

# Understanding the OVPA Datapipe

Software Version: 3.0

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HP OpenView Performance Insight

July 2006



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# 1 Overview

HP OpenView Performance Insight (OVPI) is a performance management and reporting application. Long-term data collection, in-depth analysis, and automated web-based reporting are this application's primary strengths. The System Resource Report Pack installs on OVPI. This package contains a main package and multiple sub-packages. The main package and the sub-packages do not share the same datapipe. The main package can use three datapipe:

- SysRes RFC 1514 Datapipe 4.0
- SysRes OVPA Datapipe 3.0
- SysRes OVPA Collection Datapipe 1.0

Each sub-package has a built-in datapipe. For more about sub-package collections, refer to the *System Resource Report Pack 4.1 User Guide*.

## SysRes 1514 Datapipe

The SysRes RFC 1514 Datapipe collects the following data from the Host Resources MIB:

- CPU utilization
- Memory utilization
- Number of page outs
- Run queue length
- Swap utilization

## SysRes OVPA Datapipe

The SysRes OVPA Datapipe collects performance data from two OpenView agents:

- HP OpenView Performance Agent (OVPA)
- Embedded Performance Component of HP OpenView Operations (OVOA)

OVOA, which is also known as EPC, ships with OpenView Operations for Unix (OVOU) 7.0 and OpenView Operations for Windows (OVOW) 7.0. If you are using OVOU 7.0 or OVOW 7.0, the SysRes OVPA Datapipe collects metrics from EPC. If you are using an earlier version of OVO, UNIX or Windows, the SysRes OVPA Datapipe collects metrics from OVPA.

The metrics gathered by OVPA are different from the metrics gathered by EPC. For details about how the metrics vary, refer to *Metrics for HP OV Performance Agent and Operations Agent*. You can download this document from the OpenView support site. The document appears in two places on the Product Manuals Search page, under *Operations for Windows*, and also under *Operations for UNIX*.

## SysRes OVPA Collection Datapipe

The SysRes OVPA Datapipe has one prerequisite, the SysRes OVPA Collection Datapipe. The SysRes OVPA Collection Datapipe performs the following tasks:

- Discovers OVPA or EPC performance agents
- Inserts pa\_collect statements into the trendtimer.sched file
- Populates the OVPA type group for use in the collection process

The discovery process runs once a day. It is controlled by the OVPA\_Collection\_Daily.pro file. The discovery process attempts to check all of the nodes in ksi\_managed\_node table. Because SNMP discovery is only capable of discovering SNMP-pollable devices, you may want to add OVPA or EPC systems using the create node tool.

Once the discovery process starts, it will write to the pa\_discovery.data file in the DPIPE\_HOME/data directory. The pa\_discovery.data file contains the systems the discovery process finds. After the discovery process is complete, ee\_collect loads the pa\_discovery.data file into OVPI. The data is placed in the K\_padatasources table.

## SysRes OVPA Datapipe Version History

The following table outlines recent enhancements to the SysRes OVPA Datapipe.

Version	Release Date	Features/Enhancements
1.0	May 2003	Initial release.
2.0	October 2003	Oracle support.
2.5	April 2004	Defect ROSmm36178, related to redundant collections and constraint violation, fixed.
2.6	November 2004	Node discovery moved to SysRes OVPA Collection Datapipe.
2.8	June 2005	Defect QCCR1000214002, related to incorrect system availability data, fixed.
2.8	March 2006	No changes.
3.0	May 2006	Defect fixes: <ul style="list-style-type: none"><li>• QXCR1000301194</li><li>• QXCR1000247763TBD</li></ul>

## Sources for Additional Information

The following documents are related to this manual:

- *SysRes OVPA Datapipe 3.0 Release Statement*
- *SysRes OVPA Collection Datapipe 1.0 Release Statement*



- *SysRes RFC1514 Datapipe 4.0 Release Statement*
- *Metrics for HP OV Performance Agent and Operations Agent, January 2005*
- *HP OpenView Performance Agent Dictionary of Operating System Performance Metrics*
- *HP OpenView Performance Agents Metrics Help Text*
- *System Resource Report Pack 4.1 User Guide*
- *OVPI Report Packs, CD-ROM Release Notes, May 2006*

User guides for the report packs that install on OVPI can be downloaded from here:

<http://www.managementsoftware.hp.com>

Select **Support** > **Product Manuals** to reach the **Product Manuals** page. The user guides for OVPI are listed under **Performance Insight**. The user guides for report packs and datapipes are listed under **Performance Insight Reporting Solutions**. The metrics document listed above appears in two places, under *OVO for Windows* and also under *OVO for UNIX*.

