SPI Policy
Database Oracle Instance Space Utilization Detail	DBSPI_ORA_REPORT	DBSPI_ORA_REPORT	<ul style="list-style-type: none"> • Scheduled task policy <ul style="list-style-type: none"> ■ DBSPI-Ora-1d-Reporter (for UNIX/Linux nodes) ■ DBSPI-Ora-1d-Reporter-NT (for Windows nodes) • Measurement threshold Policy <ul style="list-style-type: none"> ■ E212_Inst Size
Database Oracle Segment Detail	DBSPI_ORA_GRAPH	DBSPI_ORA_GRAPH	<ul style="list-style-type: none"> • Scheduled task policy <ul style="list-style-type: none"> ■ DBSPI-Ora-15min-SQLNet ■ DBSPI-Ora-15min-Favorites ■ DBSPI-Ora-05min-Favorites ■ DBSPI-Ora-05min-SQLNet • Measurement threshold Policy <ul style="list-style-type: none"> ■ E016_SegmntExtendCnt ■ E017_SegMaxExtentCnt ■ E018_SegExtRapidCnt ■ E067_RBSEgmntStatCnt

Report Name	Data Source	Data Class	SPI Policy
Database Oracle Shared Pool and Cache Performance Detail	DBSPI_ ORA_ GRAPH	DBSPI_ ORA_ GRAPH	<ul style="list-style-type: none"> • Scheduled task policy <ul style="list-style-type: none"> ■ DBSPI-Ora-05min-Favorites ■ DBSPI-Ora-Add-Ons-05min ■ DBSPI-Ora-05min-SQLNet ■ DBSPI-Ora-Add-Ons-05min-NT ■ DBSPI-Ora-05min-SQLNet • Measurement threshold Policy <ul style="list-style-type: none"> ■ E021_BufferBusyPct ■ E022_TotBufCacHitPct ■ E039_LibCacGetHitPct ■ E026_DictCacheHitPct ■ E040_LibCacPinHitPct ■ E045_ShrdPoolFreePct

Report Name	Data Source	Data Class	SPI Policy
Database Oracle SQL Performance Detail	DBSPI_ORA_GRAPH	DBSPI_ORA_GRAPH	<ul style="list-style-type: none"> • Scheduled task policy <ul style="list-style-type: none"> ■ DBSPI-Ora-05min-Favorites ■ DBSPI-Ora-05min-SQLNet ■ DBSPI-Ora-Add-Ons-1h-NT ■ DBSPI-Ora-1h-SQLNet ■ DBSPI-0070 ■ DBSPI-0071 ■ DBSPI-0074 ■ DBSPI-0076 • Measurement threshold Policy <ul style="list-style-type: none"> ■ E030_FulLgTblScnRate ■ E046_RowFetcByIdxPct ■ E070_PQServrsBusyPct ■ E071_PQSrvHighwtrPct ■ E074_PQQueryRate ■ E076_PQRangeScanPct

Report Name	Data Source	Data Class	SPI Policy
Database Oracle Tablespace Detail	DBSPI_ ORA_ GRAPH	DBSPI_ ORA_ GRAPH	<ul style="list-style-type: none"> • Scheduled task policy <ul style="list-style-type: none"> ■ DBSPI-Ora-05min-Favorites ■ DBSPI-Ora-05min-SQLNet ■ DBSPI-0006 ■ DBSPI-Ora-1h-Favorites ■ DBSPI-Ora-Add-Ons-05min ■ DBSPI-Ora-Add-Ons-05min-NT • Measurement threshold Policy <ul style="list-style-type: none"> ■ E007_TblSpcStatusCnt ■ E006_TblSpFreePctCnt ■ E008_TSBReadRatioCnt ■ E004_UsersTmpDfltCnt ■ E005_ObjectsForeignCnt ■ E011_TblSpcFrgmntCnt
Database Oracle Tablespace Space Utilization Detail	DBSPI_ ORA_ REPORT	DBSPI_ ORA_ REPORT	<ul style="list-style-type: none"> • Scheduled task policy <ul style="list-style-type: none"> ■ DBSPI-Ora-1d-Reporter (for UNIX/Linux nodes) ■ DBSPI-Ora-1d-Reporter-NT (for Windows nodes) • Measurement threshold Policy <ul style="list-style-type: none"> ■ E210_TblSpcSize

Integrating with Data Sources for HP OMi Management Packs

To show reports on the data collected from Oracle, SHR relies on the metrics collected by HP OMi Management Pack. The HP OMi Management Pack collectors store the data into the data store provided by the HP Operations agent. SHR's integration with HP OMi Management Pack data sources facilitates transfer of data from HP Operations agent's data store to SHR's database. This integration is established when you deploy SHR views in the RTSM deployment scenario.

SHR provides performance reports for the Oracle Management Pack enterprise applications.

Working of the Integration

1. Installation and configuration of an HP OMi Management Pack ensures that necessary instrumentation, scripts, programs, and policies are transferred to a node where the application is running and the HP Operations agent is already installed.

Tip: For successful installation and configuration of HP OMi Management Packs, see the *HP Operations Manager i Management Pack* documentation.

2. HP OMi Management Pack collectors start collecting data on the node based on rules and specifications available with the policies deployed on the node.
3. HP OMi Management Pack stores the collected data into HP Operations agent's data store. HP OMi Management Pack creates at least one *data source* in agent's data store.
4. After configuring SHR to collect data from a data source and installing Content Packs, SHR starts collecting historical data from agent's data store.

Prerequisite Policies for Oracle Database Reports

The following table lists the OMi MP for Oracle Database policies and aspects required for each Oracle database report.

Note: For OMi MP for Oracle Database, Data Source Name is same as Data Class Name.

