HP OpenView Smart Plug-in for Databases

**Supplemental Configuration Guide
for DB-SPI for Rdb on OpenVMS**

Supplement to
HP OpenView Smart Plug-in for Databases
Configuration Guide
(UNIX and Windows Versions)

UNIX – Version 08.20
Windows – Version 08.30

June 2007

Table of Contents

Legal Notices

Warranty.

Hewlett-Packard makes no warranty of any kind with regard to this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be held liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance, or use of this manual.

A copy of the specific warranty terms applicable to your Hewlett-Packard product can be obtained from your local Sales and Service Office.

Restricted Rights Legend.

Use, duplication or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software clause in DFARS 252.227-7013.

Hewlett-Packard Company
United States of America

Rights for non-DOD U.S. Departments and Agencies are as set forth in FAR 52.227-19(c)(1,2).

Copyright Notices.

Trademark Notices.

Microsoft®, and Windows NT, are US registered trademarks of Microsoft Corporation.
Pentium®, is a US registered trademark of Intel Corporation.
UNIX®, is a registered trademark of The Open Group.
Oracle®, is a registered trademark of Oracle Corporation.

Conventions

Boldface	Words in **boldface** type represent programs and commands.
Capitalization	Capitalized first letters represent company or product names.
`Computer font`	Words in `computer font` represent file or path names, command syntax statements, prompts or messages that appear on your screen, or text you should type on your workstation or terminal.
italics	Words in *italics* represent variables in syntax statements or words that are emphasized in the text.
{ }	Represents required elements in a syntax statement. When several elements are separated for the	symbol, you must select one of the elements.
[ ]	Represents optional elements in a syntax statement.

Introduction

The Smart Plug-in for Databases (DB-SPI) for Rdb adds Rdb database monitoring capability to HP OpenView Operations (OVO). DB-SPI for Rdb is based on DB-SPI Version 8.10 for UNIX Management Servers. As with other versions of DB-SPI products, you can install the DB-SPI for Rdb on either a UNIX or a Windows Management Server and use OVO to distribute it to managed nodes.

Organization of This Manual

This document describes the support for Rdb in the HP OpenView Smart Plug-in for Databases. An abbreviated name for the product, DB-SPI for Rdb, is used in this document. The abbreviated name for this manual is the *Rdb-Specific Configuration Guide*.

This document is intended to be used as a supplementary guide to *HP OpenView Smart Plug-in for Databases Configuration Guide* -- Version A.08.10 for the UNIX Operating System and Version B.08.01 for the Windows Operating System. In this manual, an abbreviated name for each manual **-- General Configuration Guide for UNIX** and **General Configuration Guide for Windows --** replaces the full title. These two guides are similarly but not identically organized.

The *Rdb-Specific Configuration Guide* is organized into the same chapters and sections as the *General Configuration Guide for UNIX*. Any differences between the Rdb OpenVMS implementation and implementations on other platforms are noted here. All section titles are included in this document to make changed material easier to find. Subsection titles are included only if differences exist.

Where the title **General Configuration Guide** is used, without an operating system designation, the information is not specific to either UNIX or Windows Management Servers.

General Differences

This section describes the general areas in which the DB-SPI for Rdb differs from DB-SPIs on other platforms.

File Specifications

The *Rdb-Specific Configuration Guide* includes file specifications throughout the manual. Although the format of file specifications differs between the OpenVMS, UNIX, and Windows operating systems, the files are in the same general location in the directory structure on an OpenVMS managed node as they are on managed nodes on other platforms. For example, the following lines show the location of data, logging, and configuration files on different operating systems:

```
UNIX:      /var/opt/OV/dbspi/
Windows:   \usr\OV\dbspi
OpenVMS:   OVO$ROOT:[var.opt.OV.dbspi]
```

Running DB-SPI for Rdb Commands from the Command Line

Many commands available to a DB-SPI for Rdb user on UNIX and Windows are available for the DB-SPI for Rdb. To make these commands available to an OpenVMS interactive user, enter the following command to define them:

```
$ @OVO$CMDS:DBSPI$DEFINE_COMMANDS
```

This command procedure is available only if the logicals for the OpenView Agent have been defined, either by starting the OpenView Agent on your managed node or by defining the logicals using the following command:

```
$ @SYS$STARTUP:OVO$DEFINE_LOGICALS
```

In the *General Configuration Guide*, the commands are sometimes prefixed by the full directory specification. For the DB-SPI for Rdb, do not use the full directory specification. For example, if the following command appears:

```
/<OVO_command_directory>/dbspicol -v ON
```

Enter this command on OpenVMS:

```
dbspicol -v ON
```

NOTE: Your process must have SYSPRV privilege to use the DB-SPI for Rdb commands.

User Name

Whenever the root user name is specified on UNIX systems or Administrator on Windows systems, the user name SYSTEM is used on OpenVMS unless noted otherwise.

Supported Databases

The DB-SPI for Rdb supports only the Oracle Rdb database. Other databases that DB-SPI monitors on other platforms are not supported with the DB-SPI on OpenVMS.

The Collector/Analyzer Command

The collector/analyzer command for this product is dbspicar. This is analogous to the commands dbspicao, dbspicai, dbspicas, and dbspicam for Oracle, Informix, Sybase, and MS-SQL, respectively.

Unsupported Features

The DB-SPI for Rdb does not include some features discussed in various places in the *General Configuration Guide*. Rather than list them in every section in which a feature is mentioned, several major unsupported features are the following:

- Custom metrics (UDMs)
- Integration of OpenView Performance Manager or PerfView
- Integration with Service Navigator via Service Discovery

Chapter 1: An Overview of the Database SPI

Any differences between the DB-SPI for Rdb implementation and other implementations are pointed out in the following sections.