The manuals listed under **Performance Insight Reporting Solutions** show the date of publication. If a manual is revised and reposted, the date will change. Since we post updated manuals on a regular basis, you should check this site for updates before using any PDF you pulled from the Docs directory on the report pack CD-ROM.



## 2 Installation and Agent Discovery

This chapter covers the following topics:

- Guidelines for a smooth install
- Prerequisites
- Installing the SysRes OVPA Datapipe
- Verifying system discovery
- Configuring a remote poller

### Guidelines for a Smooth Install

Most of the reporting solutions created for OVPI consist of two basic ingredients, a report pack and a datapipe. Some report packs have multiple datapipes. When you install the datapipe, you configure OVPI to collect a specific type of performance data at a specific polling interval. When you install the report pack, you configure OVPI to summarize and aggregate the data collected by the datapipe.

The report pack CD-ROM contains report packs, datapipes, and several shared packages. If the contents of the CD were extracted to the Packages directory on your system, then every package, including the SysRes OVPA Datapipe, is available for installation and can be installed by starting Package Manager and following the simple on-screen instructions. If the contents were not extracted, follow the extract procedure later in this chapter.

The SysRes OVPA Datapipe is not a prerequisite for the System Resource Report Pack. You may install the SysRes OVPA Datapipe when you install the System Resource Report Pack, or you may install the SysRes OVPA Datapipe later, after you install the report pack. The SysRes OVPA Datapipe has one dependency, the SysRes OVPA Collection Datapipe. If you do not select the SysRes OVPA Collection Datapipe for installation, Package Manager will select and install this datapipe for you, automatically.

### Installing the SysRes OVPA Datapipe

This section covers the following tasks:

- Task 1: Extract packages from the report pack CD
- Task 2: Install two packages:
  - SysRes OVPA Datapipe 2.8
  - SysRes OVPA Collection Datapipe 1.0

### Task 1: Extract packages from the report pack CD

- 1 Log in to the system. On UNIX systems, log in as root.
- 2 Stop OVPI Timer and wait for processes to terminate.  
*Windows:* Select **Settings > Control Panel > Administrative Tools > Services**.  
*UNIX:* As root, type one of the following:  
HP-UX: **sh /sbin/init.d/ovpi\_timer stop**  
Sun: **sh /etc/init.d/ovpi\_timer stop**
- 3 Insert the report pack CD in the CD-ROM drive. On Windows, a Main Menu displays automatically; on UNIX, mount the CD, navigate to the top-level directory for the CD drive, and type the setup command.
- 4 Select OVPI report packs by typing **1** in the choice field and pressing Enter. The install script displays a percentage complete bar. When extraction finishes, the install script starts Package Manager. The Package Manager welcome window opens.
- 5 When prompted, type your OVPI username and password.

### Task 2: Install the datapipes

If you just extracted files from the product CD, start at step 2. Otherwise, begin at step 1.

- 1 From the Management Console select **Tools > Package Manager**. The Package Manager welcome window opens.
- 2 Click **Next**. The Package Location window opens.
- 3 Click **Install**. Approve the default installation directory or use the browse feature to select a different directory if necessary.
- 4 Click **Next**. The Report Deployment window opens. Accept the default for Deploy Reports; accept the default for application server name and port. Type your username and password for the OVPI Application Server.
- 5 Click **Next**. The Package Selection window opens.
- 6 Click the check box next to each of the following packages:  
*SysRes OVPA Datapipe 2.8*  
*SysRes OVPA Collection Datapipe 1.0*
- 7 Click **Next**. The Type Discovery window opens.
- 8 Disable the default to run Type Discovery immediately after package installation.
- 9 Click **Next**. The Selection Summary window opens.
- 10 Click **Install**. The Installation Progress window opens and the install process begins. When the install finishes, a package install complete message appears.
- 11 Click **Done** to return to the Management Console.
- 12 Restart OVPI Timer.