Report Name	Aspect Name	Policy Templates in Aspect	HP Operations agent
			Data Source Name
Database Oracle Executive Summary	Oracle Database Availability	OracleDB_0201	DBSPI_ORA_REPORT

Report Name	Aspect Name	Policy Templates in Aspect	HP Operations agent
			Data Source Name
Database Oracle Top 10 Instances and Tablespaces	Oracle Database Space Utilization Oracle Tablespace Health	OracleDB_0210 OracleDB_0212	DBSPI_ORA_REPORT
Database Oracle Top 5 Instances Load and Efficiency	Oracle Memory Performance	OracleDB_0021 OracleDB_0022 OracleDB_0039 OracleDB_0019 OracleDB_0020	DBSPI_ORA_GRAPH
	Basic Oracle Memory Performance	OracleDB_0032	
	Oracle Database Availability	OracleDB_0037	
	Oracle Transactions	OracleDB_0049	
Database Oracle Archive Device Detail	Oracle Archive Health	OracleDB_0058 OracleDB_0060	DBSPI_ORA_GRAPH
	Oracle Database Space Utilization	OracleDB_0062 OracleDB_0064 OracleDB_0065	
Database Oracle Disk And Memory Sort Detail	Oracle Memory Performance	OracleDB_0019 OracleDB_0020 OracleDB_0052	DBSPI_ORA_REPORT
Database Oracle Instance Availability Detail	Oracle Database Availability	OracleDB_0201	DBSPI_ORA_REPORT
Database Oracle Instance Space Utilization Detail	Oracle Database Space Utilization	OracleDB_0212	DBSPI_ORA_REPORT
Database Oracle Segment Detail	Oracle Segment Space	OracleDB_0016	DBSPI_ORA_GRAPH
		OracleDB_0017	

Report Name	Aspect Name	Policy Templates in Aspect	HP Operations agent
			Data Source Name
		OracleDB_0018	
Database Oracle Shared Pool and Cache Performance Detail	Oracle Memory Performance	OracleDB_0021 OracleDB_0022 OracleDB_0039 OracleDB_0026 OracleDB_0040 OracleDB_0045	DBSPI_ORA_GRAPH
Database Oracle SQL Performance Detail	Oracle Object Faults	OracleDB_0030 OracleDB_0046	DBSPI_ORA_GRAPH
	Oracle Parallel Query Performance	OracleDB_0070 OracleDB_0071 OracleDB_0074 OracleDB_0076	
Database Oracle Tablespace Detail	Oracle Tablespace Health	OracleDB_0007 OracleDB_0006 OracleDB_0008 OracleDB_0011	DBSPI_ORA_GRAPH
	Oracle Object Faults	OracleDB_0004 OracleDB_0005	
Database Oracle Tablespace Space Utilization Detail	Oracle Tablespace Health	OracleDB_0210	DBSPI_ORA_REPORT

Note: The following metrics are deprecated in the MP:

- E063_TraceFileAddCnt
- E067_RBSegmntStatCnt

Deploy Topology Views

To configure SHR to collect domain-specific data, you need to deploy the topology views for Oracle Content Pack. These topology views contain specific CI attributes that Oracle Content Pack uses to collect the relevant data.

List of Content Pack and Topology Views to Deploy

The following table lists the topology views to deploy for Oracle Content Pack:

Content Pack	View Name	Location
On Windows		
Oracle	SHR_DBOracle_Views.zip SHR_DBOracle_OM.zip	%PMDB_HOME%\Packages\DatabaseOracle\ETL_DBOracle_DBSPI.ap\source\cmdb_views\SHR_DBOracle_Views.zip
On Linux		
Oracle	SHR_DBOracle_Views.zip SHR_DBOracle_OM.zip	\$PMDB_HOME/Packages/DatabaseOracle/ETL_DBOracle_DBSPI.ap/source/cmdb_views/SHR_DBOracle_Views.zip

HP BSM Server

To deploy the topology model views for the Oracle Content Pack in the HP BSM server, follow these steps:

1. In the web browser, type the following URL:

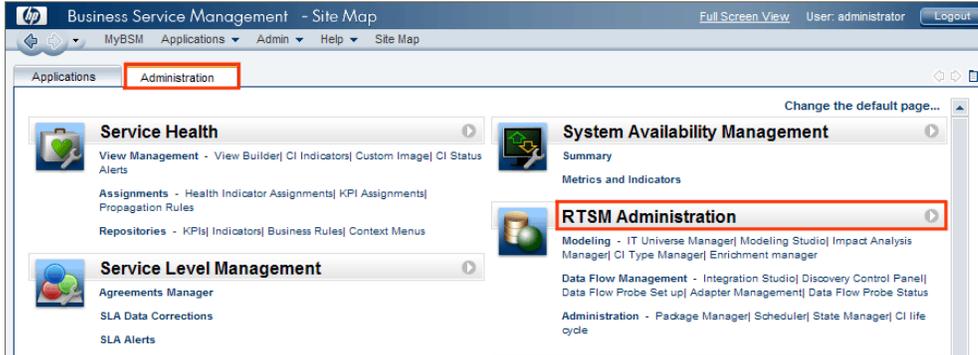
```
http://<BSM system FQDN>/bsm
```

where, <BSM system FQDN> is the FQDN of the HP BSM server.

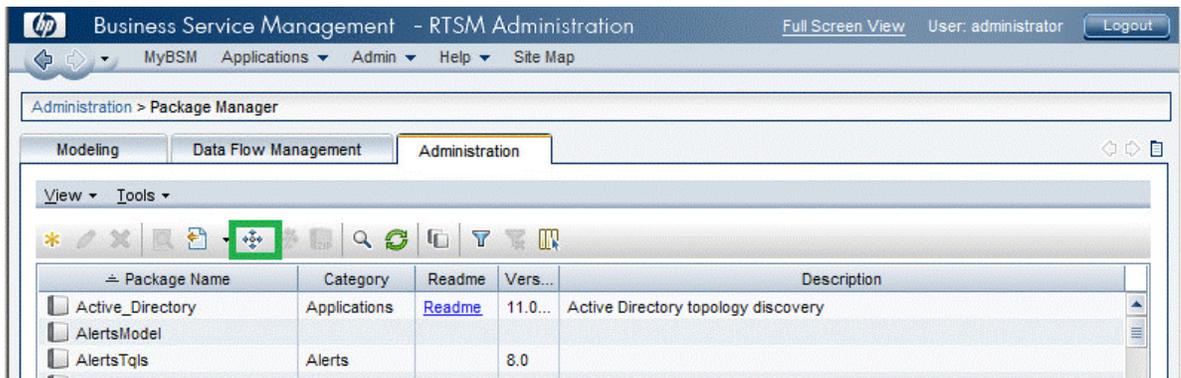
Note: You can launch the HP BSM server from a system where SHR is installed or any other local system. If you are launching from local system, ensure that you browse to the location mentioned in [List of Content Pack and Topology Views to Deploy](#) and copy the required views to your local system.

The Business Service Management Login page appears.

