

HP Service Health Reporter

for the Windows® operating system

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Concepts Guide

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1 Introduction

This guide explains the key concepts, features, components, and architecture of HP Service Health Reporter (HP SH Reporter). Read this guide before you install and configure the product.

Product Overview

HP SH Reporter is a cross-domain historical infrastructure performance reporting solution. It displays both top-down reports from Business Service Management (BSM) Business Service and Business Application or HP Operations Manager (HPOM) Node Group perspective to the underlying infrastructure and 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 are affecting your Business Services and Business Applications or Node Groups in the long term. From higher level cross-domain reports, you can navigate to the detailed domain level reports. You can use the interactive reports in HP SH Reporter to:

- Report on and analyze the pattern of problems in your IT environment.
- Forecast IT resource performance based on historical data.
- Drill across time boundaries for all the available data. For example, you can drill down from yearly level reports to monthly and daily level reports and vice versa to analyze the pattern of problems in a specific period of time.
- Perform a custom analysis of the data using report filters.

HP SH Reporter enables you to determine the changes that you can make in your IT environment to improve the performance of your business services.

HP SH Reporter has high data retention capability. This makes it possible to maintain high-level performance data over a long period of time and aid in decision making.

The reports in HP SH Reporter are available in content packs. A content pack is a collection of reports of different infrastructure availability and performance metrics for systems, applications, business transactions, key performance indicators (KPIs), and health indicators (HIs). Content packs contain the rules that define how the metrics will be collected, transformed, and aggregated in the reports. A typical content pack defines the metrics for a specific domain along with the necessary rules for analysis required in that domain.

Reports

The reports in HP SH Reporter are grouped as follows:

- **Business Service Management**
 - End User Management
 - Real User Monitor
 - Synthetic Transaction Monitoring
 - Service Health
- **Infrastructure Management**
 - Service and Operations Bridge (OMi)
 - Enterprise Application Management
 - Microsoft Active Directory
 - Microsoft Exchange
 - Microsoft SQL Server database
 - Oracle database
 - IBM WebSphere
 - Oracle WebLogic
 - Operations (HPOM)
 - System Management
 - Virtualized Environment Management

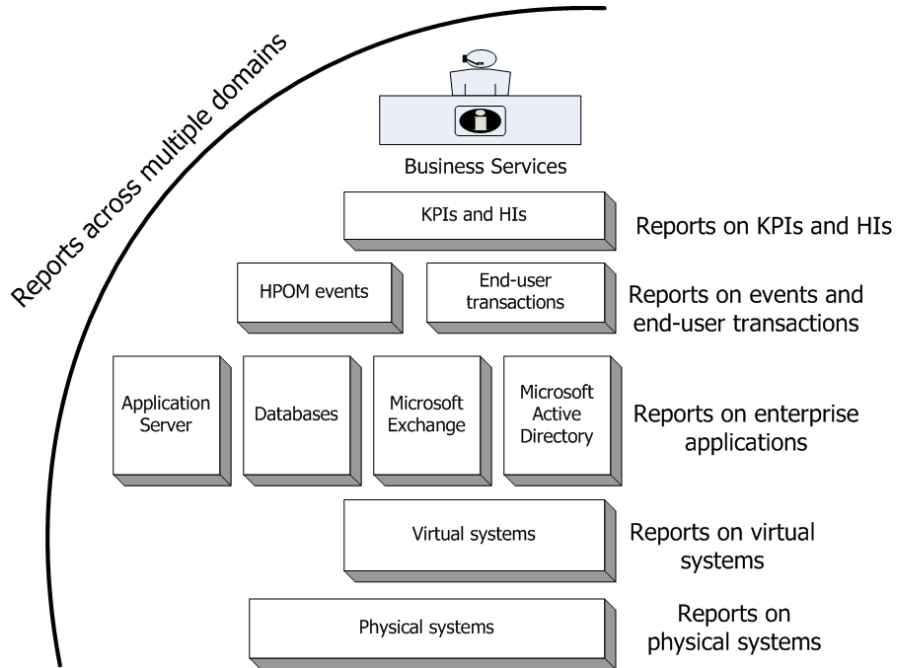
An important capability of HP SH Reporter is that you can create new reports and customize the existing reports according to your business requirements.

Cross-Domain Reports

HP SH Reporter provides cross-domain reports that are available in one or more report groups. Cross-domain reports display data from related domains to give an end-to-end picture of the health and performance of your IT infrastructure aligned to the business services. The IT infrastructure could be the applications and the underlying physical and virtual system resources utilized for those applications.

Apart from cross-domain reports, you have individual domain reports that display data from single domains. From the cross-domain reports, you can navigate to the individual domain reports for further analysis.

The following figure illustrates the different domains for which HP SH Reporter provides domain reports. The cross-domain reports display data from one or more of these domains.



The following are examples of cross-domain reports:

- End-User Management (applications and transactions) information along with the information on underlying physical and virtual systems.
- Service Health (KPIs and HIs) information with the related applications and underlying systems.
- Event data from HP Operations Manager (HPOM) with the underlying systems data.
- Information from enterprise applications and the physical or virtual systems on which the applications are running, displayed in a model driven contextual manner instead of manual navigation.

Embedded Software Components

The following embedded software product components are included:

- SAP BusinessObjects for reporting
- Sybase IQ database for storing, processing, and managing the performance data of your IT environment
- MySQL database for storing and managing the data processing streams at run-time

Data Acquisition

HP SH Reporter uses the data that is collected by a diverse set of products, which are part of the HP BSM products portfolio. Based on the topology service definition that you configure, the relevant content packs enable you to collect data from these data acquisition products. Examples of data acquisition products include the following HP BSM products:

- HPOM with Smart Plug-ins
- BSM Operations Management (OMi)
- BSM Business Process Monitor (BPM)
- BSM Real User Monitor (RUM)

- HP SiteScope
- HP Performance Agent
- HP Operations agent

User Interfaces

HP SH Reporter provides user interfaces for administration and reporting.