*Windows:* Select **Settings > Control Panel > Administrative Tools > Services**.

*UNIX:* As root, type one of the following:

HP-UX: **sh /sbin/init.d/ovpi\_timer start**  
Sun: **sh /etc/init.d/ovpi\_timer start**

## Verifying Agent Discovery

There two ways to find out whether any systems have been discovered. The easier way is to open Table Viewer from the Management Console and look at what the property table contains. The other way is to log into the database and run the following command:

```
SELECT * FROM K_padatasources
```

If no rows appear, no systems have been discovered.

If there are systems in K\_padatasources, those systems should also be in the OVPA type group. Systems are placed into the OVPA type group by the following SQL stored procedure:

```
SR_OVPA_SetOVPAType
```

SR\_OVPA\_SetOVPAType runs once a day. It is executed by the following SQL script:

```
execute_SR_OVPA_SetOVPAType.sql
```

The script is located in the SR\_OVPA\_Daily.pro file.

To see the contents of the OVPA type group, use the Group Manager feature within the Management Console. If there are no systems in the OVPA type group, follow these steps:

- 1 From the Management Console, select Polling Policy Manager.
- 2 Use Polling Policy Manager to add systems to the polling group.
- 3 Verify that pa\_collect is able to collect statistics from the systems you added; if statistics are being collected from a system, you know that the system is running an OVPA/EPC agent.
- 4 If you cannot collect data from a system in the OVPA type group, remove that system from the group.

If you already have systems defined in OVPI, you can discover the systems that support OVPA/EPC by navigating to the DPIPE\_HOME/scripts directory and running the following command:

```
trend_proc -f OVPA_Collection_Daily.pro
```

## Configuring a Remote Poller

Manual steps are required to configure a remote poller for OVPA. At the system where you installed the SysRes OVPA Datapipe and the SysRes OVPA Collection Datapipe, follow these steps:

- 1 Stop OVPI Timer on the remote poller.
- 2 Navigate to the DPIPE\_HOME/data directory.
- 3 Copy the pa\_rpt.cnfg file to the DPIPE\_HOME/data directory on the remote poller.
- 4 Navigate to the DPIPE\_HOME/collect/SR directory.
- 5 Copy the bcp files to the DPIPE\_HOME/collect/SR directory on the remote poller.
- 6 Using the trendtimer.sched file as a template, add the pa\_collect entries to the trendtimer.sched file on the remote poller.

- 7 Create polling policies on the OVPI system the remote poller is using.
- 8 Restart OVPI Timer on the remote poller.

It is important to have the bcp<sub>g</sub> files in place before running the first pa\_collect on the remote poller. If for some reason pa\_collect runs before the bcp<sub>g</sub> files are in place, you will need to remove the \*.def files in the DPIPE\_HOME/collect/SR/60 directory on the remote poller. If you install any of the sub-packages that come with System Resource, you will need to copy those bcp<sub>g</sub> files over as well, and create the collection polices for the remote pollers.

# 3 Data Collection and Table Structure

This chapter covers the following topics:

- Data collection
- Table structure
- Metrics collected by the SysRes OVPA Datapipe
- Daily and hourly processes

## Data Collection

The SysRes OVPA Datapipe collects 5 types of metrics. All collections except one occur hourly.

Metric	Frequency
Global	Hourly
Filesystem	Hourly
Transaction	Hourly
Application	Hourly
Configuration	Daily

If a system is in the OVPA type group, the datapipe collects all five metric types from the system.

All collections except the configuration collection are history-styled collections. When the system is polled, the datapipe returns multiple rows back and each row has a distinct *ta\_period*. The first time the collection runs, all rows beginning from midnight the previous day will be returned. The next collection will only return data that has not already been collected.