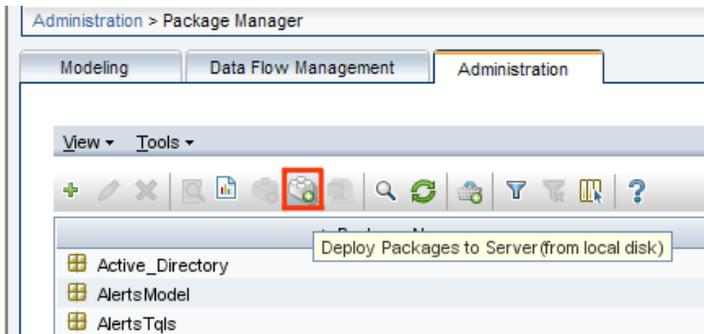
2. Type the login name and password and click **Log In**. The Business Service Management - Site Map appears.
3. Click **Administration > RTSM Administration**. The RTSM Administration page appears.



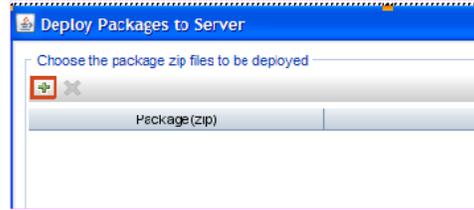
4. Click **Administration > Package Manager**. The Package Manager page appears.



5. Click the **Deploy Packages to Server (from local disk)** icon. The **Deploy Package to Server** dialog box appears.



6. Click the **Add** icon.



The **Deploy Package to Server (from local disk)** dialog box appears.

7. Browse to the location of the Content Pack zip files, select the required files, and then click **Open**.

You can view and select the TQL and ODB views that you want to deploy under **Select the resources you want to deploy** in the **Deploy Package to Server (from local disk)** dialog box. Ensure that all the files are selected.

8. Click **Deploy** to deploy the Content Pack views.

You have successfully deployed the Content Packs views based on the type of deployment scenario selected for SHR.

HP OMi 10 Server

To deploy the topology model views for the Oracle Content Pack in the HP OMi 10 server, follow these steps:

1. In the web browser, type the following URL:

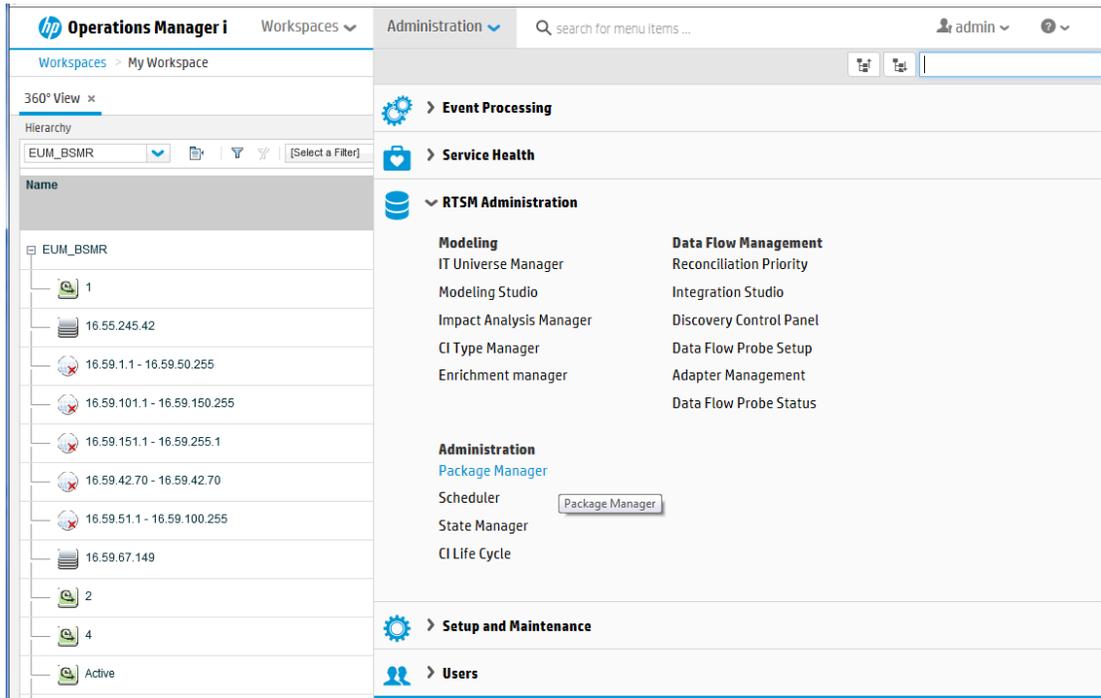
```
http://<OMi system FQDN>/omi
```

where, <OMi system FQDN> is the FQDN of the HP OMi server.

Note: You can launch the HP OMi server from a system where SHR is installed or any other local system. If you are launching from local system, ensure that you browse to the location mentioned in [List of Content Pack and Topology Views to Deploy](#) and copy the required views to your local system.

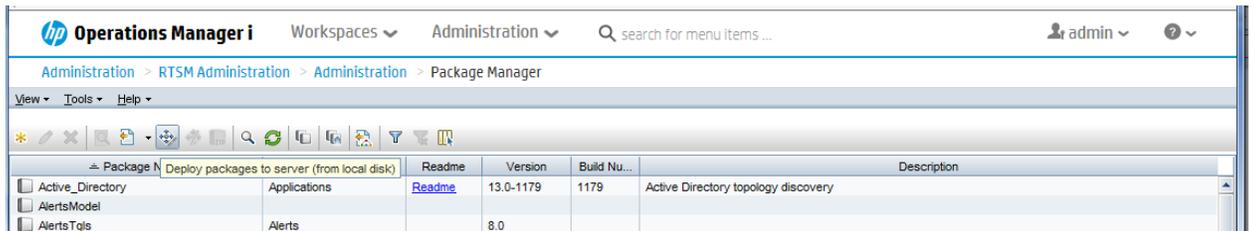
The Operations Manager i Login page appears.

2. Type the login name and password and click **Log In**. The Operations Manager i Workspace page appears.
3. Click **Administration > RTSM Administration > Package Manager**.