As an administrator, you can use the Administration user interface to configure your HP SH Reporter system to collect the required data. You can use this interface to manage the platform and the installed content packs. You can also use this interface to monitor your HP SH Reporter installation over time. For more information, see the *Online Help for Administrators*.

As an end-user, you can use the embedded SAP BusinessObjects reporting user interface, called the InfoView, to view, customize, and create new reports. For information about the types of reports available in HP SH Reporter, see [Chapter 4, Types of Reports](#).

Documentation Set

In addition to this Concepts guide, the documentation for HP SH Reporter consists of the following:

- **Release Notes** - Read the Release Notes before you start installing the product. These notes specify the hardware and software prerequisites, installation location, known issues, and limitations of the product.
- **Installation and Configuration Guide** - Follow this guide to install and configure HP SH Reporter in the supported deployments.
- **Online Help for Administrators** - Use this Online Help if you are an administrator of HP SH Reporter. Click the help icon on the Administration user interface to launch the context-sensitive help for a page.
- **Handbook of Reports** - Use this document to get overall information of the types of reports available in HP SH Reporter and a very short description of each report.
- **Online Help for Users** - Use this Online Help if you are an end-user of HP SH Reporter. This help explains the typical usage and detailed description of the reports. Click the help icon on any report to launch its context-sensitive help.

- **Troubleshooting Guide** - Use this document to troubleshoot problems that you might encounter when using HP SH Reporter.

Reference Documentation

In addition to the HP SH Reporter manuals and online help, you can refer to the SAP BusinessObjects documentation available in your installation at the following location:

```
<drive>:\Program Files (x86)\Business  
Objects\BusinessObjects Enterprise 12.0\Web  
Content\Enterprise12\Help\en
```

For the latest SAP BusinessObjects documentation, see http://help.sap.com/businessobject/product_guides/.

2 Deployments

The reports in HP SH Reporter enable you to view the historical performance, health, and availability of the underlying IT elements to understand their impact on related business services over time. HP SH Reporter manages the relationship of infrastructure elements to the business services at run-time by using the same topology services that are used by the products that collect the performance data from the managed nodes.

A topology model or view logically maps and relates your business services to your IT elements. HP SH Reporter enables you to define a topology service and collect the infrastructure data from the nodes that are part of the topology. In this way any change in topology information gets automatically reflected in the reports at run-time.

HP SH Reporter provides support for the following topology service definitions:

- BSM Run-time Service Model (RTSM)
- HP Operations Manager (HPOM)

HP SH Reporter can connect to only one of the topology service definitions - BSM RTSM or HPOM - and not to multiple topology definitions.

HP SH Reporter supports the following three deployments.

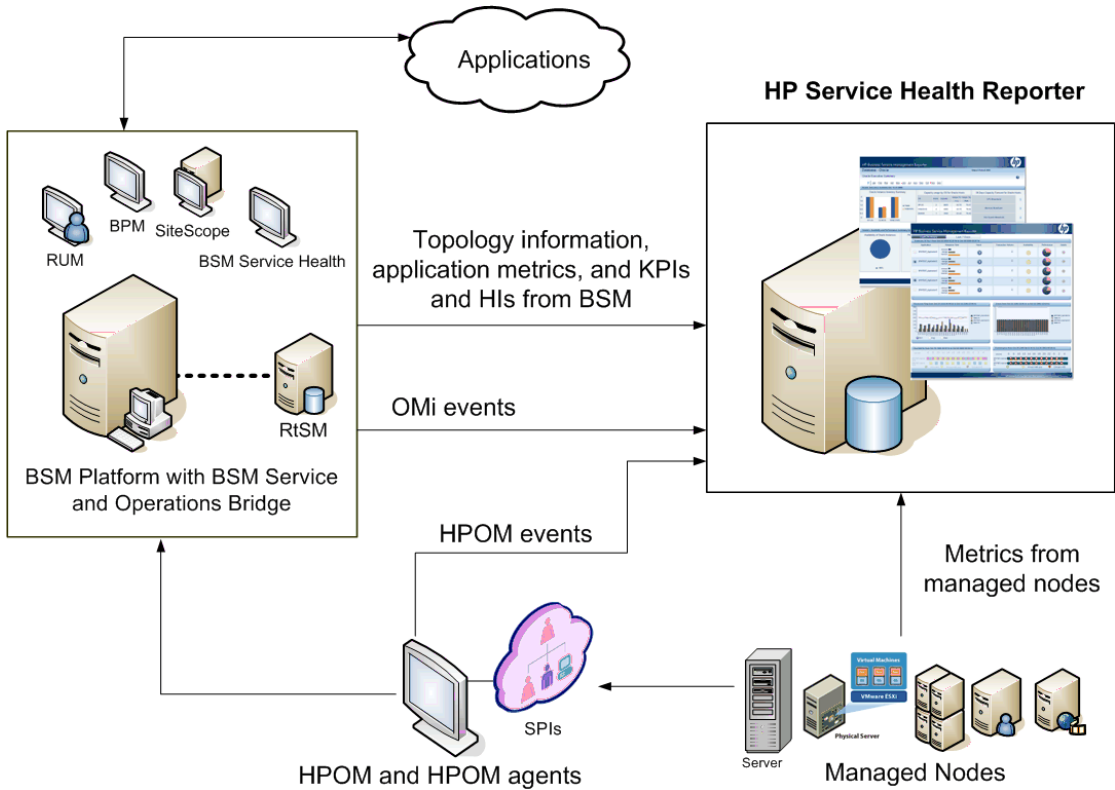
- [Deployment with BSM Service and Operations Bridge](#)
- [Deployment with Application Performance Management](#)
- [Deployment with HP Operations Manager](#)

Deployment with BSM Service and Operations Bridge

In this deployment, RTSM is the source of topology information. HP SH Reporter, by default, leverages the OMi dynamic topology synchronization technique for the discovery and synchronization of topology. 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.