The history property tables, shown below, contain the last *ta\_suptime* value in the lastPoll column. For each collection that follows the first collection, the poller will request data that meets the following criterion: time stamp > value of *lastPoll*

To change the granularity of the data, use the **-E** option for *pa\_collect*. For example if you want data granularity of 15 minutes instead of an hour, type this command:

```
pa_collect -i 60 -E 15
```

Changing the frequency of polling is not recommended.

## Table Structure

This section provides matrix information for the following tables:

- Data tables
- Property tables
- History property tables

### Data Table Matrix

Raw Table	Rate Table	Property Table	Teel File
xSR_OVPA_config	RSR_OVPA_config	K_OVPA_config	SysResOVPA_Config.teel
xSR_OVPA_filesystem	RSR_OVPA_filesystem	K_OVPA_filesystem	SysResOVPA_Filesystem.teel
xSR_OVPA_global	RSR_OVPA_global	K_OVPA_global	SysResOVPA_Global.teel
xSR_OVPA_application	RSR_OVPA_application	K_AppOVPA_application	SysResOVPA_application.teel
xSR_OVPA_transaction	RSR_OVPA_transaction	K_TrانOVPA_tran	SysResOVPA_Transaction.teel

### Property Table Matrix

Property Table	Teel File
K_OVPA_config	prop_SysResOVPA_config.teel
K_OVPA_filesystem	prop_SysResOVPA_filesystem.teel
K_OVPA_global	prop_SysResOVPA_global.teel
K_AppOVPA_application	prop_AppOVPA_app.teel
K_TrانOVPA_tran	prop_TrانOVPA_tran.teel
K_padasources	prop_SysResOVPA_padasources.teel

### History Property Table Matrix

Property Table	History Property Table	History Teel File
K_OVPA_filesystem	K_OVPA_filesystem_history	prop_SysResOVPA_filesystem_history.teel
K_OVPA_global	K_OVPA_global_history	prop_SysResOVPA_global_history.teel
K_AppOVPA_application	K_AppOVPA_app_history	prop_AppOVPA_app_history.teel
K_TrانOVPA_tran	K_TrانOVPA_tran_history	prop_TrانOVPA_tran_history.teel



# Metrics Collected by the System Resource OVPA Datapipe

The System Resource OVPA Datapipe collects metrics from the following metric classes:

- Global
- Filesystem
- Transaction
- Application
- Configuration

## Configuration Metrics

The collection table is RSR\_OVPA\_config. Supported metrics vary from platform to platform and from OVPA to EPC.

<b>Metric</b>	<b>Description</b>
GBL_MEM_PHYS	Amount of physical memory in the system.
GBL_MEM_FREE	Amount of memory not allocated in the system.
GBL_SYSTEM_ID	System ID
GBL_MACHINE	System type
GBL_OSNAME	Operating system
GBL_OSRELEASE	Current release of the operating system
GBL_OSVERSION	Operating system version
GBL_COLLECTOR	Collector name and version
GBL_NUM_CPU	Number of CPUs on the system
GBL_NUM_DISKS	Number of disks on the system
GBL_NUM_NETWORKS	Number of LAN interfaces on the system

## Filesystem Metrics

The collection table is RSR\_OVPA\_filesystem. Supported metrics vary from platform to platform and from OVPA to EPC.

<b>Metric</b>	<b>Description</b>
FS_DEVNAME	Path name string of the current device.
FS_DEVNO	Internal device number that the OS associates with a disk device.
FS_DIRNAME	The filesystem name or drive letter.
FS_TYPE	The filesystem type.

<b>Metric</b>	<b>Description</b>
FS_MAX_SIZE	Maximum size of the filesystem in MBs.
FS_SPACE_UTIL	Percentage of the file system space in use during the interval.
INTERVAL	Number of seconds in the measurement interval.

## Application Metrics

The collection tables RSR\_OVPA\_application. Supported metrics vary from platform to platform and from OVPA to EPC.