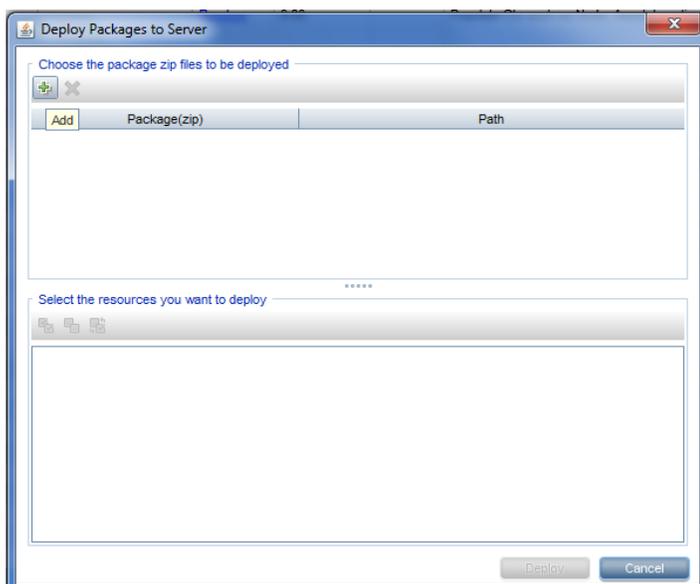


The Package Manager page appears.

4. Click the **Deploy Packages to Server (from local disk)** icon. The **Deploy Package to Server** dialog box appears.



5. Click the **Add** icon.



The **Deploy Package to Server (from local disk)** dialog box appears.

6. Browse to the location of the Content Pack zip files, select the required files, and then click **Open**.

You can view and select the TQL and ODB views that you want to deploy under **Select the resources you want to deploy** in the **Deploy Package to Server (from local disk)** dialog box. Ensure that all the files are selected.

7. Click **Deploy** to deploy the Content Pack views.

You have successfully deployed the Content Packs views based on the type of deployment scenario selected for SHR.

Install the Content Pack

Check Availability and Integrity of Data Sources

SHR enables you to check the availability and integrity of data sources prior to installing Content Packs.

1. Launch the following page:

`http://<SHR Server FQDN>:<port>/BSMRApp/dscheck.jsf`

2. To check the data sources related to RTSM, click **RTSM**.

Click **View** to see the results. Results include the list of missing mandatory CI types and attributes.

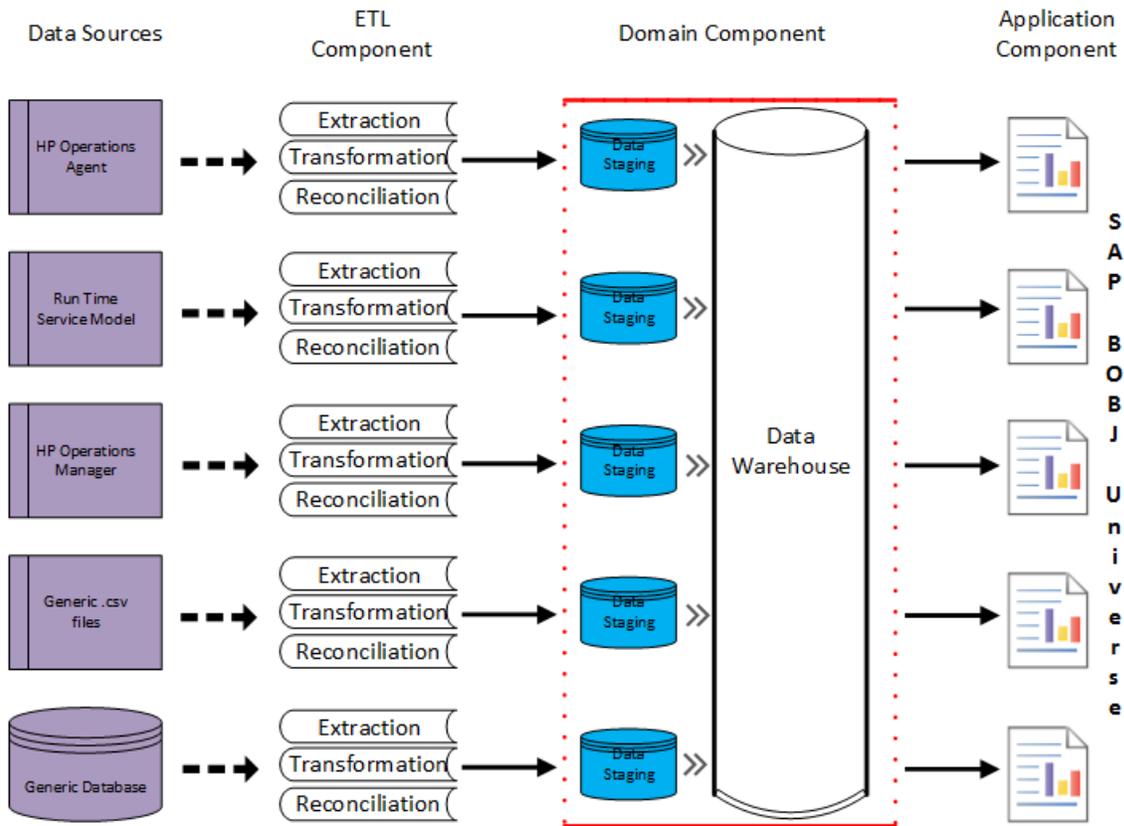
3. To check the data sources in the HP Operations agent, click **PA**.

Click **View** to see the results. Results include a status summary of nodes and missing policies.

Selecting the Content Pack Components

A typical Content Pack consists of three components - the Domain, Extraction Transformation Loading (ETL), and Application components.

The following figure shows the typical data flow between the components of the Content Pack:



- Domain component:** The Domain or Core Domain component defines the data model for a particular Content Pack. It contains the rules for generating the relational schema. It also contains the data processing rules, including a set of standard pre-aggregation rules, for processing data into the database. The Domain component can include the commonly-used dimensions and cubes, which can be leveraged by one or more Report Content Pack components. The Domain Content Pack component does not depend on the configured topology source or the data source from where you want to collect data.
- ETL (Extract, Transform, and Load) component:** The ETL Content Pack component defines the collection policies and the transformation, reconciliation, and staging rules. It also provides the data processing rules that define the order of execution of the data processing steps.

A single data source application can have multiple ETL components. For example, you can have one ETL component for each virtualization technology supported in Performance Agent such as Oracle Solaris Zones, VMware, IBM LPAR, and Microsoft HyperV. The ETL component can be dependent on one or more Domain components. In addition, you can have multiple ETL components feeding data into the same Domain component.