HP products supported in this deployment scenario include:

- BSM platform with one or more of its applications such as HP SiteScope, Real User Monitor (RUM), and Business Process Monitor (BPM) as the data acquisition products
- HP Operations Manager (HPOM) with the following Smart Plug-ins:
 - Oracle database Smart Plug-in
 - Microsoft SQL Server database Smart Plug-in
 - IBM WebSphere Application Server Smart Plug-in
 - Oracle WebLogic Application Server Smart Plug-in
 - Microsoft Active Directory Smart Plug-in
 - Microsoft Exchange Smart Plug-in
 - Systems Infrastructure Smart Plug-in
 - Virtualization Infrastructure Smart Plug-in
- HP Performance Agent or HP Operations agent
- BSM Operations Management (OMi) as the operations bridge in the BSM solution



The service and operations bridge for BSM consolidates all events from the underlying components regardless of the source of the data. HP SH Reporter, as a reporting solution, fetches these events from OMi over a long term. In this deployment, you can also view the application metrics from the BSM applications such as BPM and RUM, the KPIs and HIs from BSM Service Health, and the physical and virtual system metrics from SiteScope, HP Performance Agent, and HP Operations agent. In addition, you can view the event information from HPOM.

HP SH Reporter processes the heterogeneous information and displays it in the reports in the form of graphs and tables. It provides cross-domain reports that provide a unified view of the health, performance, and availability of the underlying infrastructure. This unified view shows how the underlying infrastructure is impacting your business services in the long-term.

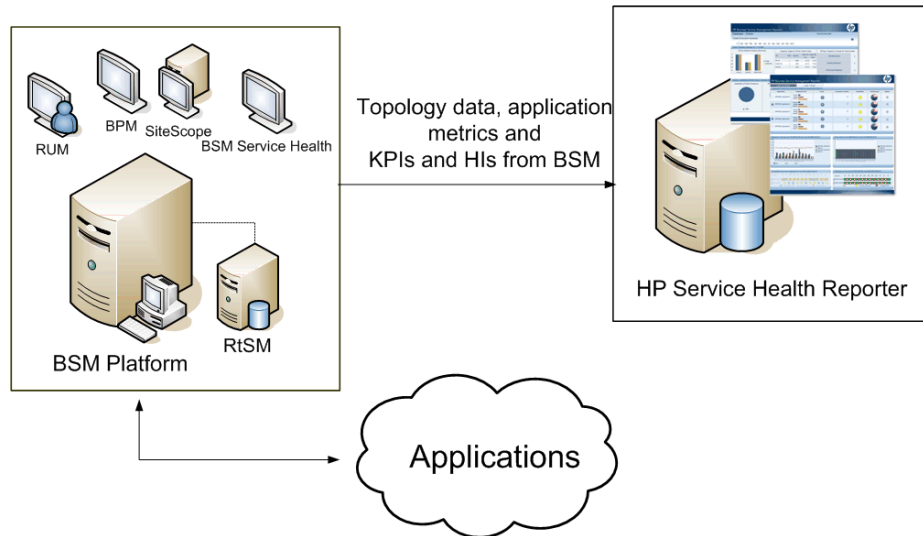
The following report folders are available in this deployment:

- Service and Operations Bridge (OMi)
- Service Health
- Real User Monitor
- Synthetic Transaction Monitoring
- System Management
- Virtualized Environment Management
- Operations
- Oracle Database
- Microsoft SQL Server Database
- IBM WebSphere Application Server
- Oracle WebLogic Application Server
- Microsoft Active Directory
- Microsoft Exchange

Deployment with Application Performance Management

In this deployment, RTSM is the source of topology information. HP SH Reporter uses the HPOM D-MoM dynamic topology synchronization technique to discover and synchronize the topology information in RTSM.

HP products supported in this deployment scenario include BSM platform with one or more of its applications such as HP SiteScope, RUM, BPM and Service Health as the data acquisition products.



HP SH Reporter fetches the application data collected by the various BSM products. It processes the data over a long-term to display the required information on its reports.

The following domain report folders are available in this deployment:

- System Management
- Virtualized Environment Management
- Real User Monitor
- Synthetic Transaction Monitoring