<b>Metric</b>	<b>Description</b>
APP_NAME	<p>The name of the application (up to 20 characters). The name comes from the parm file where the applications are defined. The application called “other” captures all processes not aggregated into applications specifically defined in the parm file. If no applications are defined in the parm file, then all process data will be reflected in the “other” application.</p> <p><b>HP-UX</b></p> <p>If the parm file switch to log PRM group data, instead of application data, is in effect (indicated by APP_PRM_LOGGING_MODE = 1 and the log statement in the parm file includes application=prm), then this name is the PRM groupname defined in the HP-UX Process Resource Manager configuration file.</p> <p><b>WinNT</b></p> <p>The name of the Windows module for this application.</p>
APP_CPU_TOTAL_UTIL	<p>The percentage of the total CPU time devoted to processes in this group during the interval. This indicates the relative CPU load placed on the system by processes in this group.</p> <p>On a system with multiple CPUs, this metric is normalized. That is, the CPU used over all processors is divided by the number of processors online. This represents the usage of the total processing capacity available.</p> <p>Large values for this metric may indicate that this group is causing a CPU bottleneck. This would be normal in a computation-bound workload, but might mean that processes are using excessive CPU time and perhaps looping.</p>

<b>Metric</b>	<b>Description</b>
APP_CPU_TOTAL_TIME	<p>The total CPU time, in seconds, devoted to processes in this group during the interval.</p> <p>On a system with multiple CPUs, this metric is normalized. That is, the CPU used over all processors is divided by the number of processors online. This represents the usage of the total processing capacity available.</p>
APP_MEM_VIRT	<p>The approximate size (in KB) of virtual memory for processes in this group that were alive at the end of the interval.</p> <p><a href="#">HP-UX / SunOS</a></p> <p>This is the sum of the virtual memory region sizes for all processes in this group. Since this virtual memory size for each process includes shared regions, such as library text and data, the shared regions are counted multiple times in this metric. For example, if two processes are attached to a 10MB shared region, then 20MB is reported in this metric. This value is not affected by the reference count. As such, this metric can overestimate the virtual memory being used by processes in this group when they share memory regions.</p> <p><a href="#">WinNT</a></p> <p>The size (in KB) of paging file space used for processes in this group during the interval. This is the sum of the pagefile space used for all processes in this group. Groups of processes may have working set sizes (APP_MEM_RES) larger than the size of their pagefile space.</p>

Metric	Description																								
APP_ALIVE_PROC	<p>An alive process is one that exists on the system. APP_ALIVE_PROC is the sum of the alive-process-time/interval-time ratios for every process belonging to a given application.</p> <p>The following diagram shows two processes over a 4-second interval. Note the difference between active processes, which consume CPU time, and alive processes which merely exist on the system.</p> <div style="text-align: center;"> <p>----- Seconds -----</p> <p>1      2      3      4</p> </div> <table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding-right: 10px;">Proc</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">----</td> <td style="text-align: center;">----</td> <td style="text-align: center;">----</td> <td style="text-align: center;">----</td> <td style="text-align: center;">----</td> </tr> <tr> <td>A</td> <td style="text-align: center;">live</td> <td style="text-align: center;">live</td> <td style="text-align: center;">live</td> <td style="text-align: center;">live</td> <td style="text-align: center;">live</td> </tr> <tr> <td>B</td> <td style="text-align: center;">live/CPU</td> <td style="text-align: center;">live/CPU</td> <td style="text-align: center;">live</td> <td style="text-align: center;">dead</td> <td></td> </tr> </table> <p>Process A is alive for the entire interval but consumes no CPU. A's contribution to APP_ALIVE_PROC is <math>4 \times \frac{1}{4}</math>. A contributes <math>0 \times \frac{1}{4}</math> to APP_ACTIVE_PROC. B's contribution to APP_ALIVE_PROC is <math>3 \times \frac{1}{4}</math>. B contributes <math>2 \times \frac{1}{4}</math> to APP_ACTIVE_PROC. Thus, for this interval, APP_ACTIVE_PROC equals 0.5 and APP_ALIVE_PROC equals 1.75. Because a process may be alive but not active, APP_ACTIVE_PROC will always be less than or equal to APP_ALIVE_PROC.</p> <p>SunOS / WinNT</p> <p>This metric is derived from sampled process data. Since the data for a process is not available after the process has died on this operating system, a process whose life is shorter than the sampling interval may not be seen when the samples are taken. Thus this metric may be slightly less than the actual value. Increasing the sampling frequency captures a more accurate count, but the overhead of collection may also rise.</p>	Proc							----	----	----	----	----	A	live	live	live	live	live	B	live/CPU	live/CPU	live	dead	
Proc																									
	----	----	----	----	----																				
A	live	live	live	live	live																				
B	live/CPU	live/CPU	live	dead																					
APP_ACTIVE_PROC	The number of seconds during the interval that this application had windows in the active state.																								
INTERVAL	Number of seconds in the measurement interval.																								