The ETL Content Pack component is data source dependent. Therefore, for a particular domain, each data source application has a separate ETL Content Pack component. For example, if you want to collect system performance data from the HP Operations Agent, you must install the SysPerf_ETL_PerformanceAgent component. If you want to collect system performance data from

HP SiteScope, you must install either `SysPerf_ETL_SiS_API` (sourcing data logged in API) or `SysPerf_ETL_SiS_DB` (sourcing data logged in BSM Profile database).

- **Application component:** The Application Content Pack component defines the application-specific aggregation rules, business views, SAP BOBJ universes, and the reports for a particular domain. Report components can be dependent on one or more Domain components. This component also provides the flexibility to extend the data model that is defined in one or more Domain components.

The list of Content Pack components that you can install depends on the topology source that you configured during the post-install configuration phase of the installation. Once the topology source is configured, the Deployment Manager filters the list of Content Pack components to display only those components that can be installed in the supported deployment scenario. For example, if RTSM is the configured topology source, the Deployment Manager only displays those components that can be installed in the SaOB and APM deployment scenarios.

Install the Content Pack in Deployment Manger

To install the required Oracle Content Pack, follow these steps:

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

```
http://<SHR_Server_FQDN>:21411
```

2. In the Administration Console, click **Administration > Deployment Manager**. The Deployment Manager page is displayed.

To install this Content Pack and to generate reports on data from HPOM, BSM, or OMi, make the following selections:

- Oracle_ETL_DBSPI (9.40.003)
- Oracle_Domain (9.40.003)
- Oracle_Reports (9.40.003)

Tip: Install the following dependent Content Packs (and their components) along with this Content Pack for it to function:

- Core
 - Core_Domain
- Operations Manager

- OprEvent_Domain_Reports
- System Performance
 - SysPerf_Domain

Note: The dependent domain content pack get selected automatically, you have to select only the ETLs based on the topology source.

Note: For more details on ETLs, see *HP Service Health Reporter Content Pack Release Notes*.

3. Click **Install/Upgrade** to install the Content Packs.
The color of the status column changes for all the selected Content Packs. An `Installation Started` status appears in the **Status** column for Content Pack that is currently being installed. The Deployment Manager page automatically refreshes itself to display the updated status. Once the installation completes, an `Installation Successful` status appears. If the installation fails, an `Installation Failed` status appears.

Note: The timer service will be stopped automatically during install/uninstall/upgrade operation and will be started once operation is complete.

4. Click the link in the **Status** column for more information about the installation process.
The Content Pack Component Status History window is displayed. It displays the details of the current and historical status of that Content Pack component's installation.

Note: During install/uninstall process, Deployment Manager does not allow you to interrupt the process. Instead, you must wait till the current process is complete before you can perform any other operations on the Deployment Manager page.

Data Source Collection Configuration

After installing Content Packs, you must configure SHR to collect required data from various data collectors. The data collectors work internally within the SHR infrastructure to collect the data. Therefore, you cannot directly interface with these collectors. Instead, you can specify the data sources from where the collectors can collect the data through the Administration Console.

Configuring the HP Operations Agent Data Source

In the RTSM deployment scenario, you do not have to create new HP Operations Agent data source connections. Because, by default, all the nodes on which HP Operations Agent is installed are automatically discovered when the topology information is collected. These data sources or nodes are listed in the HP Operations Agent Data Source page of the Administration Console.

To view the list of HP Operations Agent data sources, follow these steps:

1. In the **Administration Console**, click **Collection Configuration > HP Operations Agent**. The **HP Operations Agent Data Source** page appears.
2. To view detailed information about the HP Operations Agent data sources, click the Domain name or the number in the **HP Operations Agent Data Source Summary** table. The **HP Operations Agent Data Source Details** table appears.
3. To change the data collection schedule for one or more hosts, specify a polling time between 1 and 24 hours in the **Hrs** box in the **Schedule Polling Frequency** column.
4. Click **Save** to save the changes. A Saved Successfully message appears in the Information message panel.

Report Navigation

The Oracle reports are categorized into high-level—Executive Summary and Detailed Performance reports. You can navigate from the higher-level reports to the detailed reports using the various cross launch or hyperlink features. For example, you may start with the Oracle Executive Summary for an overall picture of the health of the database servers and then navigate to the detailed reports for specific information. Report navigation varies depending on the specific scenarios and per your discretion.

The Oracle Database reports display the performance, health, and resource requirement information for the following:

- Oracle database servers that are available in your IT environment
- Instances running on these database servers

Oracle reports also help to analyze the database performance impact in the context of an associated Business Service, Business Application, or Group.

New Oracle Content Pack Report

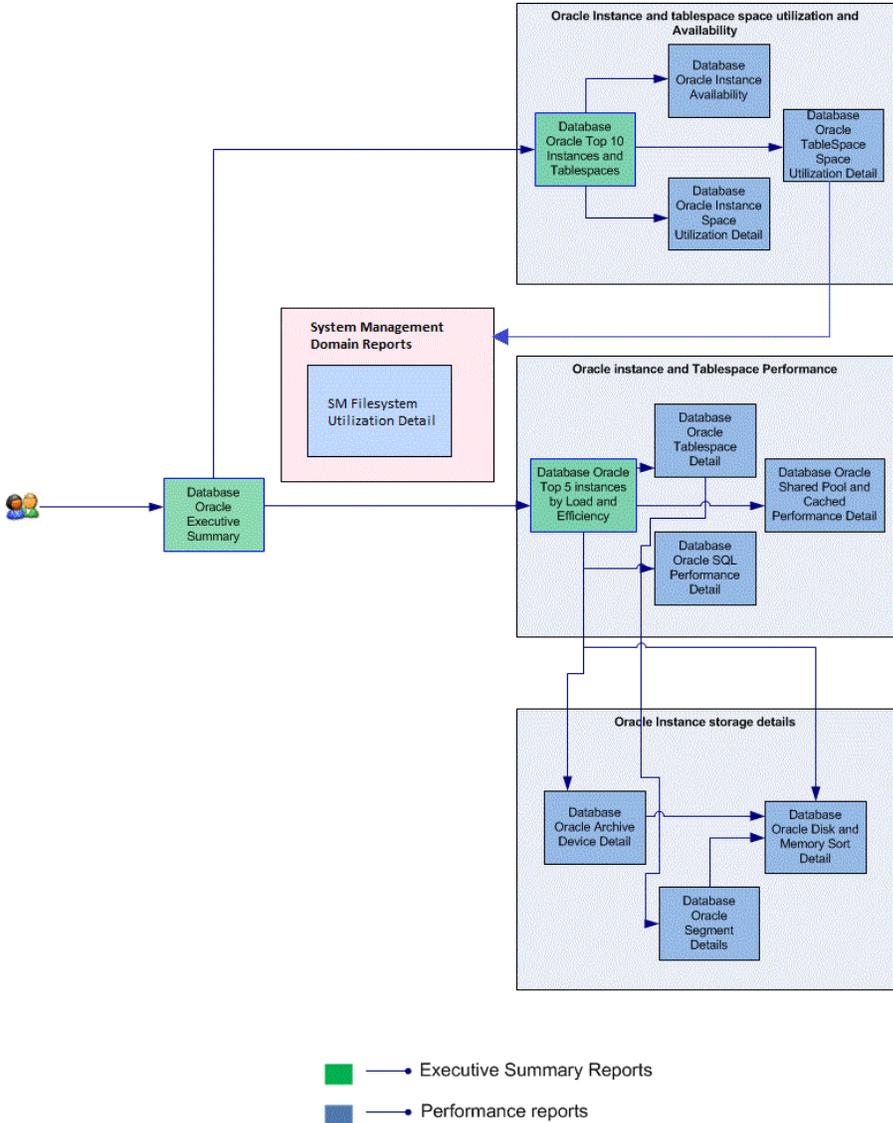
The following is the new Oracle report:

- **Database Oracle Instance Availability** - Provides information about the availability of the database instances that are running on selected node over a period of time. Displays the availability details of Oracle instances, as a heatmap based on predetermined thresholds, for every hour across the selected time period.

Availability	Color
< 90	Red
> 90 and < 95	Yellow
> 95	Green

Report Navigation

The following diagram displays an instance of report navigation:



Use Cases

This section provides information on use cases for Oracle reports. The following table provides description, user, and report name for the use cases:

Description	Report Category	Report Name
To view the performance metrics of the oracle instances in a node with the resource utilization at the node level	Executive Summary	Database Oracle Executive Summary

Description	Report Category	Report Name
To view the top N tables based on the space used for the selected database instance and database	Executive Summary	Database Oracle Top 10 Instances and Tablespaces
To view the top N databases and virtual devices based on the space used among the various instances of a selected node	Executive Summary	Database Oracle Top 5 Instances Load and Efficiency
To view the average outstanding read and write rate for each of selected database instance	Executive Summary	Oracle Database Input and Output Statistics
To correlate the number of transactions against the growth of logs for each of the selected database instance	Executive Summary	Oracle Detail Server Transaction Summary
To view the trend space used by all the databases over a period of time for each of the selected database instance	Executive Summary	Oracle Database Space Usage Details
To view the trend of space used by all the tables over a period of time for each of the selected databases in a given instance	Executive Summary	Oracle Database Table Space Usage Details
To view the trend of space used by all virtual device over a period of time for each of the selected DB instance	Executive Summary	Oracle Virtual Device Space Usage Details
To view the total number of users connected over a period of time for each of the selected database instance	Executive Summary	Oracle Users Connection Summary
To view the details of locks over a period of time for each of the selected database instance	Executive Summary	Oracle Database Locks Summary
To view the input/output performance details over a period of time for each of the selected database instance	Executive Summary	Oracle Database Performance Summary
To view the availability over a period of time for each of the selected database instance	Executive Summary	Oracle Instance Availability Details

Appendix

This section provides information on [Terminology](#) , [Calculating Oracle instance availability](#) and [Metric Mapping for Reports](#).

Appendix A: Terminology

Business Service: Any service created in BSM Run-time Service Model (RTSM) and is part of your business, such as the online banking service or email service.

Business View: A view deployed on BSM RTSM that provides the topology information of the configuration items in your IT environment.

Node Groups: Group of managed nodes defined by users or available by default in HP Operations Manager (HPOM) to classify as specific organizations or entities within the enterprise. SHR uses the node groups from HPOM for its topology information.

High Number of Waits for Redo Log Buffer Space: A large number of processes waiting for the redo log buffer may result in a large amount of non-archived transactions. The non-archived transaction increases the chance of losing information in the event of a database failure.

High Rate of User Call: The user call rate measures the work demand rate of the client-side business applications, running on the specified instance. The performance of the instance is directly related to the rate of user calls.

High Disk Sort Rate: A high rate of disk sort may impact the instance performance adversely because:

- Disk sorts consume higher amount of resources in the temporary table spaces
- Disk sorts slows down an individual task and affects the concurrent tasks on the Oracle instance

High User Logon Count: Instances with the maximum number of users connected to a specified instance.

High Buffer Busy Wait Percentage: A buffer busy wait indicates that there are some buffers in the buffer cache that multiple processes are attempting to access concurrently. A large number of processes waiting for the buffer to perform logical reads may slow down the instance.

Less Buffer Cache Hit %: Buffer cache stores information in memory, therefore retrieving information from the buffer cache is faster than retrieving information from data files. A high buffer cache hit ratio indicates better system performance.

Less Memory Sort %: A low rate of memory sort may impact the instance performance adversely, as a high rate of disk sort may consume large amount of system resources.

Less Library Cache Get hits %: This report displays the instance with less library cache get hit percentage.

Average Up Time %: The percentage of time the instances were up and running for a selected node.

Average Down Time %: The percentage of time the instances were down and unavailable for a selected node.

Average Unknown Time %: The percentage of time the availability status of the instance was unknown for SHR.

Average Availability %: The percentage of time the database instance was available factoring planned downtime.

Average Allocated Space (GB): Average amount of space allocated to a particular instance.

Average Used Space (GB): Average amount of space used by one instance against the amount of space allocated to it.

Average Used Space %: Percentage of space used by one instance against the amount of space allocated to it.

Average Total (Disk and Memory) Sort per Hour: The average number of total sorts performed by the instance in an hour. This data for this metric is normally collected every minute. Therefore, the readings for a minute are multiplied by 60 to get the reading for an hour.

Average Disk Sort Per Hour: The number of disk sorts performed by the instance in an hour.

Average Ratio of Memory Sort to Total Sort: The percentage value of the memory sort with the total sort for the selected instance. The sort performance for the instance increases if the instance performs more number of memory sorts.