- Service Health



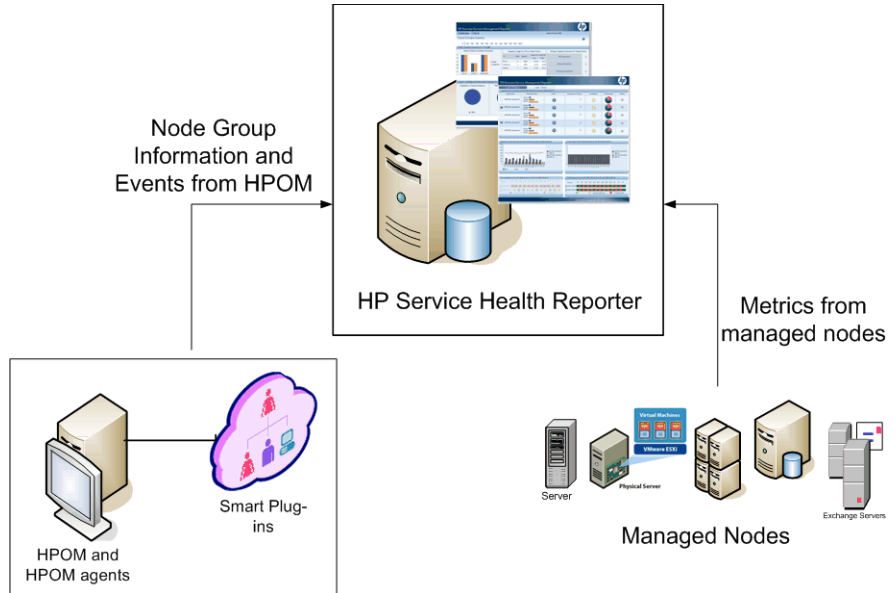
The Operations report folder is supported in this deployment scenario only if HPOM coexists with the BSM platform. In this case, HP SH Reporter only collects Event data from HPOM.

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 `APJ-Exchange Servers` can be created in HPOM to organize the APJ-specific Exchange Servers and Active Directory nodes for reporting or monitoring purposes. HP SH Reporter uses the node groups from HPOM for its topology information.

HP products supported in this deployment scenario include:

- HP Smart Plug-ins:
 - Oracle database Smart Plug-in
 - Microsoft SQL Server database Smart Plug-in
 - IBM WebSphere Application Server Smart Plug-in
 - Oracle WebLogic Application Server Smart Plug-in
 - Microsoft Active Directory Smart Plug-in
 - Microsoft Exchange Smart Plug-in
 - Systems Infrastructure Smart Plug-in
 - Virtualization Infrastructure Smart Plug-in
- HP Performance Agent or HP Operations Agent



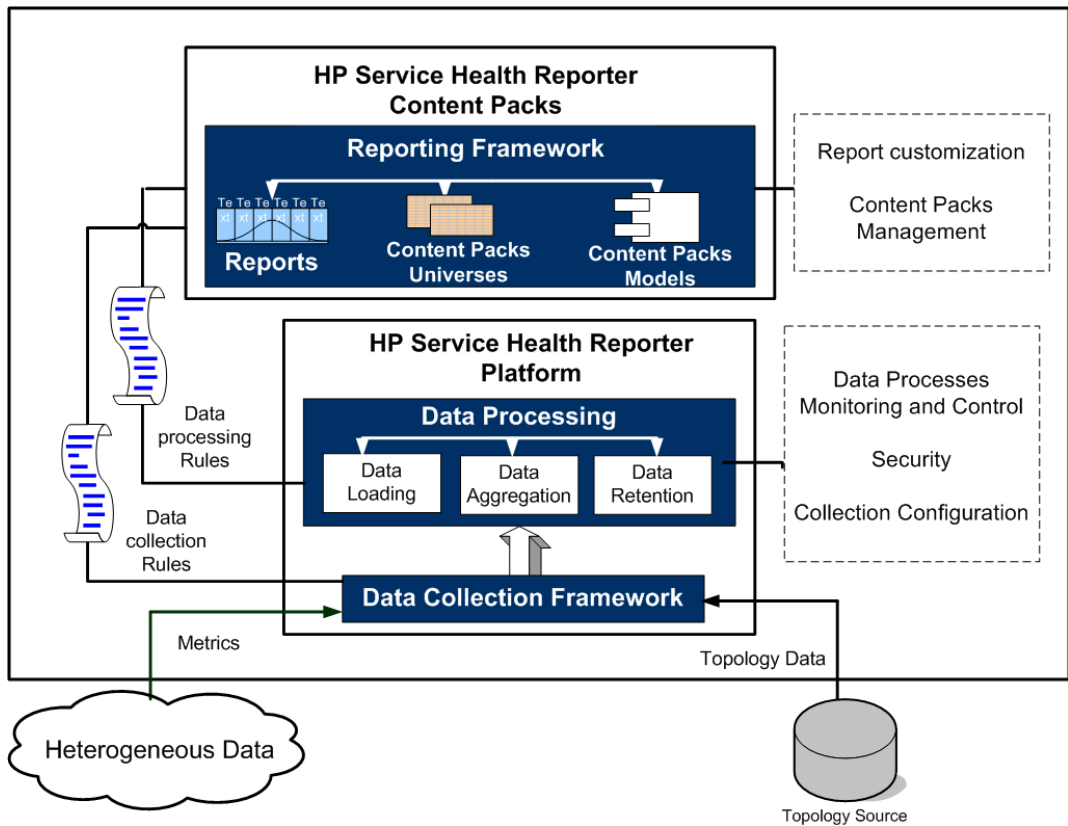
The following domain report folders are available in this deployment:

- System Management
- Virtualized Environment Management
- Operations
- Oracle Database
- Microsoft SQL Server Database
- IBM WebSphere Application Server
- Oracle WebLogic Application Server
- Microsoft Active Directory
- Microsoft Exchange

3 Architecture

Components

HP SH Reporter consists of the **platform** and **content packs**.



Platform

The platform is a performance management database or data store of HP SH Reporter. This data store is a common repository of the health, performance, and availability data of the IT elements in your environment. The platform data store contains performance data that is processed, transformed, and aggregated in the data store, based on the metadata specifications in the content packs.