## Transaction Metrics

The collection table is RSR\_OVPA\_transaction. Supported metrics vary from platform to platform and from OVPA to EPC.

<b>Metric</b>	<b>Description</b>
TT_ABORT	Number of aborted transaction.
TT_ABORT_WALL_TIME_PER_TRAN	Average time in sec per aborted transaction.
TT_APP_NAME	The registered ARM application name.
TT_COUNT	Number of completed transactions.
TT_NAME	The registered transaction Name.
TT_SLO_COUNT	Total number of page outs to the disk per second.
TT_SLO_PERCENT	Number of successful packets per second received through all network interfaces.
TT_SLO_THRESHOLD	Number of successful packets received through all network interfaces.
TT_WALL_TIME_PER_TRAN	Number of successful packets per second sent through all network interfaces.
INTERVAL	Number of seconds in the measurement interval.

## Global Metrics

The collection table is RSR\_OVPA\_global. Supported metrics vary from platform to platform and from OVPA to EPC agents.

<b>Metric</b>	<b>Description</b>
GBL_ACTIVE_PROC	The total alive-process-time/interval-time ratios of every process that is active (uses any CPU time) during an interval.
GBL_ALIVE_PROC	The total alive-process-time/interval-time ratios for every process.
GBL_CPU_TOTAL_TIME	The total time, in seconds, that the CPU was not idle.
GBL_CPU_TOTAL_UTIL	Percentage of time the CPU was not idle.
GBL_DISK_PHYS_IO	The number of physical IOs.
GBL_MEM_PAGEOUT_RATE	The total number of page outs to the disk per second.
GBL_NET_IN_PACKET_RATE	Number of successful packets per second received through all network interfaces.
GBL_NET_IN_PACKET	Number of successful packets received through all network interfaces.
GBL_NET_OUT_PACKET_RATE	Number of successful packets per second sent through all network interfaces.

Metric	Description
GBL_NET_OUT_PACKET	Number of successful packets sent through all network interfaces.
GBL_RUN_QUEUE	Average number of –runnable• processes over all processors.
GBL_STARTED_PROC	Number of processes that started during the interval.
GBL_SWAP_SPACE_UTIL	The percent of swap space used.
GBL_MEM_UTIL	The percent of physical memory in use.
INTERVAL	Number of seconds in the measurement interval.

## Daily and Hourly Processes

At 1:00 a.m., when the SR\_OVPA\_Daily.pro file is invoked, two events take place:

- 1 The OVPA type group is populated.
- 2 The update\_device\_properties.sql script runs.

The update\_device\_properties.sql script updates K\_OVPA\_config and K\_Node with system information. The information added to K\_Node is used to identify the vendor, system model, and the operating system.

Once an hour, when the SR\_OVPA\_Hourly.pro file is invoked, the following events take place:

- 1 New systems are processed.
- 2 Two tables are updated:
  - Filesystem property table
  - Transaction property table
- 3 Data is mapped from datapipe rate tables to report pack base tables.



For details about data mapping, see the next chapter.

## Processing a New System

New systems are found and added to K\_Node before the summaries run. This stored procedure is responsible for adding a new system to K\_Node:

```
ppSR_OVPA_SetIDs
```

It is invoked by this SQL script:

```
execute_SR_OVPA_SetIDs.sql
```

The stored procedure performs two actions:

- Populates K\_Node with the new system
- Adds the dsi\_key\_id value for that system from K\_Node to the node\_fk column in the datapipe property table

## Updating Tables

The filesystem update is `update_filesystem_property_table.sql`. The file system update populates the `K_OVPA_filesystem` property table with the filesystem name.