Average Percentage of Free Space on Archive Device: The percentage of free space available on all the archive devices used by the instance. Using this, you can analyze whether the archive destination is running out of space and avoid errors that result from the inability to archive files.

Average Percentage of Free Space Used on Background Dump: The percentage of available free space on the background dump destination device. To avoid the failure of the archiving process and subsequent suspension of all database activities, ensure that there is sufficient space on the archive device.

Average Percentage of Free Space Used on Core Dump Device: The percentage of available free space on the core dump destination device. To avoid the failure of the archiving process and subsequent suspension of all database activities, ensure that there is sufficient space on the archive device.

Average Number of Database Dump or Trace File(s) Created: Using this, you can analyze and control the maximum size of all the trace files and limit the file to a specified number of operating system blocks.

Average Number of Redo Logs not Archived: The number of redo log files that have not been archived for the selected node and instance. Due to lack of available space on the targeted storage device, you will not be able to archive a redo log file. If this problem is not resolved, the database will no longer be able to execute transactions. So, ensure that there is sufficient space on the archive device.

Average Percentage of Free Space on User Dump Device: The percentage of available free space on the user dump destination device. To avoid the failure of the archiving process and subsequent suspension of all database activities, ensure that there is sufficient space on the archive device.

Average Percentage of Enqueue Waiting for Requests: The average percentage of enqueue waits against the number of enqueue requests. Using this, you can analyze the amount of time the sessions spent waiting for enqueues.

Average Percentage of Enqueue Timeout for Requests: The average percentage of enqueue timeouts against the number of enqueue requests. Using this, you can analyze the number of times, request for an enqueue was timed out.

Average Percentage of Enqueue: The average percentage of enqueue to configured enqueues. Using this, you can analyze the enqueue utilization for a specified time period.

Average Percentage of Used DML Locks: Data Manipulation Language (DML) locks protect data. DML operations can acquire data locks at two different levels – for specific rows and for entire tables. This metric reflects the average percentage of DML locks used against the total number of DML locks configured. Using this, you can analyze the DML lock utilization for a specified period of time.

Average Number of Sessions Waiting for Release of a Lock: All locks acquired by statements within a transaction are held for the duration of the transaction. Oracle releases all locks acquired by the statements within a transaction when an explicit or implied commit or rollback is executed. Oracle also releases locks acquired after a savepoint when rolling back to the savepoint. This metric refers to the average number of sessions that are waiting for release of a lock. Using this, you can analyze the amount of time the sessions spent waiting for a transaction lock.

Average Number of Tables with Table Lock Disabled: The average number of tables with table lock disabled. Using this, you can analyze the number of tables that are residing on the instance without a lock.

Average Percentage of Busy Dispatchers: The average percent busy for all dispatchers. Using this, you can analyze the load on the dispatchers.

Average Number of Clients Connected to Dispatchers: The number of clients connected to all dispatchers.

Average Percentage of Shared Servers Waiting for Requests: The average percentage of shared server waiting for the requests. A consistent increase in the number of clients that are waiting for connection to the shared servers may affect the database performance adversely.

Average Percentage of Busy Shared Servers: The average percentage of busy shared server processes. Using this, you can compare the number of busy shared servers processes with the maximum number of shared servers processes that the instance is allowed to use.

Average Percentage of Total UGA Memory (MB) Allocated by Current Processes: The Total User Global Area (UGA) memory, in megabytes, allocated for all current sessions.

Average Percentage of Maximum UGA Memory (MB) Allocated by Current Processes: The maximum UGA memory in bytes allocated for all current sessions.

Average Number of Waits for Redo Log Buffer Space: The redo log buffer space wait time is the cumulative time waited by all processes for space in the log buffer. If this value for redo log space wait time is low, your log buffer size is sized properly. Using this, you can analyze the number of times a user process was unable to allocate space in the redo log buffer.

Average Percentage of Misses on the Redo Copy Latch: After space is allocated for a redo entry, the user process can copy the entry into the buffer. A process can only copy on the redo allocation latch

if the redo entry is smaller than the specified threshold. Using this, you can analyze the ratio of misses to gets for the redo copy latch.

Average Percentage of Misses on the Redo Allocation Latch: Redo allocation latches controls space allocation for redo entries in the redo log buffer. At a time, only one user process can allocate space in the buffer. This single latch ensures a sequential pattern of buffer entries. Using this, you can analyze the ratio of misses to gets for the redo allocation latch.

Average Number of Rollback Segments Not Online: The average number of rollback segments that are offline for the selected instance on the selected node. Rollback segment status not online could be an indication of performance problems.

Average Number of Segments Adding Extents Rapidly: The average number of segments that are adding extents rapidly for the selected instance on the selected node. If the segments add extends rapidly, the segments will reach the maximum extend limit shortly and this will lead to termination of the active transaction.

Average Number of Segments Approaching Max Extent: The average number of segments that are approaching maximum extent. Maximum number of extends are defined for each segment. If the MAXEXTENTS limit is reached in a segment, the active transaction is terminated and the system issues an error message.

Average Number of Segments that Cannot Extend: The average number of segments that cannot extend. If there is no more free space available for a new extent to be allocated, and if the automatic data file enhancement is not activated by AUTOALLOCATE, the current transaction is terminated and the system issues an error message.

Average Total Buffer Cache Hit Percentage: The average percentage of the buffer cache hits to total requests over the lifetime of an instance.

Average Shared Pool Free Memory Percentage: The average percentage of free memory to total shared pool memory over the lifetime of an instance.

Average Library Cache Gethits Percentage: The average percentage of gethits to gets in dictionary cache. If the gethit ratio is consistently low, you can increase the shared pool size.

Average Library Cache Pinhits Percentage: The percentage of pinhits to gets in dictionary cache. If the pinhit ratio is consistently low, you can increase the shared pool size.

Average Buffer Busy Wait Percentage: The average percentage of buffer busy waits to logical reads.

Average Dictionary Cache Hit Percentage: The average percentage of cache get misses to gets in the dictionary cache.

Average Rate of Parallel Queries Initiated: The average rate of parallel queries initiated for a selected instance and node. If the average rate of parallel queries initiated is less than the expected value per minute, then the SQL performance is adversely affected.

Average Percentage of Parallel Query Servers Busy: The average percentage of busy to maximum parallel query servers for a selected instance and node.