Content Packs

The content packs enable to create the data marts in the performance management database. HP SH Reporter fetches the data from its data sources and loads it into different data marts as defined by the metadata specifications in the content packs. Data marts are logical and physical subsets of the performance management database. The data store enables to analyze information such as availability, throughput, error rates, usage statistics, and response times of the IT elements.

Content packs are the domain or application specific data marts deployed on the HP SH Reporter platform. The content packs enable the platform to collect, store, process, and report the data. The content packs determine what metrics to collect, how to process those metrics, and display the processed data on the reports. A typical content pack defines the facts and dimensions associated with the particular domain content. HP SH Reporter uses conformed dimensions that are common across multiple facts, and a unified topology bridge based on the conformed dimensions. The conformed dimensions together with the topology bridge defined in the content packs, enable the cross-domain reporting and report-to-report navigation.

A typical content pack contains packages of Web Intelligence and XCCelsius reports along with the content pack universes. The content pack universes provide a business-oriented meaningful mapping of the underlying complex database and simplifies the creation of reports. HP SH Reporter uses the embedded SAP BusinessObjects Enterprise to create and provide the content pack universes. For more information on SAP BusinessObjects universe concepts, see the SAP BusinessObjects documentation on your Installation media or at http://help.sap.com/businessobject/product_guides/.

In addition, content packs contain database processing or workflow streams that define the sequence of steps from data collection through processing to reporting. For more information, see [Workflow Streams](#) on page 31.

The data fetched from the data sources is of two kinds – fact data and dimension data - defined in the metadata specifications of each content pack.

- **Fact:** Facts are the numerical business performance measurements fetched by HP SH Reporter from the different data acquisition sources. Examples of facts are CPU, memory, and file system utilization values, and database instance availability value. Fact data is numeric and additive. You can perform calculations using fact data. For example, you can calculate the average, minimum, and maximum values for the CPU utilization measurement. A fact table contains the facts for a particular business purpose. Each row in a fact table is one measurement. Each of the content packs has one or more fact tables associated with it. HP SH Reporter has the following two kinds of fact tables:
 - **Transaction fact tables:** These fact tables contain events that occur at an instantaneous point in time. Transaction fact is also called as-pollled data. A row exists in the fact table only if a transaction event occurred. Examples include events from HPOM and OMi, and Health Indicators from BSM Service Health.
 - **Periodic snapshot fact tables:** These fact tables contain time-series data fetched at periodic intervals from the data acquisition source. Periodic snapshots are required to see the cumulative performance of the business at regular, predictable time intervals. Examples include the data fetched by default, every five minutes from HP Performance agent, HP Operations agent, and HP SiteScope.
- **Dimension:** Dimensions are the entities associated with the facts. Examples of dimensions are host systems for which the utilization of CPU or memory is collected and the name of the database instance for which the availability is monitored. Time is a dimension as the value of any fact is associated with a particular time. A fact can be associated with one or more dimensions. HP SH Reporter has the following two kinds of dimensions:
 - **Conformed Dimension:** Dimensions common across all the facts in the data marts are conformed dimensions. For example, time or host system name are conformed dimensions. The time dimension connected to the CPU utilization fact is identical to the time dimension connected to memory utilization fact. Conformed dimensions enable reporting across multiple data marts in HP SH Reporter.

- **Local Dimension:** Dimensions that are local to a data mart and not conformed across the facts are local dimensions. These dimensions enable the reporting for specific data marts.

HP SH Reporter provides content packs for various domains such as enterprise performance for servers or applications, Microsoft Exchange, databases such as Oracle and Microsoft SQL Server, and Web Application Servers. The content packs available in HP SH Reporter compliment the data collected by products such as HPOM Smart Plug-ins, HP Performance Agent, and BPM. A navigation logic included in each content pack data model enables you to navigate from one report to another related report in the same domain.

Apart from reports in the same domain, content packs also enable you to view reports across the domains for a complete insight into the health, performance, and availability of your IT environment. For example, from an Oracle instance availability report, you can launch the report for CPU or memory utilization of the host system that runs the particular Oracle database instance.

Now let us understand the functioning of a typical content pack.

- When you deploy a content pack, the metadata specifications enable the creation of the database schema for that content pack.
- The particular universes get deployed along with the available Web Intelligence and X Celsius reports. The reports typically have navigation rules that specify the reports that can be launched from a particular report.
- HP SH Reporter enables the data collection and reporting for the CIs across their relationship as defined in the topology service definition. For example, you can generate reports of high-level CIs such as the servers and then drill-down to the lower level CIs such as the applications running on those servers. The available topology service defines this relationship. The content packs may define a subset of the topology definition for the specific reporting requirements. In the BSM Service and Operations Bridge and the Application Performance Management deployments, the applicable content packs contain the topology definitions to be manually deployed on the BSM system to enable the data collection.
- The collection policies defined in the content pack list the metrics to be collected for that particular domain. You can configure the connection to the topology data source using the administration user interface.

- A content pack may also contain data transformation rules and reconciliation rules to make the heterogeneous data suitable for processing and reporting.
- The sequence of actions such as data transformation, reconciliation, processing, and reporting is controlled by the database processing or workflow streams available in the content packs. These streams define a relationship between the different steps at run-time. The administration user interface enables you to view and monitor the sequence of the steps using the data processing streams. You can use the streams to troubleshoot problems during data processing and reporting.

Workflow

The typical workflow of HP SH Reporter consists of three main steps - data collection, data processing, and reporting.