The transaction update is `update_Trans_ProTables.sql`. On a per-transaction basis, the transaction update populates the `SLO_Threshold` column in the property table `K_Transaction_ByTran`, using values from the `SLO_Threshold` column in the `K_TransOVPA_tran` property table.





## 4 Hourly Data Mapping

This chapter covers the following topics:

- SR\_OVPA\_Hourly.pro file
- Mapping RSR\_OVPA\_global to SR\_SR\_Kernel
- Mapping RSR\_OVPA\_filesystem to SR\_SR\_Fileystem
- Mapping RSR\_OVPA\_global to SR\_SR\_SysVol
- Mapping RSR\_OVPA\_application to SRApp\_application
- Mapping RSR\_OVPA\_transaction to SRTran\_Transaction

If you need to know more about the collections performed by the sub-packages (CPU, Process, Disk, Logical Volume, Network Interface), refer to Chapter 2, Data Collection, in the *System Resource Report Pack 4.1 User Guide*.

### SR\_OVPA\_Hourly.pro

The scripts in this file set node IDs and run hourly sums.

```
begin: main wait

{DPIPE_HOME}/bin/ovpi_run_sql -sqlscript {DPIPE_HOME}/scripts/
{DBVENDOR}/execute_update_boot_time.sql -logfile {DPIPE_HOME}/tmp/
execute_update_boot_time.out

{DPIPE_HOME}/bin/ovpi_run_sql -sqlscript {DPIPE_HOME}/scripts/
{DBVENDOR}/execute_SR_OVPA_SetIDs.sql

{DPIPE_HOME}/bin/ovpi_run_sql -sqlscript {DPIPE_HOME}/scripts/
{DBVENDOR}/update_filesystem_property_table.sql

{DPIPE_HOME}/bin/trend_sum -f {DPIPE_HOME}/scripts/SR_SR_global.sum
{DPIPE_HOME}/bin/trend_sum -f {DPIPE_HOME}/scripts/SR_SR_volume.sum
{DPIPE_HOME}/bin/trend_sum -f {DPIPE_HOME}/scripts/SR_SR_filesystem.sum
{DPIPE_HOME}/bin/trend_sum -f {DPIPE_HOME}/scripts/SR_SR_tran.sum
{DPIPE_HOME}/bin/trend_sum -f {DPIPE_HOME}/scripts/SR_SR_application.sum

{DPIPE_HOME}/bin/ovpi_run_sql -sqlscript {DPIPE_HOME}/scripts/
{DBVENDOR}/execute_SR_Populate.sql -logfile {DPIPE_HOME}/tmp/
execute_SR_Populate.out

{DPIPE_HOME}/bin/trend_sum -f {DPIPE_HOME}/scripts/SR_SR_SysUp.sum
```

```
{DPIPE_HOME}/bin/ovpi_run_sql -sqlscript {DPIPE_HOME}/scripts/
{DBVENDOR}/Update_Trans_ProTables.sql
```

end:

## RSR\_OVPA\_global to SR\_SR\_Kernel

Purpose: Map metrics from RSR\_OVPA\_global to the SR\_SR\_Kernel base table.

File: SR_SR_global.sum source table: RSR_OVPA_global destination table: SR_SR_Kernel by variable: node_fk by variable: ta_period		
<b>Source Metric</b>	<b>Destination Metric</b>	<b>Summary Type</b>
GBL_MEM_UTIL	TOTmemoryUtil	tot
case when (GBL_MEM_UTIL < 25) then 1 when (GBL_MEM_UTIL < 50) then 2 when (GBL_MEM_UTIL < 75) then 3 when (GBL_MEM_UTIL >= 75) then 4 end	TOTmemoryUtil_grade	tot
GBL_RUN_QUEUE	TOTTrunq	tot
case when (GBL_RUN_QUEUE < 2) then 1 when (GBL_RUN_QUEUE < 3) then 2 when (GBL_RUN_QUEUE < 4) then 3 when (GBL_RUN_QUEUE >= 4) then 4 end	TOTTrunq_grade	tot
GBL_CPU_TOTAL_UTIL	TOTcpuutil	tot
case when (GBL_CPU_TOTAL_UTIL < 25) then 1 when (GBL_CPU_TOTAL_UTIL < 50) then 2 when (GBL_CPU_TOTAL_UTIL < 75) then 3 when (GBL_CPU_TOTAL_UTIL >= 75) then 4 end	TOTcpuutil_grade	tot
GBL_ALIVE_PROC	TOTavgNumProcs	tot
GBL_MEM_PAGEOUT_RATE	AVGmemPageOutRate	avg
GBL_SWAP_SPACE_UTIL	TOTswapUtil	avg
case when (GBL_SWAP_SPACE_UTIL < 25) then 1 when (GBL_SWAP_SPACE_UTIL < 50) then 2 when (GBL_SWAP_SPACE_UTIL < 75) then 3 when (GBL_SWAP_SPACE_UTIL >= 75) then 4 end	TOTswapUtil_grade	tot