How the Smart Plug-in for Databases Works

How DB-SPI for Rdb Displays Information

Like the DB-SPIs for other databases, the principal way the DB-SPI for Rdb displays information is with messages in the message browser and instruction text, as explained in the section in the *General Configuration Guide* that corresponds to this one.

DB-SPI for Rdb does not support the other methods described in the *General Configuration Guide*, including the following:

- Topology and Service Alerts in the Service Navigator
- Reports
- Graphs of metric data by OpenView Performance Manager or PerfView

Changes You Can Make

All changes described in this section in the *General Configuration Guide* are supported for this product except the following:

- Specifying filters with WHERE clauses
- Defining user-defined metrics (UDMs)

Components of the Smart Plug-in for Databases

The following sections describe differences between DB-SPI for Rdb components and those described in the *General Configuration Guide*.

Applications

DB-SPI for Rdb supports all the applications described in the *General Configuration Guide* except the following:

- Service Discovery group

    Rdb-DBSPI does not support any of the applications in this group.

- Admin and Admin Windows groups

    For the most part, the Admin and Admin Windows groups contain similar applications. The main difference between applications in these two groups is the user name with which they run on the managed node. The applications in the Admin group typically use the `root` user name, while the applications in the Admin Windows group typically use the `$AGENT_USER` application variable.

    For DB-SPI for Rdb, use the applications in the Admin Windows group. The following applications are supported:

    - Check Connections
    - Display Error File
    - Display Trace File
    - Start Monitoring
    - Stop Monitoring
    - Trace Off
    - Trace On
    - Verify Deployment

Templates

DB-SPI templates for DB-SPI for Rdb are in the DBSPI-Rdb template group, which is in the SPI for Databases (OpenVMS) template group in the Top level of the Message Source Template window.

Message Groups. Message Groups are used to classify messages that DB-SPI for Rdb templates generate. The message groups for DB-SPI for Rdb are the following:

- Administrative Messages: Rdb_Admin
- Configuration Messages: Rdb_Conf
- Error Condition Messages: Rdb_Fault
- Performance Messages: Rdb_Perf

Reports

No reports are defined for DB-SPI for Rdb.

Chapter 2: Installing and Configuring the Database SPI

This chapter discusses installing, configuring, and removing DB-SPI for Rdb components to use with OpenView Operations (OVO). See Appendix B for a list of the DB-SPI for Rdb components added during the installation process. Any differences between the DB-SPI for Rdb implementation and other implementations are noted in the following sections.

Installation and Configuration

Support Information:

DB-SPI for Rdb is supported in the following configurations on OpenVMS systems:

- **Alpha OpenVMS Version 7.3-2 and higher:**

  - Required OpenVMS patches:
    - VMS732_PCSI V3.0 or later
    - VMS732 _UPDATE V9.0 or later

  - Supported versions of Rdb:
    - Rdb Version 7.1.4.0 and higher
    - Rdb Version 7.2 and higher

- **Integrity OpenVMS Version 8.2-1 and higher:**

  - Required OpenVMS patches:
    - VMS82I_UPDATE V6.0
    - VMS82I_PCSI V1.0

  - Supported version of Rdb:
    - Rdb Version 7.2 and higher

Prerequisites for DB-SPI for Rdb are the following:

- **OpenView Agent for OpenVMS**

  The OpenVMS node must have Version 2, ECO9 or later, of the OpenView Agent for OpenVMS. You can download this from the following web site:

      www.hp.com/products/openvms/openviewagent/

  Then follow the links to the Updates page.

- **DB-SPI**

  DB-SPI A.08.10 must be installed on the Management Server.

Agent Configurations:

You can disregard this section in the *General Configuration Guide* for the following reasons:

- OpenView Performance Agent and MeasureWare are not supported in this version of DB-SPI for Rdb.

- No mechanism exists to switch between DCE or HTTPS 8.0 agents.

Required Tasks on UNIX Management Servers

The following tasks are numbered as they are in the *General Configuration Guide on UNIX.* This document notes whether each numbered task applies or does not apply to DB-SPI for Rdb and, if the task is different for DB-SPI for Rdb, how it differs.

TASK 1: INSTALL ON THE MANAGEMENT SERVER

Disregard the instructions in the *General Configuration Guide* for this task.

The Rdb DB-SPI product is supplied in the file, DBSPI_HPUX_08_20_00.sdtape. To install the product on the Management Server, copy it to a temporary location and install it using the following commands:

```
# cd <temporary directory>

# swinstall -s <temporary directory>/DBSPI-HPUX_08_20_00.sdtape DBSPIRdbOpenVMS
```

Next, upload the templates using the –add option if this is the first time you have installed the Rdb DB_SPI or using the –replace option if you have previously installed the Rdb DB-SPI, as follows:

```
# /opt/OV/BIN/OpC/opccfgupld –add cfgRdb
```

or

```
# /opt/OV/bin/OpC/opccfgupld –replace cfgRdb
```

TASK 2: ADD NODES TO THE APPROPRIATE DB-SPI FOR RDB NODE GROUP

Follow the instructions in the *General Configuration Guide*.

The Node Group for the DB-SPI for Rdb is Rdb.

TASK 3: DEPLOY ACTIONS/MONITORS/COMMANDS TO DB-SPI FOR RDB NODE GROUP(S)

Follow the instructions in the *General Configuration Guide*.

The Node Group for the DB-SPI for Rdb is `Rdb`.

TASK 4: ASSIGN/DEPLOY THE DISCOVERY TEMPLATE(S) TO THE MANAGEMENT SERVER

DB-SPI for Rdb does not support the Service Navigator Map; therefore, the Discovery Templates are not supplied.