Average Number of Full table Scans Per Minute: The average rate at which full table scans occurs for a selected instance. If the full table scan rate is higher than the set threshold value, then it indicates that tables are without proper indexing.

Average Percentage of Full table Scans via Rowed Range Scans Compared to Total Full table Scans: The average percentage of full table scans by using the rowed range scans as compared to total full table scans.

Average Percentage of Rows Fetched by Index: The average percentage of rows fetched by index to the total rows fetched. On a hourly basis, if the average percentage of rows fetched by index is less than the expected value the it indicates one of the following:

- Missing indexes
- Unanalyzed indexes
- Badly tuned SQL

Average Percentage of Busy Highwater to Max Parallel Query Servers: The average percentage of busy highwater to maximum parallel query servers for a selected instance.

TableSpace-Offline Count: Average number of tablespace that are offline and unavailable.

TableSpace-Low Free Space Count: Average number of tablespaces that are low on free space. If free space becomes low in a tablespace, either add a new data file to the offending tablespace or drop unwanted database objects.

Average Number of Users having System as default Tablespace: Average number of users with default tablespace set to SYSTEM. If the average number of foreign objects is greater than the expected value then it indicates that a user is setup incorrectly or additional Oracle installed usernames are present.

Average Number of Users having Foreign Objects in System Tablespace: Average number of foreign objects in SYSTEM tablespace. If the average number of foreign objects is greater than the expected value, then it can lead to fragmentation and lack of space in system tablespace.

Fragmented TableSpaces Count: Average number of tablespaces having fragmented free space worse than the value specified in the metric parameter.

Tablespaces-High Block/Physical Read Count: Average number of tablespaces with high ratio of block to physical reads. If the value is greater than the set threshold, then it is an indication for the administrator to check the load-balance I/O across devices, check for missing indexes, and tune SQL statements that result in full table scans.

Tablespaces-Average Allocated Space (MB) : Average of the total amount of space allocated to a specified tablespace. This value is the summation of sizes of the data files included in the tablespace.

Tablespaces-Average Used Space (MB): Average of the total amount of space (in megabytes) used by the tablespace.

Tablespaces-Average Used Space %: Average of the total amount of space used by the tablespace as compared to the allocated space.

Average User Logon Count: Average number of user logons for the selected instance over the specified time period.

Maximum User Logon Count: Maximum number of user logons for the selected instance over the specified time period.

Minimum User Logon Count: Minimum number of user logons for the selected instance over the specified time period.

Maximum session Count: Maximum number of session for the selected instance over the specified time period.

Average User Calls Per minute: A user call is an SQL statement that is run at the request of the user. The total number of calls made to the Oracle kernel. In a busy production system, the value will be high. Any reduction in the number of calls sent to the kernel will ease the load put on the database system.

Average Recursive Calls to User Calls Ratio: A recursive call occurs when one SQL statement requires the execution of a further separate SQL statement. A continued increase in the reported figure indicates poor or decreasing system performance.

The most common causes of recursive calls are:

- Misses in the data dictionary cache
- Dynamic storage extension
- Execution of DDL statements

Recursive calls can impair the performance of the database system and should be minimized when possible.

Average Recursive Calls to Cumulative Opened Cursors Ratio: Cursors help users to get, put, and delete database records. Users can thus process individual rows returned by a database for a query. The Cumulative Opened Cursor metric shows the total number of opened cursors.

Appendix B: Calculating Oracle Instance Availability

SHR collects five-minute summary data for the Oracle from the HP Performance Agent. This data is in the form of status values as follows:

- Downtime—0
- Uptime—5

The status values are stored in the rate table. The availability calculation procedure in SHR uses this information to calculate the actual uptime, downtime, availability and unknown time values for 5 minute interval. The possible scenarios are as follows:

- If the status value is 5, the procedure interprets it as uptime. The procedure updates the uptime value as 5, and downtime and unknown time values as 0 in the rate table.
- If the status value is 0, the procedure interprets it as downtime. The procedure updates the downtime value as 5, and uptime and unknown time value as 0 in the rate table.
- If, for some reason, SHR is unable to retrieve the status value for particular interval (12 records within an hour, that is, one record each for every five minutes), the procedure interprets it as

unknown status. The procedure updates the uptime and downtime values as 0 and unknown time value as 5 in the rate table.

The availability calculation procedure for Oracle instances ensures that 12 records are available for every hour and each record would either represent uptime, downtime, or unknown time. Using this data, the actual uptime, actual downtime, availability and unknown times are calculated as follows:

- **Actual Uptime Percentage**

$$\text{Uptime}/(\text{Uptime} + \text{Downtime}) * 100$$

- **Actual Downtime Percentage**

$$[(\text{Downtime} / (\text{Uptime} + \text{Downtime})) * 100]$$

- **Availability Computation**

$$[(\text{Uptime} + \text{Planned Downtime} + \text{Excused Downtime}) / (\text{Uptime} + \text{Downtime})] * 100$$

- **Unknown Time Percentage**

$$[(\text{Unknown Time}) / (\text{Uptime} + \text{Downtime} + \text{Unknown Time})] * 100$$

The availability procedure computes the planned downtime and excused downtime based on the configuration provided in the downtime XML file.

For more information on how to configure downtime, see *Configuring downtime in reports* section in *HP Service Health Reporter Online Help for Administrators*.

Appendix C: Metric Mapping for Reports

SHR provides a utility to generate metric flow documents. The utility has strong filtering capabilities and generates the metric flow documents in HTML format. These HTML output files can then be saved in Excel for further filtering and metric tracking.

To generate the metric flow documents, follow these steps:

1. Run the utility using the following command:

On Windows:

```
%PMDB_HOME%\bin\shr_utility -flow - dir %PMDB_HOME%\packages\DatabaseOracle
```

On Linux:

```
$PMDB_HOME/bin/shr_utility -flow -dir $PMDB_HOME/packages/DatabaseOracle
```

The command generates multiple HTML output file in the current directory.

2. Open the HTML output file in Excel.

You can apply combination of filters to compare and track a particular metric(s).

Note: The output file in Excel format is published for some of the Content Packs. You can download the files from the following URL:

<https://hpln.hp.com/node/24267/attachment>

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Feedback on Oracle Content Pack Reference (Service Health Reporter 9.40)

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 HP Service Health Reporter Help Authors: docfeedback@hp.com.

We appreciate your feedback!