Data Collection

The data collection policies are defined in the content pack that you install. The content packs define the metrics to be collected from the specified data source. HP SH Reporter provides a set of out-of-the-box content packs. You can choose to install and enable one or more content packs according to your reporting and data collection requirements. You can configure the default frequency at which you want to fetch the data from the topology source and the available data sources. HP SH Reporter provides a set of data collectors to fetch data from the different data sources. You can configure and monitor the data collectors using the administration user interface. The content packs provide different collection policies for the different data collectors.

Collection Framework

HP SH Reporter provides a collection framework with specific collectors for the data and the topology.

- **Data Collector for BSM Management database and Profile database:** This collector fetches the data collected by BSM applications such as BPM, RUM, and HP Service Health. The data includes system availability and performance, real-user and synthetic user transaction performance, KPIs, and HIs.
- **Data collector for HP SiteScope, HP Performance Agent, and HP Operations agent:** This collector fetches the data such as system and application performance metrics.
- **Data collector for Operations Manager i (OMi):** This collector fetches the events from OMi.
- **Topology data collector for RTSM:** This collector fetches the CI and topology information from RTSM, which includes CI types, attributes and topology views.
- **Data collector for HPOM:** This collector fetches the HPOM node groups created by HPOM users and the HPOM events data.

HP SH Reporter also provides the capability to extend the collection framework to collect data from external sources such as .csv files.

To enable data processing, the data fetched by HP SH Reporter must be associated to the CI defined in the topology source. Since HP SH Reporter fetches data from heterogeneous data sources, this association may not always be available. Using the data reconciliation process, HP SH Reporter, in such scenarios, reconciles the data to map to the appropriate CIs. This data alignment or reconciliation process enables HP SH Reporter to report across domains.

Data Processing

Once the data is collected and reconciled, it is loaded into the performance management database tables. Based on the metadata specifications defined in the content packs, the data is aggregated into hourly, monthly, and yearly summary data. The data is also aggregated into averages, minimum, maximum, percentiles, and forecast values.

HP SH Reporter collects data from different data sources based on the collection policies predefined in the content packs. The collected data is stored in the performance management database in various fact tables in GMT format.

The HP SH Reporter database performs summarization routines on the data. The summarization routines convert the data into hourly, weekly, monthly, and yearly data. This data is then stored in the following data tables:

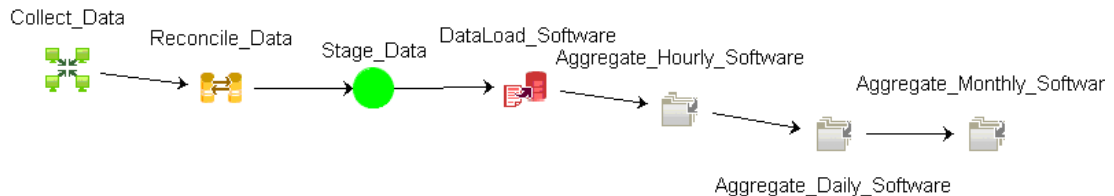
- Hourly - Contains raw data aggregated at an hourly level.
- Daily - Contains hourly data aggregated at a daily level.
- Monthly - Contains daily data aggregated at a monthly level.
- Yearly - Contains monthly data aggregated at an yearly level.

The content packs also provide data retention rules and the default time period till which the data can be retained in the tables. You can use the administration user interface to modify any of these default data retention values.

The various database processes, such as loading and aggregation over time periods, are monitored and controlled by workflow streams defined in the content packs.

Workflow Streams

HP SH Reporter provides a workflow framework to control and monitor the workflow of the various data processes. This framework is made up of workflow streams. A stream is made up of steps that are related to one another in a parent-child relationship. Each of the available content packs contains a set of streams that define and control the flow of data from one step to another. The following figure shows a sample stream with its steps.



When you install a content pack, the workflow streams defined in the content pack get deployed on your HP SH Reporter system. After you configure your system to collect the data from the available data acquisition products, these pre-defined streams begin to control the flow of data through various steps such as transformation, reconciliation, and aggregation.

During the data flow, one or more streams can get blocked. A block in a stream occurs when one or more steps within the stream fail to move forward. The underlying causes for a step to fail can be many. For example, if the database is unavailable or one of your HP SH Reporter services stops running, the related workflow step will not continue. A typical step starts to run after its preceding step is completed successfully. This means that if one step fails, its succeeding steps will not be started.

You can define the maximum number of retries and the maximum execution time for a step. When a step fails to run, the workflow framework retries running the step till it reaches the maximum number of retries that you define. A step stops retrying to run after exceeding the defined maximum number of retries. An administrator must monitor the streams to check if any of them is blocked and determine the underlying cause.

The number of job steps that are run simultaneously in the workflow framework is proportional to the number of job streams that are running. However, if the number of streams deployed on a system is high, it can result in a very high load on the system, which can lead to system failure. In such a situation, you can use the resource control feature of database processing to configure resource usage limits. Limiting resource usage can help to mitigate problems caused by the high load.

Reporting

Once the data is processed in the data store, it must be made suitable for business reporting. The underlying data is complex and difficult to comprehend by end-users. HP SH Reporter has content pack universes to provide a business view of the underlying data and make the data simple enough to understand and reuse on reports by business users. These universes, deployed on the performance management database, map the underlying data in the tables to the corresponding business oriented user-friendly content. The universes can be linked with one another to provide the required cross-domain reports.

Once the data is mapped, you can use the InfoView reporting user interface to query the business data and generate reports. You can provide the required parameters such as the systems or applications for which you want to generate reports. You can select the time period, using filters, to generate the report for the specified time period.