TASK 5: UPDATE USER RESPONSIBILITIES

Follow the instructions in the *General Configuration Guide*.

For DB-SPI for Rdb, the Message Groups are `DBSPI` and the following:

        Rdb_Admin, Rdb_Conf, Rdb_Fault, Rdb_Perf

TASK 6: SPECIFY OPERATORS FOR SERVICE MAP VIEWING

DB-SPI for Rdb does not support the Service Navigator Map.

TASK 7: RUN DISCOVERY

DB-SPI for Rdb does not support the Service Discovery application.

TASK 8: CONFIGURE THE DATABASE CONNECTION

Disregard the instructions in the *General Configuration Guide* for this task.

DB-SPI for Rdb must be configured on the OpenVMS managed node.   Follow these steps:

1. Log in to the system manager's account.

2. Create a text file with the configuration statements required for managing databases on this node. See Appendix C for the correct syntax for entries in this file.

3. Execute the following DCL command to import your configuration:

    ```
    $ dbspicfg -i <your input file>
    ```

4. This results in a binary file located at the following:

    ```
    ovo$root:[var.opt.OV.dbspi]local.cfg
    ```

5. Delete or otherwise protect your input file if it contains passwords.

If you need to change the configuration at any point after this, you can export the existing configuration, edit the resulting file, and import it using the following commands:

```
$ dbspicfg -e <config text file>
$ edit <config text file>
$ dbspicfg -i <config text file>
```

TASK 9: RUN THE SERVICE DISCOVERY APPLICATION AGAIN (SEE TASK 6)

DB-SPI for Rdb does not support the Service Navigator Map.

TASK 10: DISTRIBUTE THE DB-SPI FOR RDB TEMPLATES

Follow the instructions in the *General Configuration Guide.*

The information about the Quick Start templates for DB-SPI for Rdb is the following:

Node Group	Quick Start Group Assigned
Rdb	DBSPI-Rdb: Quick Start

NOTE: DB-SPI for Rdb is not integrated with HP OpenView Reporter, Performance Manager, or PerfView.

Checking for Completeness of Installation

Before you begin to use DB-SPI for Rdb extensively, you can check your installation on the managed nodes to ensure that all program components are present.

Verifying DB-SPI for Rdb Version Installed on the Managed Node

Disregard the instructions in the *General Configuration Guide* for this section.

Perform this task from the OpenVMS command line using the following command:

```
$ dbspiadm verify
```

Required Tasks on Windows Management Servers

The following tasks are numbered as they are in the *General Configuration Guide on Windows*. This document notes whether each numbered task applies or does not apply to DB-SPI for Rdb and, if the task is different for DB-SPI for Rdb, how it differs.

Install the Database SPI on the Management Server

Disregard the instructions in the *General Configuration Guide* for this task**.**

In the "Read Before Installing" letter, you are instructed to extract the file DBSPI_CONSOLE_08_30_00.msi from a zip file and place it in a temporary location. Using Windows Explorer, double-click this file to run it. Follow the directions on the screen to complete the installation.

NOTE: When the Destination Folder dialog box appears, you cannot change the destination. Click Next to continue.

Configure UNIX Agents (New Installations) for UNIX Databases

This section is not applicable to the OpenVMS OVO agent.

Configure Managed Nodes (New Installations)

Complete the following tasks in the order presented.

TASK 1: REVIEW THE DATABASE SPI DISCOVERY METHOD OR ALGORITHM.

Discovery of database instances is not supported by the DB-SPI for Rdb.

TASK 2: FOR NODES ALREADY MANAGED BY OVO, MANUALLY DEPLOY THE DBSPI SERVICE DISCOVERY POLICY.

Disregard the instructions in the *General Configuration Guide* for this task.

DB-SPI Service Discovery policy is not supplied with DB-SPI for Rdb, and therefore the Quick Start policy group is not automatically deployed. You must manually deploy the Quick Start policy group in a later task.

At this time, manually deploy the instrumentation. To do this, right-click the managed node, select All Tasks, and then select Deploy instrumentation. In the dialog box, select DBSPI for OpenVMS, and click OK. Whenever you deploy the DBSPI instrumentation from an OVO/Windows

Management Server, you must perform one additional step. Please invoke the following command on the managed node:

```
$ @ovo$instrumentation:dbspi$define_commands
```

TASK 3: FOR NEW NODES, ADD SYSTEMS (UNIX OR WINDOWS OR BOTH) TO THE OVO NODES GROUP.

Follow the instructions in the *General Configuration Guide* for adding new OVO Nodes. However, DB-SPI Service Discovery policy is not supplied with DB-SPI for Rdb, and therefore the Quick Start policy group is not automatically deployed. You must manually deploy the Quick Start policy group in a later task.

At this time, manually deploy the instrumentation. To do this, right-click the managed node, select All Tasks, and then select Deploy instrumentation. In the dialog box, select DBSPI for OpenVMS, and click OK. Whenever you deploy the DBSPI instrumentation from an OVO/Windows Management Server, you must perform one additional step. Please invoke the following command on the managed node:

```
$ @ovo$instrumentation:dbspi$define_commands
```

TASK 4: LAUNCH THE WINDOWS OR UNIX DATABASE SPI CONFIGURATION MANAGER TO ADD UNDISCOVERED DATABASES, AND COMPLETE WINDOWS OR UNIX NODE CONFIGURATIONS.

Disregard the instructions in the *General Configuration Guide* for this task.

TASK 5: ENTER DATABASE INFORMATION FOR EACH NODE, AS NECESSARY.

Disregard the instructions in the *General Configuration Guide* for this task.

You must configure DB-SPI for Rdb on the OpenVMS managed node.   Follow these steps:

6. Log in to the system manager's account.

7. Create a text file with the configuration statements required for managing databases on this node. See Appendix C for the correct syntax for entries in this file.

8. Define the DBSPI commands. See the section "Running DB-SPI for Rdb Commands from the Command Line" for details.

9. Execute the following DCL command to import your configuration:

```
$ dbspicfg -i <your input file>
```

10. This results in the following binary file:

```
ovo$root:[var.opt.OV.dbspi]local.cfg
```

11. Delete or otherwise protect your input file if it contains passwords.

If you need to change the configuration at any point after this, you can export the existing configuration, edit the resulting file, and import it using the following commands:

```
$ dbspicfg -e <config text file>
$ edit <config text file>
$ dbspicfg -i <config text file>
```

At the OVO console under the Policy Groups, expand the SPI for Databases (OpenVMS) policy group and then expand the DBSPI-Rdb policy group. Manually deploy the Quick Start policy group.

TASK 6: RE-DEPLOY THE DBSPI SERVICES DISCOVERY POLICY TO ALL DATABASE NODES.

Disregard the instructions in the *General Configuration Guide* for this task.

TASK 7: VERIFY THE DBSPI INSTALLATION AND DATABASE CONFIGURATION.

Disregard the instructions in the *General Configuration Guide* for this task.

To check the deployment of programs to the managed nodes, you can use the dbspiadm command from the DCL prompt on the managed node:

```
$ dbspiadm verify
```

TASK 8: USE THE CREATE NODE GROUPS TOOL

Disregard the instructions in the *General Configuration Guide* for this task.

Chapter 3: Using and Customizing the Database SPI

This chapter explains how to use and customize DB-SPI for Rdb.

Using DB-SPI Templates& Drill-down Metrics

No metrics are categorized as roll-up or drill-down metrics for the DB-SPI for Rdb.

Advanced Template Customizations

Using the DB-SPI Collector/Analyzer Command with Parameters

DB-SPI for Rdb supports the syntax as documented in the *General Configuration Guide* with the exception of the following:

- `dbspicar –l`

  The `–l` option is ignored because there are no Rdb log files to monitor (and no corresponding logfile templates).

- `dbspicar –d –f`

  The `–f` option is ignored because filters are not specified for Rdb metrics.

Running DB-SPI for Rdb Applications from the Command Line

On OpenVMS, for each session in which you want to run commands from the command line, you must define the commands. See the section "Running DB-SPI Commands from the Command Line" on page 5 for instructions. No `dbspisetpath` command is necessary.

DATABASE SPI ADMIN APPLICATIONS

DB-SPI for Rdb supports all the commands associated with Admin Windows Applications except the following:

- Enabling and disabling reports and graphs
- The database configuration script `dbspicfg.sh`

RDB APPLICATIONS

No corresponding DB-SPI for Rdb applications exist.

COLLECTORS

The Rdb collector is `dbspicar.`

Re-Installing the DB-SPI Templates

When the DB-SPI monitor templates are installed in OVO, the installer of the DB-SPI uses the `opccfgupld` command to upload the templates.

No mechanism exists to refresh any particular groups. If you want to reinstall the DB-SPI templates for this product, repeat the `opccfgupld` command as specified in the section "Task 1: Install on the Management Server" on page 10.

> **Note:** Re-installing the DB-SPI templates removes any nodes you have placed in the Rdb node group. If you want to preserve the contents of this group, make a copy of it before re-installing the templates, and copy them back afterward.

Using Filters with DB-SPI for Rdb

Filters are not supported on metrics for Rdb.

Using Templates/Applications to Generate Metric Reports

No reports have been defined for Rdb metrics.

Investigating Performance Problems Using OpenView Performance Agent

OpenView Performance Agent is not supported in this version of DB-SPI for Rdb.

Changing from One OpenView Agent Version to Another

DB-SPI for Rdb does not support the Migrate Agent application.

Chapter 4: Using the Database SPI with OpenView Reporting and Graphing Products

Disregard this chapter in the *General Configuration Guide.* DB-SPI for Rdb is not integrated with OpenView Reporting and Graphing Products.

Chapter 5: Oracle Advanced Customizations

Disregard this chapter in the *General Configuration Guide.* DB-SPI for Rdb does not support Oracle databases.

Chapter 6: User-Defined Metrics

Disregard this chapter in the *General Configuration Guide.* DB-SPI for Rdb does not support User-Defined Metrics.

Chapter 7: Special Configurations

Disregard this chapter in the *General Configuration Guide.* DB-SPI for Rdb has no special configurations.

Chapter 8: Error Messages and Troubleshooting

This chapter discusses error messages and troubleshooting the implementation of the DB-SPI for Rdb.

Troubleshooting Special Situations

This section discusses various special troubleshooting situations.

Using the Self-Healing Info Application

The Self-Healing troubleshooting methods are not available with the DB-SPI for Rdb.

Chapter 9: Non-English Environments

The DB-SPI for Rdb has not been tested in a non-English environment.

Appendix A: File Names

This appendix briefly describes the DB-SPI for Rdb file names. These files are listed alphabetically in the following groups:

- Management Server Files
- Management Server/Managed Node Files
- Managed Node Files

Management Server Files

OVO/UNIX Files

TEMPLATES FOR OPCCFGUPLD (OVO UPLOAD FACILITY)

Table 1: Rdb DB-SPI Upload Files

The Rdb DB-SPI upload files are in:.
/var/opt/OV/share/tmp/OpC_appl/cfgRdb/C/

File Name	Description
cfgRdb.idx	OVO upload control file for the DBSPI-Rdb group. This file defines what is being uploaded into OVO: message groups, monitor templates, and template groups.
TEMPLATES/MONITOR/monitor.dat	Definition file for OVO templates: collector/analyzer program and external monitor for each metric. Contains all details for monitoring all Rdb metrics.
TEMPLATES/TEMPLGROUP/templgroup.dat	Definition file for DBSPI-Rdb OVO template group structure.
MSGGROUPS/msggroups.dat	Definition file for the Rdb message group.
NODEGROUPS/nodegroups.dat	Definition file for DBSPI-Rdb OVO Node Groups.