## RSR\_OVPA\_filesystem to SR\_SR\_FileSystem

Purpose: Map metrics from RSR\_OVPA\_filesystem to the SR\_SR\_FileSystem base table.

File: SR_SR_filesystem.sum source table: RSR_OVPA_filesystem destination table: SR_SR_FileSystem by variable: node_fk by variable: FSIndexP by variable: ta_period		
Source Metric	Destination Metric	Summary Type
FS_MAX_SIZE	TOTfileSystemSize	tot
FS_SPACE_UTIL	TOTfileSystemUtil	tot

## RSR\_OVPA\_global to SR\_SR\_SysVol

Purpose: Map metrics from RSR\_OVPA\_global to the SR\_SR\_SysVol base table.

File: SR_SR_volume.sum source table: RSR_OVPA_global destination table: SR_SR_SysVol by variable: node_fk by variable: ta_period		
Source Metric	Destination Metric	Summary Type
GBL_NET_IN_PACKET+GBL_NET_OUT_PACKET	TOTvolume	tot

## RSR\_OVPA\_application to SRApp\_application

Purpose: Map metrics from RSR\_OVPA\_application to the SRApp\_application base table.

File: SR_SR_application.sum source table: RSR_OVPA_application destination table: SRApp_application by variable: node_fk by variable: prop_app_name by variable: ta_period		
Source Metric	Destination Metric	Summary Type
APP_CPU_TOTAL_UTIL	AVGCPUUtil	avg
APP_CPU_TOTAL_UTIL	MAXCPUUtil	max
APP_CPU_TOTAL_UTIL	MINCPUUtil	min
APP_CPU_TOTAL_TIME	TOTCPUSeconds	tot
APP_MEM_VIRT	TOTMemSeconds	tot
APP_ALIVE_PROC	TOTProcess	tot

## RSR\_OVPA\_transaction to SRTran\_Transaction

Purpose: Map metrics from RSR\_OVPA\_transaction to the SRTran\_Transaction base table.

File: SR_SR_tran.sum source table: RSR_OVPA_transaction destination table: SRTran_Transaction by variable: node_fk by variable: Transaction_Name by variable: ta_period  column: Completed=TT_COUNT:tot column: Aborted=TT_ABORT:tot column: ResponseTime=TT_WALL_TIME_PER_TRAN:avg,max,min column: SLOPercent=TT_SLO_PERCENT:avg column: Violation=TT_SLO_COUNT:tot		
Source Metric	Destination Metric	Summary Type
TT_WALL_TIME_PER_TRAN	AVGResponseTime	avg
TT_WALL_TIME_PER_TRAN	MAXResponseTime	max
TT_WALL_TIME_PER_TRAN	MINResponseTime	min
TT_COUNT	TOTCompleted	tot

File: SR_SR_tran.sum source table: RSR_OVPA_transaction destination table: SRTran_Transaction by variable: node_fk by variable: Transaction_Name by variable: ta_period  column: Completed=TT_COUNT:tot column: Aborted=TT_ABORT:tot column: ResponseTime=TT_WALL_TIME_PER_TRAN:avg,max,min column: SLOPercent=TT_SLO_PERCENT:avg column: Violation=TT_SLO_COUNT:tot		
TT_ABORT	TOTALaborted	tot
TT_SLO_PERCENT	AVGSLOPercent	avg
TT_SLO_COUNT	TOTViolation	tot



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