HP SH Reporter uses the reporting capabilities and features provided by SAP BusinessObjects. There are two types of reports - the Web Intelligence reports and Xcelsius reports. These reports provide interactive features such as filters for analyzing the data and comparing different parameters. You can drill down or roll up on time to view the historical information on a single report. You can also launch one report from another report using the in-built navigation logic defined in the data model of the content packs. You can copy the available reports and use the SAP BusinessObjects InfoView tool to customize the reports. You can also create new reports according to your business requirements. For information about the features of Web Intelligence and Xcelsius reports, see [Chapter 4, Types of Reports](#).

4 Types of Reports

HP SH Reporter provides an interactive user interface - the InfoView interface that runs within your browser - to view the available reports. You can create copies of your reports and customize them according to your business requirements. You can also use the InfoView interface to create new reports.

HP SH Reporter uses the following types of SAP BusinessObjects reporting technologies to create the reports:

- Web Intelligence
- XCelsius

All available types of SAP BusinessObjects reports can be created on the universe. Therefore, in the future releases of HP SH Reporter, you can use the other SAP BusinessObjects reporting technologies to create reports.

Web Intelligence Reports

A Web Intelligence report is a document generated by running a query on the underlying data. A typical Web Intelligence report in HP SH Reporter displays one or more components such as graphs, tables, or charts. These components display the required data over selected time periods. A Web Intelligence report may have one or more pages based on the parameters that you selected. Each page is called an index. The date and time for which the data is displayed on a Web Intelligence report is in GMT format.

The following figure shows a typical Web Intelligence report with some of its common features that are discussed later in this section.

The screenshot displays the HP Service Health Reporter interface. At the top, there are filters for 'Host Display Name (No value)', '2010', and 'Oct', with an arrow pointing to the text 'Simple report filters'. The main header includes the HP logo and the text 'HP Service Health Reporter'. Below this, the 'System Management' section shows 'System Usage Detail' for the 'Report Period: Oct 2010'. A sub-header states: 'This report displays the overall CPU and memory usage data of the selected system(s)'. A navigation bar with numbers 1 through 31 is present. Below the navigation bar is a table with the following structure:

Host Name	
Vendor	Number of CPUs
Model	CPU Speed (MHz)
OS	Physical Memory (GB)

Below the table is a section titled 'System Usage Data' with the subtitle 'CPU Utilization Percentage and Cycles Utilized'. At the bottom, there are two report tabs: 'CPU and Memory' (active) and 'Disk and Network', with an arrow pointing to the text 'Report tabs'. On the left side, an arrow points to the navigation bar with the text 'Drill-down and roll-up across time'.

The following figure shows a sample cross-domain Web Intelligence report. It displays the metrics from three different related domains on a single report.



Drill-down and roll-up across time

Application performance trends

Application performance for different end-user groups

Infrastructure performance trends (CPU and memory utilization for systems supporting applications)

Following are some of the important and frequently used features of Web Intelligence reports.

Prompts

Prompts are dynamic filters that display a question before you run the query or refresh a report. Prompts limit the data retrieved from the database by a query. Prompts dynamically filter the required data from the total data set based on your selections. Not all reports require you to enter prompt values. Some prompts are mandatory whereas others are optional.

Simple Report Filter

A simple report filter enables you to interact with the report data. Simple filters do not influence the data retrieval from the universe. They only limit the data displayed on the generated report. Simple report filters are always available on the report, so you do not have to specify them each time you are creating a query. Example of simple filters include time period such as year or month, names of host systems, names of database instances and so on.

Time based Drill

The Web Intelligence reports in HP SH Reporter enable you to drill down and roll up on time periods. You can drill down from yearly to monthly to daily level of data. Similarly, you can roll up from daily to monthly to yearly level of data. The time based drill option enables you to view the historical information over a period of time and if required drill down to granular level of data for effective problem analysis. On a typical report you must select the year, month or date for which you want to view the information.

Navigation Viewer

The navigation viewer is a graphical representation of the topology associated with the CI displayed on a report. When viewing a report, you can use the navigation viewer to view the other CIs associated with the particular CI. This topology information is fetched by HP SH Reporter from the configured topology service definition at run-time. You can choose to modify the display of the navigation viewer.

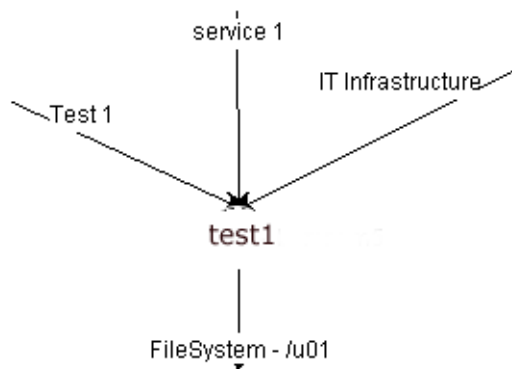
The following figure shows a sample report with a drop-down list from the CI, which you can use to select the Navigation Viewer.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

System Up Time Down Time Details				
Host Name	Average UpTime Percentage	Average Down Time Percentage	Total UpTime in Minutes	Total Down Time in Minutes
test1	100	0	2,455	0
test2			2,885	0
test3			2,035	0
test4			2,095	0
test5			2,885	0
test6			2,125	0
test7			230	0

- System Quick View
- System Availability
- System Grade of Service
- System Usage Details
- System Exception Details
- Logical System Performance Comparison
- Logical System Entitlement Configuration
- Logical System Details
- Navigation Viewer

The following figure shows the topology associated with the particular CI.



Hyper-linked Reports

HP SH Reporter provides navigation patterns or hyperlinks within the reports that enable you to navigate from one report to another. Using the report hyperlinks you can launch detailed reports that further help you to analyze the problems at a more granular level. The prompt values that you select before running the query are passed from one report to another.