Miscellaneous Additional Files

The Rdb DB-SPI does not install any other files on the Management Server.

OVO/Windows Files

The individual policies are in the following directories:

<OpenView Installation dir>\Install\OpenVMS\OpenVMS_DBSPI_policies
<OpenView Installation dir>\Install\OpenVMS (itanium)\OpenVMS_DBSPI_policies

Management Server/Managed Node Files

The following files are installed on the management server when the DB-SPI for Rdb is installed.
They are then installed on managed nodes when monitors, commands, and actions are distributed
from the management server to the managed nodes. These files are listed alphabetically in the
following subsections:

- Monitor Files
- Command Files
- Action Files

Monitor Files

Like templates and policies for other OVO Agent platforms, these files are located on the
management server in directories that are specific to the target operating system.

For the target operating system OpenVMS, the files listed in the table are in the following locations:

- UNIX Management Server:

```
/var/opt/OV/share/databases/OpC/mgd_node/customer/hp/alpha/vms/monitor/
```

- Windows Management Server:

```
<OpenView Installation dir>\Data\shared\Instrumentation\OpenVMS\<O.S.
Version\DBSPI for OpenVMS\
<OpenView Installation dir>\Data\shared\Instrumentation\OpenVMS
(itanium)\<O.S. Version\DBSPI for OpenVMS\
```

- Monitor files are installed in the OVO monitor area on managed nodes in this directory:

```
OVO$ROOT:[var.opt.OV.bin.OpC.monitor]
```

Table 2: Management Server/Managed Node Monitor Files

File Name	Description
dbspi.cat	Message file used by DB-SPI for Rdb (created at the first use of dbspicar on managed node).
dbspi.src	Message file source used by DB-SPI for Rdb.
dbspicar.exe	DB-SPI Collector/Analyzer for Rdb. Determines the version of Rdb and then calls the appropriate dbspicarxx program.
dbspicar71.exe	DB-SPI Collector/Analyzer program for Rdb 7.1.x.x. Called by dbspicar when Rdb 7.1 is detected.
dbspicar72.exe	DB-SPI Collector/Analyzer program for Rdb 7.2.x.x. Called by dbspicar when Rdb 7.2 is detected.
dbspimwc.com	Script to run dbspi_mwcoll (DB-SPI MeasureWare collector).

Command Files

Like templates and policies for other OVO Agent platforms, these files are located on the management server in directories that are specific to the target operating system. For the target operating system OpenVMS, the files in Table 3 are in the following locations:

UNIX Management Server:

```
/var/opt/OV/share/databases/OpC/mgd_node/customer/hp/alpha/vms/cmds/
```

Windows Management Server:

```
<OpenView Installation dir>\Data\shared\Instrumentation\OpenVMS\<O.S.
Version\DBSPI for OpenVMS\
<OpenView Installation dir>\Data\shared\Instrumentation\OpenVMS
(itanium)\<O.S. Version\DBSPI for OpenVMS\
```

Command files are installed in the OVO command area on managed nodes as follows:

```
OVO$ROOT:[var.opt.OV.bin.OpC.cmds]
```

Table 3: Command Files

File Name	Description
dbspiadm.com	DB-SPI for Rdb administrative tool.
dbspicfg.exe	Configure DB Connections program for configuring managed node databases and filters.

File Name	Description
dbspi_lsfile.com	Command procedure used by collector/analyzer to list files.
dbspi_pcheck.com	Process check command procedure.
dbspi_tail.com	Command procedure used to invoke dbspi_tail.exe.
dbspi_tail.exe	Program used to list the last lines of a log file.
dbspi$define_commands.com	Command procedure used to define the DB-SPI for Rdb commands for an interactive user.
dbspi$get_dbversion.com	Command procedure used to obtain the database version.
dbspi$get_opc_env.com	Command procedure used to obtain the opc environment.
dbspi$set_ora_env.com	Command procedure used to set the Oracle environment (not used).
dbspi_com_wrapper.com	Command procedure used to call layered product command procedures in a uniform way.
dbspicol.com	File used to turn on and off collection. For example: dbspicol ON enables collection dbspicol OFF disables collection

Action Files

No action files are currently supplied by the DB-SPI for Rdb.

Managed Node Files

Data, Log, and Configuration Files

The data, log, and configuration files listed in Table 4 are in:

    OVO$ROOT:[VAR.OPT.OV.DBSPI]

Table 4: Data, Log, and Configuration Files

File Name	Description
dbtab	This file contains information about the currently configured databases in plain text.
defaults	This local file can be used to add to or modify deployed template or configuration settings. For example, you can use it to turn data collection on or off for specific database instances.

File Name	Description
`local.cfg`	Configuration file that contains the configured information. This is a binary file with the sensitive data encrypted.

Table 5: Logging and Trace Files

File Name	Description
`[.log]dbspierror`	Error information when the DBSPI collector/analyzer encounters an error condition. Messages written to this file are also sent to the OVO message browser.
`[.log]trace`	When tracing is turned on , tracing and debug information is written to this file. This file can become very large if tracing is left on indefinitely.

Appendix B: Components

This appendix, which describes the DB-SPI program components for Rdb, contains the following topics:

o   Template Compatibility Matrix
o   Templates
o   Message Groups
o   Applications

Template Compatibility Matrix

The following matrix shows the compatibility of the template groups for Rdb. Its purpose is to facilitate template selection during installation.

Rdb Template Compatibility Matrix

	(2) Combine with 0 or more compatible:			
(1) Choose one of:	DBSPI-Rdb: Quick Start	DBSPI-Rdb: Standard Metrics	DBSPI-Rdb: Favorites	DBSPI-Core
DBSPI-Rdb: Quick Start	NC	NC	NC	NC
DBSPI-Rdb: Standard Metrics	NC	NC	NC	C
DBSPI-Rdb: Favorites	NC	NC	NC	C
	NC = Not compatible			
	C = Compatible			

Templates

The Smart Plug-in for Databases template groups include the following:

- Those that apply to all databases
- Those that apply to the specific database you are using,
- Message groups, which classify the messages generated by other template groups.

 This section describes each group.

The templates are contained in the template group SPI for Databases (OpenVMS) at the top level of the template hierarchy. This is analogous to the SPI for Database template group for the other platforms.

COMMON DB-SPI TEMPLATES

DB-SPI for Rdb uses the same common DB-SPI templates as the DB-SPIs for other databases:

- **DBSPI-Core.** This group is platform-independent and contains the following templates:

    DBSPI-Messages. Contains the message file monitor for DB-SPI: DBSPI-Messages

    DBSPI-MeasureWare. Contains the interface to MeasureWare Agent: DBSPI-MeasureWare

DB-SPI TEMPLATES FOR Rdb

DB-SPI adds these Rdb template groups:

- **DBSPI-Rdb**. Contains the following template groups (see the following sections for detailed information):

    DBSPI-Rdb: Quick Start. Contains the subgroups DBSPI-Rdb Favorites, Core.

    DBSPI-Rdb: Standard Metrics. Contains all standard Rdb metrics.

NOTE: Some template groups described below contain templates for metrics that have not yet been implemented; therefore, the corresponding metric is not documented. Pushing these templates is harmless.

Definitions

- **DBSPI-Rdb: Standard Metrics**. This group contains all standard Rdb metrics including the following subgroups (details on each follow):

    DBSPI-Rdb: By Collector
    DBSPI-Rdb: Metrics Only
    DBSPI-Rdb: Collectors Only

- **DBSPI-Rdb: By Collector.** This group contains standard Rdb metrics grouped by collection interval:

    DBSPI-Rdb Collect 1d. This group contains the following collector and monitors:

    DBSPI Rdb-1d
    DBSPI-4001, 4002, 4003, 4015, 4016, 4017, 4018, 4019, 4021, 4022, 4025, 4026, 4028, 4029, 4045, 4046, 4052, 4053, 4058, 4060, 4061, 4062, 4063, 4071, 4072, 4073, 4074, 4075, 4078, 4079, 4091, 4092, 4093, 4094

DBSPI-Rdb Collect 1h. This group contains the following collector and monitors:

DBSPI Rdb-1h
DBSPI-4010, 4011, 4012, 4020, 4027, 4030, 4032, 4033, 4040, 4043, 4044, 4049, 4050, 4051, 4054, 4055, 4059, 4067, 4068, 4080, 4083, 4084, 4085, 4086, 4087, 4090

DBSPI-Rdb Collect 15min. This group contains the following collector and monitors:

DBSPI-Rdb-15min
DBSPI-4004, 4005, 4006, 4031, 4035, 4066

DBSPI-Rdb Collect 05min. This group contains the following collector and monitors:

DBSPI-Rdb-05min
DBSPI-4023, 4024, 4034, 4039

- **DBSPI-Rdb: Metrics Only.** This group contains only Rdb metric monitor templates (no collectors):

  DBSPI-4001, 4002, 4003, 4004, 4005, 4006, 4010, 4011, 4012, 4015, 4016, 4017, 4018, 4019, 4020, 4021, 4022, 4023, 4024, 4025, 4026, 4027, 4028, 4029, 4030, 4031, 4032, 4033, 4034, 4035, 4039, 4040, 4043, 4044, 4045, 4046, 4049, 4050, 4051, 4052, 4053, 4054, 4055, 4058, 4059, 4060, 4061, 4062, 4063, 4066, 4067, 4068, 4071, 4072, 4073, 4074, 4075, 4078, 4079, 4080, 4083, 4084, 4085, 4086, 4087, 4090, 4091, 4092, 4093, 4094

- **DBSPI-Rdb: Collectors Only.** This group contains only Rdb collector templates (no metric monitors):

  DBSPI-Rdb-05min
  DBSPI-Rdb-15min
  DBSPI-Rdb-1h
  DBSPI-Rdb-1d

- **DBSPI-Rdb: Favorites.** This group contains the following collector templates for important ("favorite") metric monitors and the monitors:

  DBSPI-Rdb-05min-Favorites
  DBSPI-Rdb-15min-Favorites
  DBSPI-Rdb-1h-Favorites
  DBSPI-Rdb-1d-Favorites
  DBSPI-4001, 4002, 4003, 4004, 4005, 4006, 4010, 4011, 4012, 4015, 4016, 4017, 4018, 4019, 4020, 4021, 4022, 4023, 4024, 4025, 4026, 4027, 4028, 4029, 4030, 4031, 4032, 4033, 4034, 4035, 4039, 4040, 4043, 4044, 4045, 4046, 4049, 4050, 4051, 4052, 4053, 4054, 4055, 4058, 4059, 4060, 4061, 4062, 4063, 4066, 4067, 4068, 4071, 4072, 4073, 4074, 4075, 4078, 4079, 4080, 4083, 4084, 4085, 4086, 4087, 4090, 4091, 4092, 4093, 4094

- **DBSPI-Rdb: Quick Start.** Contains the following:

  DBSPI-Core
  DBSPI-Rdb: Favorites

DB-SPI Message Groups

The DB-SPI for Rdb uses the same following platform-independent message group as the DB-SPIs for other databases.

- **DBSPI.** Messages generated by DB-SPI for Rdb programs. They contain instruction text to help to diagnose/remedy problems.

DB-SPI MESSAGE GROUPS FOR RDB

All messages generated by DB-SPI for Rdb are in one of the following message groups in the Message Group Bank:

Rdb_Admin. Messages regarding Rdb administration.
Rdb_Conf. Messages regarding Rdb configuration
Rdb_Fault. Messages regarding Rdb error conditions.
Rdb_Perf. Messages regarding Rdb performance.

Core (Administrative) Application

No generic database applications are provided with the DB-SPI for Rdb. For information about which Core Administrative applications can be used with the DB-SPI for Rdb, see "Applications" in the section "Components of the Smart Plug-in for Databases."

Rdb Applications

No Rdb-specific applications are provided with the DB-SPI for Rdb. However, customers can easily add administrative applications that suit the specific needs of the environment.

Appendix C: Configuring Database Connections

This appendix discusses one or more methods for configuring database connections.

Alternative Methods for Configuring Database Connections

Disregard the instructions in the *General Configuration Guide* for this section.

The Database SPI application Configure DB Connections is not supported for DB-SPI for Rdb.

Configuring Multiple Nodes Simultaneously

If you have multiple OpenVMS managed nodes requiring the same or similar configuration files, you can configure the first node and then export the configuration information from that node to other nodes. Follow these steps:

1. On the node already configured, log in to the system manager's account and execute the following DCL command:

   ```
   $ dbspicfg -e <export file name>
   ```

2. This command creates an output file with the name you specified from the existing local binary configuration file. Be aware that passwords in this export file are in clear text.

3. Distribute this file to other managed nodes.

4. If local modifications to configuration information are required on other managed nodes, make those modifications on the local nodes before completing the next step.

5. On each node, from the system manager's account, execute the following DCL command:

   ```
   $ dbspicfg -i <export file name>
   ```

   This command imports your configuration file and creates a local binary `local.cfg` file.

> **NOTE:** Distributing the binary file `local.cfg` is not supported on Rdb-DB-SPI.

Configuration File Syntax

This section in the *General Configuration Guide* details the syntax for each database type and an example of the configuration file that the *Configure DB Connections* application displays. Those database types and the application are not supported for DB-SPI for Rdb.

The following section describes the syntax for the Rdb database type.

Rdb

Rdb configuration file keywords: The following table describes the Rdb keywords as they are used in the configuration file: (See the example following the table.)

Rdb Keywords	Information	Double Quotes
DATABASE	Name of the Rdb database file (This must be only the file name – no file type.)	No
DATABASELOC	Location of the Rdb database	Yes
VERSION	Version of Rdb used to access this database (71 or 72)	No

Example of an Rdb configuration entry:

```
SYNTAX_VERSION 4

RDB

  VERSION 71
  DATABASELOC "$1$DGA25:[ORACLERDB.personnel]"
  DATABASE personnel

  VERSION 71
  DATABASELOC "$1$DGA25:[ORACLERDB.w81sp3]"
  DATABASE w81sp3
```

Configuration File

DB-SPI for Rdb does not support the Configure DB Connections application.

Appendix D : Rdb Metric Summary

Rdb Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity
R001_AsynchPreFetchStat	Status of Asynchronous Pre-Fetch	Buffer Analysis	1d	0.5	Max	W/O	Warning
R002_DetectedAsynchPreFetchStat	Status of Detected Asynchronous Pre-Fetch	Buffer Analysis	1d	0.5	Max	W/O	Warning
R003_AsynchBatchWriteStat	Status of Asynchronous Batch-Write	Buffer Analysis	1d	0.5	Max	W/O	Warning
R004_AllocateSetEffectivenessPct	% pages found to page requests	Buffer Analysis	15m	75%	Min	W/O	Warning
R005_GlobalBufferPoolEffectivenessPct	% pages found in global buffer pool to page requests	Buffer Analysis	15m	85%	Min	W/O	Warning
R006_IOSavedPct	% page requests that saved a disk I/O	Buffer Analysis	15m	85%	Min	W/O	Warning
R015_AIJStatus	Status of after image journaling feature	AIJ Analysis	1d	0.5	Max	W/O	Warning
R016_ConfiguredAIJCnt	# of configured after image journals	AIJ Analysis	1d	0.5	Max	W/O	Major
R017_ReservedAIJCnt	# of reserved after image journals	AIJ Analysis	1d	0.5	Max	W/O	Major
R018_LogServerStatus	Status of AIJ Log Server (ALS)	AIJ Analysis	1d	0.5	Max	W/O	Warning
R019_AIJOverWriteStatus	Status of Journal overwrite	AIJ Analysis	1d	0.5	Max	W/O	Warning
R021_ABSStatus	Status of AIJ Backup Server (ABS)	AIJ Analysis	1d	0.5	Max	W/O	Major
R022_ABSExtJnlStatus	ABS and extensible after image journal status	AIJ Analysis	1d	0.5	Max	W/O	Major
R023_ABSOverwrittenJnlStatus	ABS and overwritten AIJ Status	AIJ Analysis	5m	0.5	Max	W/O	Critical
R024_ABSHardDataLossStatus	ABS and hard data loss	AIJ Analysis	5m	0.5	Max	W/O	Critical
R027_ARBPoolExhaustionCnt	# of times AIJ Request Block (ARB) exhausted	AIJ Analysis	1h	0.5	Max	W/O	Critical
R028_ARBsPerIORatio	Ratio of ARBs per I/O	AIJ Analysis	1d	2	Min	W/O	Minor
R029_BlocksPerIORatio	Ratio of blocks per AIJ I/O	AIJ Analysis	1d	2	Min	W/O	Minor
R030_ARBBackgroundFmtPct	% of ARBs formatted in background by ALS	AIJ Analysis	1h	50%	Min	W/O	Minor
R031_AIJCacheOverflowCnt	# of times AIJ cache has overflowed	AIJ Analysis	15m	0.5	Max	W/O	Critical
R032_AIJCacheOverflowPct	% of AIJ cache overflow	AIJ Analysis	1h	10%	Max	W/O	Major

Rdb Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G
R033_EmergencyAIJStatus	Status of Emergency AIJ facility	AIJ Analysis	1h	0.5	Max	W/O	Warning	A
R039_RUJSyncIORatioPct	Average number of synchronous write operations to RUJ file	RUJ Analysis	5m	10%	Max	W/O	Warning	A
R040_RUJExtendRatioPct	Average number of file extension operations to RUJ file	RUJ Analysis	1h	2%	Max	W/O	Major	A
R043_ProcessFailureRatePct	% of DBR operations to database attaches	Recovery Analysis	1h	15%	Max	W/O	Warning	A
R044_ProcessRecoveryRate	Average Duration of DBR	Recovery Analysis	1h	2	Max	W/O	Warning	A
R046_DBSingleFileStatus	Single File Database Check	Recovery Analysis	1d	0.5	Max	W/O	Warning	A
R049_PageDiscardRate	% of pages discarded to pages checked	Record Analysis	1h	10%	Max	W/O	Warning	A
R050_SPAMFetchToTotalFetchRate	% SPAM fetched to total fetched	Record Analysis	1h	80%	Max	W/O	Warning	A
R051_SPAMFetchtoStoreRate	% SPAM fetched to total stored	Record Analysis	1h	20%	Max	W/O	Warning	A
R054_FragRecordsStored	% fragmented records stored to total stored	Record Analysis	1h	20%	Max	W/O	Warning	A
R055_FragRecordsFetched	% fragmented records fetched to total fetched	Record Analysis	1h	20%	Max	W/O	Warning	A
R060_AreaAsyncReadStalls	Duration of asynch read I/O stalls	Area Analysis	1d	0.5	Max	W/O	Warning	A
R061_AreaAsyncWriteStalls	Duration of asynch write I/O stalls	Area Analysis	1d	0.5	Max	W/O	Warning	A
R062_AreaSyncReadStalls	Duration of sync read I/O stalls	Area Analysis	1d	0.5	Max	W/O	Warning	A
R063_AreaSyncWriteStalls	Duration of sync write I/O stalls	Area Analysis	1d	0.5	Max	W/O	Warning	A
R071_BTRFetchDupRatioPct	Average number of b-tree duplicate node fetches	Index Analysis	1d	15%	Max	W/O	Warning	A
R072_BTRStoreDupRatioPct	Average number of b-tree duplicate node stores	Index Analysis	1d	15%	Max	W/O	Warning	A
R073_BTRLeafFetchRatioPct	Average number of b-tree index leaf-node fetches	Index Analysis	1d	25%	Min	W/O	Warning	A
R074_HashFetchDupRatioPct	Average number of hash index duplicate node fetches	Index Analysis	1d	15%	Max	W/O	Warning	A
R075_HashStoreDupRatioPct	Average number of hash index duplicate node stores	Index Analysis	1d	15%	Max	W/O	Warning	A
R078_RowCacheDisabledStatus	Row caching feature unavailable	Row Cache Analysis	1d	0.5	Max	W/O	Warning	A

Rdb Metric	Description	Area	Interval	Threshold	Min/Max	Reset	Severity	A or G
R083_ProcENQLMRatioPct	Process ENQCNT to ENQLM ratio	Process Analysis	1h	25%	Min	W/O	Warning	A
R084_ProcASTLMRatioPct	Process ASTCNT to ASTLM ratio	Process Analysis	1h	25%	Min	W/O	Warning	A
R085_ProcBIOLMRatioPct	Process BIOCNT to BIOLM ratio	Process Analysis	1h	25%	Min	W/O	warning	A
R086_ProcDIOLMRatioPct	Process DIOCNT to DIOLM ratio	Process Analysis	1h	25%	Min	W/O	Warning	A
R087_ProcPGFLQUOTARatioPct	Process PAGFILCNT to PGFLQUOTA ratio	Process Analysis	1h	25%	Min	W/O	Warning	A
R090_VerbRollbackPct	SQL Verb rollback percentage	Transaction Analysis	1h	25%	Max	W/O	Major	A
R091_RUJWritesPerTransRate	Rate of RUJ File Writes per Transaction	RUJ File Analysis	1d	1	Max	W/O	Minor	A
R092_RUJReadsWritesRatio	Ratio of RUJ File Reads to Writes	RUJ File Analysis	1d	10	Max	W/O	Warning	A
R093_RUJWritesReadsRatio	Ratio of RUJ File Writes to Reads	RUJ File Analysis	1d	10	Max	W/O	Warning	A
R094_SynchAsynchReadsRatio	Ratio of synchronous to asynchronous data file reads	Performance Analysis	1d	10	Max	W/O	Warning	A

Appendix E: Oracle Supplementary Template Groups and Metrics

DB-SPI for Rdb does not support the Oracle database.