Related Reports

In addition to hyperlinks on reports, HP SH Reporter enables you to launch related reports of the particular CI in context. The related reports are listed in a drop-down list. You can select a report from the list to launch the specified reports. The following figure shows a sample report with a list of its related reports.

The screenshot displays the 'System Availability' report. Below the title, a subtitle reads: 'This report displays the total and average duration of availability of the selected node system(s)'. A navigation bar contains links numbered 1 through 31. The main content is a table titled 'System Up Time and Down Time Details' with the following data:

Node Name	Average UpTime Percentage	Average Down Time Percentage	Total UpTime in Minutes	Total Down Time in Minutes
bsmr-vm16	99.7	0.3	6,825	90
bsmr-vm9			11,010	0
bsmrwint3			15,270	0
scd17-vm1			6,915	0

A context menu is open over the first row, listing the following related reports:

- System Quick View
- System Grade of Service
- System Usage Details
- System Exception Details
- Logical System Performance Comparison
- Logical System Entitlement Configuration
- Logical System Executive Summary
- Logical System Details
- Navigation Viewer

Report Tabs

Many of the WebIntelligence reports in HP SH Reporter are grouped together to display similar kind of information. Such reports are called report tabs. For example, the detailed utilization information of CPU, memory, and file system can be grouped as tabs on a report as all the three tabs provide utilization details. The prompt values that you enter before running the report query are

used by each of the tabbed reports. That is, the same context is passed across each of the tabbed reports. However, the drill down and roll up on time is specific to the report tab that you are viewing.

Reports via Email

HP SH Reporter enables you to generate and send your reports via email, in any of the output formats supported by SAP BusinessObjects such as PDF or Microsoft Excel. HP SH Reporter depends on the rich reporting framework of SAP BusinessObjects for this capability. You can also schedule your reports to run at a specific time of the day.

Report Formats

You can save your reports in multiple formats such as PDF, Microsoft Excel Worksheet, and CSV files. You can also save your most frequently used or important reports in your favorite folders.

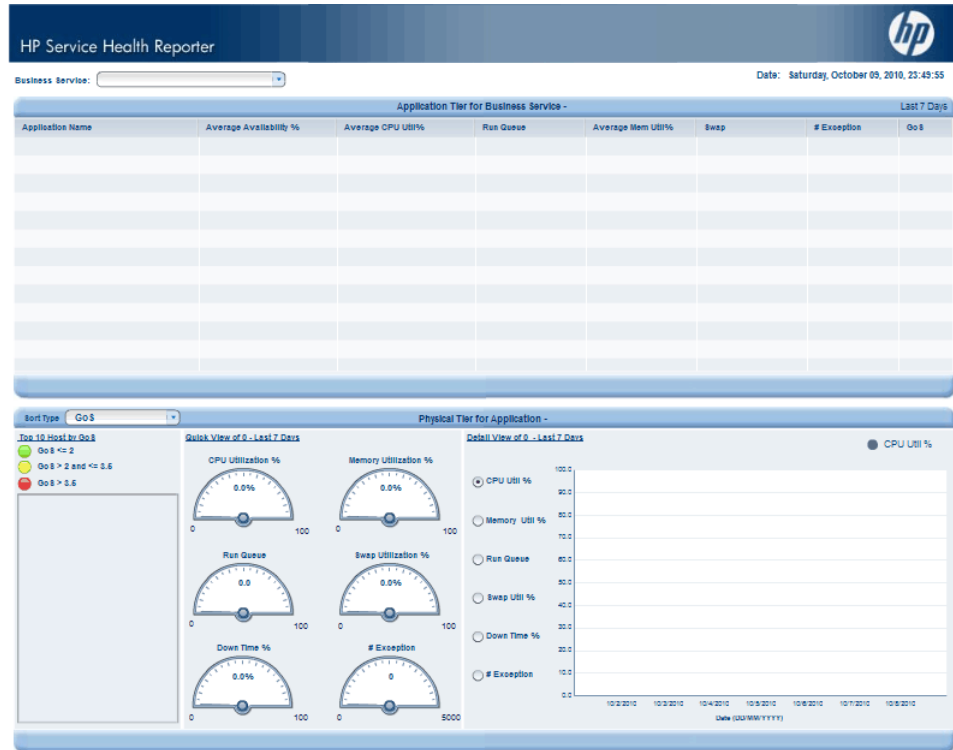
XCelsius Reports

An XCelsius report is an interactive flash report created using the SAP BusinessObjects XCelsius Enterprise tool. XCelsius reports have predefined fields and filters that define the data to be fetched from the universes. XCelsius uses Query as a Web Service (QaaWS) to connect to the SAP BusinessObjects universes. When you open an XCelsius report, it fetches the data by connecting to the content pack universe and displays the data on the report. The date and time for which the data is displayed on an XCelsius report is in GMT format.

You can use the predefined filters on the report to perform on-report analysis. For example, you can use interactive items such as radio buttons and drop-down menus on the report to see how the graphs change over time. You can also open the flash reports in a new window to get a better view of the data. Unlike Web Intelligence reports, you do not provide prompt values and run a query to generate XCelsius reports. For information on how to create

XCelsius reports, see the SAP BusinessObjects documentation available in your installation or at http://help.sap.com/businessobject/product_guides/.

The XCelsius reports available in HP SH Reporter are mostly short-term reports with interactivity. These reports typically display data from different domains at one place for a quick view. The following figure shows a sample XCelsius report.



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Product name and version: HP Service Health Reporter 9.10

Document title: Concepts Guide

Feedback:



