HP WBEM Providers for OpenVMS

Installation and Administrator's Guide

September 2007

This document describes how to install and administer the Web-Based Enterprise Management (WBEM) Providers software and its components.

Revision/Update Information:	This is a new manual.
Operating System:	OpenVMS V8.3-1H1 for Integrity servers
Software Version:	HP WBEM Providers for OpenVMS, Version 1.5

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Preface

About This Document

This document describes how to install and administer the Web-Based Enterprise Management Providers, herein after referred to as WBEM Providers software.

Document updates may be issued between editions to correct errors or to document product changes.

Intended Audience

This document is intended for system administrators responsible for installing and managing remote systems using the WBEM Providers software.
This document is also intended for users working on the client systems. Administrators and users are expected to have knowledge of operating system concepts and commands.

This document is not a tutorial.

Document Structure

HP WBEM Providers Installation and Administrators Guide is organized as follows:

Chapter 1   **Introduction** Introduces the WBEM Providers software. It also discusses the features and benefits of this software, and the architecture of the WBEM Providers software.

Chapter 2   **Installing the WBEM Providers Software** Describes how to install, configure, deconfigure, and remove the WBEM Providers software.

Chapter 3   **Administering Indications and Instances Using HP SIM** Describes how to use the HP Systems Insight Manager (HP SIM) Graphical User Interface (GUI) to administer indications and view instances on remote systems.

Related Information

Following are the additional documentation available for the WBEM Providers software in SYS$COMMON:[WBEMPROVIDERS.DOCUMENTATION] after installing the kit:

- HP WBEM Providers Release Notes

- HP WBEM Providers Data Sheets

- HP WBEM Providers Events List

Reader's Comments

HP welcomes your comments on this manual.

Include the document title, manufacturing part number, and any comment, error found, in this document. Also, include what we did right, so we can incorporate it into other documents.

Send your comments or suggestions to either of the following addresses:

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Conventions

The following conventions are used in this manual:

Ctrl/*x*	A sequence such as Ctrl/*x* indicates that you must press and hold the key labeled Ctrl while you press another key or a pointing device button.
. . .	A horizontal ellipsis in examples indicates one of the following possibilities:
	• Additional optional arguments in a statement have been omitted.
	• The preceding item or items can be repeated one or more times.
	• Additional parameters, values, or other information can be entered.
Monospace text	Monospace type indicates code examples and interactive screen displays.
	In the C programming language, monospace type in text identifies the following elements: keywords, the names of independently compiled external functions and files, syntax summaries, and references to variables or identifiers introduced in an example.
-	A hyphen at the end of a command format description, command line, or code line indicates that the command or statement continues on the following line.
italic text	Italic text indicates important information, complete titles of manuals, or variables. Variables include information that varies in system output (Internal error *number*), in command lines (/PRODUCER=*name*), and in command parameters in text (where *dd* represents the predefined code for the device type).
UPPERCASE	Uppercase text indicates the name of a routine, the name of a file, the name of a file protection code, or the abbreviation for a system privilege.

( )	In command format descriptions, parentheses indicate that you must enclose the options in parentheses if you specify more than one.
[ ]	In command format descriptions, brackets indicate optional elements. You can choose one, none, or all of the options. (Brackets must be included, however, in the syntax of a directory name in an OpenVMS file specification or in the syntax of a substring specification in an assignment statement.)
$ **user input**	User input is shown in bold.
$	The dollar sign is used to indicate the DCL prompt on OpenVMS systems.

1

Introduction

This chapter introduces the WBEM Providers software and the tools that this software includes. It also discusses the features and benefits of the WBEM Providers software, and their architecture on Integrity server systems.

This chapter addresses the following topics:

- Overview
- Features and Benefits
- Types of Providers
- HP Systems Insight Manager
- Architecture on Integrity Server Systems

1.1 Overview

The WBEM Providers software is a collection of tools that enables you to monitor the health of HP servers running HP OpenVMS. This software retrieves information about hardware devices such as CPU, memory, power supply, and cooling devices. It operates within the WBEM environment.

1.2 Features and Benefits

On request, the WBEM Providers software queries property information about a hardware device on a local or remote system. It offers the following features and benefits:

- Displays information on standards-compliant graphical and command-line system management applications, such as HP SIM.
- Operates within the WBEM environment.
- Enables you to view and administer the WBEM indications.
- Enables you to view the WBEM instances.

1.2.1 OpenVMS Event Monitoring Service

OpenVMS Event Monitoring Service, herein after referred to as OpenVMS EMS is a component that is included in the WBEM Providers software. This component monitors and captures the hardware events and saves them in an OpenVMS index file. The EMS Wrapper Provider queries the index file and wraps these hardware indications (events).

OpenVMS EMS supports the following types of hardware monitors:

- IA64 Core Hardware Monitor (Events)
- IPMI Forward Progress Log Monitor (Events)

For a list of events that can be generated on OpenVMS, see HP WBEM Providers Events List in SYS$COMMON:[WBEMPROVIDERS.DOCUMENTATION].

1.3 Types of Providers

The WBEM Providers software comprise instance providers and indication providers. This section describes these providers.

1.3.1 Instance Providers

Table 1–1 lists the instance providers.

Table 1–1 Instance Providers

Instance Provider	Description
CPU	The CPU Instance Provider retrieves the following types of information:
	• Logical processor information, such as the following:
	– Current clock speed
	– Processor family
	– Processor status information, including configuration and deconfiguration, failure status, and active and inactive status
	– Load percentage
	• Physical processor chip information, such as chip revisions and architecture revisions
	• Location details, such as the following:
	– Location attributes such as cabinet number, cell number, slot number, and so on. Instance providers display or retrieve information only for the filled slots
	– Processor IDs
Memory	The Memory Instance Provider retrieves the following types of information:
	• Memory slot information
	• Memory module information, such as the following:
	– Serial number
	– Part number
	– Memory capacity
	– Module form factor
	– Module status (for example, configuration status and failure status)

(continued on next page)

Table 1–1 (Cont.) Instance Providers

Instance Provider	Description
Environmental	The Environmental Instance Provider retrieves information about the following hardware components: • Fans • Power supply • Bulk power supply • AC input lines
Firmware Revision	The Firmware Revision Instance Provider retrieves firmware revision information for firmwares present on the managed system and their related details.
Management Processor (MP)	The MP Instance Provider retrieves information about the Management Processor of the managed system.
Enclosure	The Enclosure Instance Provider retrieves information about the Rack/Enclosure and the blade on an Integrity server blade system.

1.3.2 Indication Provider

EMS Wrapper Provider is an indication provider included with the WBEM Providers software. The EMS Wrapper Provider performs the following tasks:

- Converts hardware events captured by the OpenVMS EMS component into WBEM indications.

- Common Information Model Object Manager (CIMOM) is a component of WBEM that manages the interaction between the providers and other modules in the WBEM environment. CIMOM manages CIM objects. It receives and processes CIM operation requests and issues responses.

  The EMS Wrapper Provider reports the WBEM indications to the CIMOM. Using a management application, such as HP SIM, you can subscribe to and receive OpenVMS EMS events generated on a remote system.

Note

The terms *events* and *indications* are used interchangeably.

1.4 HP Systems Insight Manager

HP Systems Insight Manager (HP SIM) is the foundation for HP's unified server-storage management strategy. It is a multiple operating system and a hardware level management product. HP SIM provides the basic management features of system discovery and identification, single event view, inventory data collection, and reporting.

This software is a web-based user interface that enables you to control and monitor resources within a large environment on OpenVMS. You can use HP SIM for creating subscriptions, event handling, provisioning, and viewing the indications and instances, among many other functions, on a remote system. You must install HP SIM on the Central Management Server (CMS) run on Microsoft® Windows®.
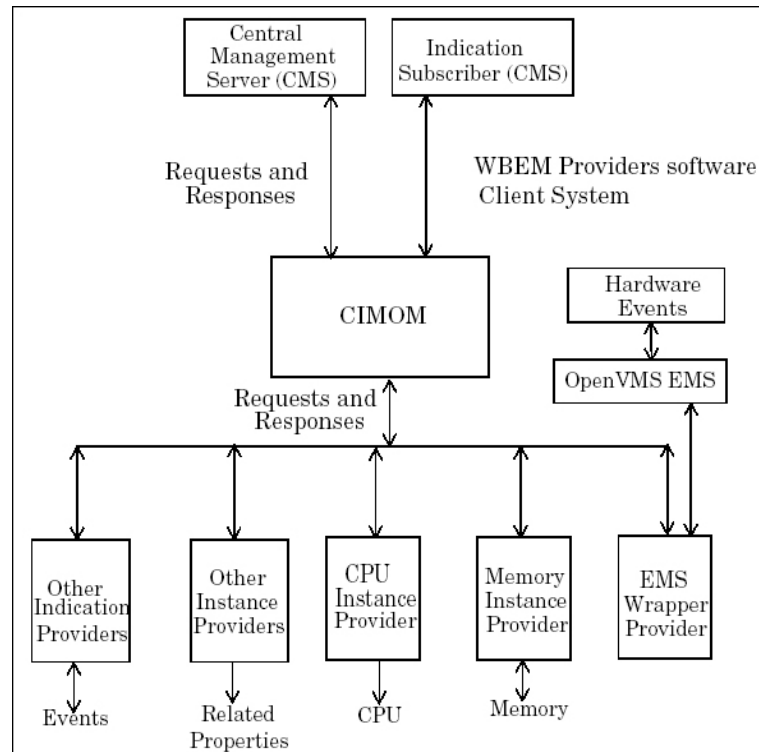
1.5 Architecture on Integrity Server Systems

Figure 1–1 illustrates the architecture of the WBEM Providers software installed on an Integrity server client system. The client system is managed by the CMS.

Figure 1–1   WBEM Providers on Integrity server Systems

Processing a request for information involves the following steps:

1. The CIMOM receives requests from the CMS for device information.

2. The CIMOM converts the requests to a format that is read by the WBEM Providers software and directs the requests to the appropriate provider, for example, the CPU Instance Provider.

3. The WBEM Providers software queries the associated hardware device for property information.

4. The WBEM Providers software returns the query information to the CIMOM.

5. The CIMOM conveys the responses from the provider to the CMS.

The OpenVMS EMS monitors and captures the hardware events required by OpenVMS. The EMS Wrapper Provider wraps the events and retrieves the information.

--------------------------------- **Note** ---------------------------------

Information can be viewed using HP SIM on the remote system.

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2

Installing the WBEM Providers Software

The WBEM Providers software is installed by default with the HP OpenVMS Operating Environment (OE) media. However, at some point you may need to install the WBEM Providers software separately. This chapter describes how to install the WBEM Providers software as a standalone component on the OpenVMS operating system. It also describes how to configure and remove the WBEM Providers software. In addition, it describes how to test the WBEM Providers instances.

This chapter addresses the following topics:

- Prerequisites
- Installing the WBEM Providers Software on an OpenVMS Integrity server
- Configuring the WBEM Providers Software
- Configuring WBEM Services for OpenVMS to Support HP SIM
- Deconfiguring the WBEM Providers Software
- Removing the WBEM Providers Software
- Testing the WBEM Providers Instances

2.1 Prerequisites

Following are the prerequisites for installing the WBEM Providers software:

- HP OpenVMS V8.3-1H1 for Integrity servers
- HP WBEM Services for OpenVMS, V2.6.1 or later
- HP SSL V1.3
- HP TCP/IP Stack

_____ **Note** _____

All the prerequisites are available on the OE media. You can select the WBEM Providers software dependencies from the OE media while installing the WBEM Providers software as a standalone component.

HP recommends that you install HP SIM to remotely administer indications and instances.

_____

2.2 Installing the WBEM Providers Software on an OpenVMS Integrity server

This section describes how to install the WBEM Providers software using the POLYCENTER Software Installation (PCSI) utility.

To install the WBEM Providers software, follow these steps:

1. Log on to the system with the SYSTEM account.

2. Ensure that the WBEM Providers software kit and manifest files are in the current directory.

3. Enter the following command at the command prompt:

   ```
   $ PRODUCT INSTALL WBEMPROVIDERS
   ```

   An output similar to the following is displayed. When the system asks whether you want to continue with the installation, answer YES.

   ```
   Performing product kit validation ...
   %PCSI-I-VALPASSED, validation of
   SYSMG1$DKA0:[KITS.IA64.WBEMPROVIDERS]

   HP-I64VMS-WBEMPROVIDERS-V0105-8-1.PCSI$COMPRESSED;1 succeeded%PCSI

   The following product has been selected:
            HP I64VMS WBEMPROVIDERS V1.5-8      Layered Product

   Do you want to continue? [YES] YES

   Configuration phase starting ...

   You will be asked to choose options, if any, for each
   selected product and for any products that may be installed
   to satisfy software dependency requirements.

   HP I64VMS WBEMPROVIDERS V1.5-8: HP WBEM providers for OpenVMS I64

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   Hewlett Packard Company

   * This product does not have any configuration options.

   Execution phase starting ...

   The following product will be installed to destination:
   HP I64VMS WBEMPROVIDERS V1.5-8 DISK$I64_XBM1:[VMS$COMMON.]

   Portion done: 0%...10%...20%...60%...70%...80%...90%...100%

   The following product has been installed:
           HP I64VMS WBEMPROVIDERS V1.5-8    Layered Product
   ```

The shareable images and other files are copied to the following locations:

- The shareable images are copied to SYS$SHARE

- The common files are copied to SYS$COMMON:[WBEMPROVIDERS]

- The Managed Object Format (MOF) files are copied to SYS$COMMON:[WBEMPROVIDERS.MOF]

- The documentation files are copied to
  SYS$COMMON:[WBEMPROVIDERS.DOCUMENTATION]

- The configuration and deconfiguration command procedure files are copied to
  SYS$COMMON:[WBEMPROVIDERS]

2.3 Configuring the WBEM Providers Software

After the installation of the WBEM Providers software for OpenVMS, to configure the WBEM Providers software, follow these steps:

1. Log on to the system with the SYSTEM account, if you are have logged on using a different account.

2. To define the WBEM Services logicals, enter the following command:

   $ **@SYS$COMMON:[WBEM_SERVICES]WBEM_SERVICES$DEFINE_COMMANDS.COM**

3. Ensure that the CIM Server is running and verify the list of Providers installed by entering the following command:

   $ CIMPROVIDER -L -S

   An output similar to the following is displayed:

   ```
   MODULE                      STATUS

   OperatingSystemModule       OK
   ComputerSystemModule        OK
   ProcessModule               OK
   ```

4. To configure the WBEM Providers software, enter the following command:

   $ **@SYS$COMMON:[WBEMPROVIDERS]WBEMPROVIDERS$CONFIGURE.COM**

   The configuration process takes a few minutes to complete. An output similar to the following is displayed:

   ```
   %WBEMPROVIDERS-I-STARTING, Info:Starting WBEMPROVIDERS
   Configuration.

   %WBEMPROVIDERS-I-STARTING , Info:Starting WBEMPROVIDERS.

   %WBEMPROVIDERS-I-WAIT, Info:Inventory is not ready..!

   Waiting for 2 Minutes

   %RUN-S-PROC_ID, identification of created process is 00000912

   %WBEMPROVIDERS-I-PROVCONFIG, Info:Completed configuration of WBEMPROVIDERS.
   ```

   This command procedure registers the WBEM Providers software with the CIM Server and copies the node specific files to SYS$SPECIFIC:[WBEMPROVIDERS]

5. Verify the list of providers installed and their status by entering the following command:

   $ **CIMPROVIDER -L -S**

   An output similar to the following is displayed along with the WBEM Services providers:

```
MODULE                                  STATUS
OperatingSystemModule                   OK
ComputerSystemModule                    OK
ProcessModule                           OK
EventIndicationConsumerModule           OK
StateChangeIndicationProviderModule     OK
ChassisProviderModule                   OK
cpuprovidermodule                       OK
MemoryModule                            OK
FirmwareRevisionProviderModule          OK
EMSWrapperProviderModule                OK
MPProviderModule                        OK
EnclosureProviderModule                 OK
HPHealthStateProviderModule             OK
```

2.4 Configuring WBEM Services for OpenVMS to Support HP SIM

For HP SIM to discover an OpenVMS system, follow these steps to configure WBEM Services for OpenVMS to support HP SIM before discovering a system:

1. Log on to the system with the SYSTEM account, if you have logged on using a different account.

2. To define the WBEM Services logicals, enter the following command:

   $ **@SYS$COMMON:[WBEM_SERVICES]WBEM_SERVICES$DEFINE_COMMANDS.COM**

3. Add the username that you want to use in HP SIM to access the system, by entering the following command:

   $ **CIMUSER -A -U** "*<username>*"

   Where: *<username>* is an user account on the OpenVMS system, which must be provided again while setting the Global Protocol Settings on HP SIM.

   For example,

   $ **CIMUSER -A -U "system"**

   Ensure that the user name is case sensitive. The same name must be provided in the HP SIM protocol settings. Executing this command prompts you to enter the password for the *<username>* on the OpenVMS system. Enter the password.

   ──────────────── **Note** ────────────────

   Use the command CIMUSER –R –U *<username>* to remove the added Cimuser. For more information about Cimuser commands, enter the **CIMUSER --HELP** command.

   ──

2.5 Deconfiguring the WBEM Providers Software

To deconfigure the WBEM Providers software, follow these steps:

1. Log on to the system with the SYSTEM account, if you have logged on using a different account.

2. To define the WBEM Services logicals, enter the following command:

   $ **@SYS$COMMON:[WBEM_SERVICES]WBEM_SERVICES$DEFINE_COMMANDS.COM**

3. Ensure that the CIM Server is running, and verify the list of Providers installed by entering the following command:

$ **CIMPROVIDER -L -S**

An output similar to the following is displayed:

```
MODULE                                 STATUS
OperatingSystemModule                  OK
ComputerSystemModule                   OK
ProcessModule                          OK
EventIndicationConsumerModule          OK
StateChangeIndicationProviderModule    OK
ChassisProviderModule                  OK
cpuprovidermodule                      OK
MemoryModule                           OK
FirmwareRevisionProviderModule         OK
EMSWrapperProviderModule               OK
MPProviderModule                       OK
EnclosureProviderModule                OK
HPHealthStateProviderModule            OK
```

4. To deconfigure the WBEM Providers software, enter the following command:

$ **@SYS$COMMON:[WBEMPROVIDERS]WBEMPROVIDERS$DECONFIGURE.COM**

The deconfiguration process displays the following sample output and prompts you to remove the files. Answer YES if you want to completely remove the product specific files. Answer NO if you intend to upgrade to a higher version of the WBEM Providers software.

This process also unregisters the WBEM Providers software.

```
%WBEMPROVIDERS-I-PROVDECONFIG, Info:De-configuration
procedure for WBEM Providers.

OperatingSystem Information

     Host: green
     Name: OpenVMS
     Version: XBM1-O3N
     UserLicense: Unlimited user license
     Number of Users: 1 users
     Number of Processes: 21 processes
     OSCapability: 64 bit
     LastBootTime: Jun 8, 2007 10:01:06 (00530)
     LocalDateTime: Jun 20, 2007 4:05:15 (00530)
     SystemUpTime: 1015449seconds=11days, 18hrs, 4 mins, 9secs
%WBEMPROVIDERS-I-STOP, Info: Stopping the OpenVMS_EMS process
REMOVE SYS$SPECIFIC:[WBEMPROVIDERS] directory? (Y/N) [N]: No
%WBEMPROVIDERS-I-DECONFPROV, Info:De-configuration of
HPHealthStateProviderModule...
Disabling provider module...
Provider module disabled successfully.
Deleting provider module...
Provider module deleted successfully.
%WBEMPROVIDERS-I-DECONFPROV, Info:De-configuration of
cpuprovidermodule...
Disabling provider module...
Provider module disabled successfully.
Deleting provider module...
Provider module deleted successfully.
%WBEMPROVIDERS-I-DECONFPROV, Info:De-configuration of
MemoryModule...
Disabling provider module...
Provider module disabled successfully.
Deleting provider module...
```

```
Provider module deleted successfully.
%WBEMPROVIDERS-I-DECONFPROV, Info:De-configuration of
ChassisProviderModule...
Disabling provider module...
Provider module disabled successfully.
Deleting provider module...
Provider module deleted successfully.
%WBEMPROVIDERS-I-DECONFPROV, Info:De-configuration of
FirmwareRevisionProviderModule...
Disabling provider module...
Provider module disabled successfully.
Deleting provider module...
Provider module deleted successfully.
%WBEMPROVIDERS-I-DECONFPROV, Info:De-configuration of
EventIndicationConsumerModule...
Disabling provider module...
Provider module disabled successfully.
Deleting provider module...
Provider module deleted successfully.
%WBEMPROVIDERS-I-DECONFPROV, Info:De-configuration of
StateChangeIndicationProviderModule...
Disabling provider module...
Provider module disabled successfully.
Deleting provider module...
Provider module deleted successfully.
%WBEMPROVIDERS-I-DECONFPROV, Info:De-configuration of
EMSWrapperProviderModule...
Disabling provider module...
Provider module disabled successfully.
Deleting provider module...
Provider module deleted successfully.
%WBEMPROVIDERS-I-DECONFPROV, Info:De-configuration of
MPProviderModule...
Disabling provider module...
Provider module disabled successfully.
Deleting provider module...
Provider module deleted successfully.
%WBEMPROVIDERS-I-DECONFPROV, Info:De-configuration of
EnclosureProviderModule...
Disabling provider module...
Provider module disabled successfully.
Deleting provider module...
Provider module deleted successfully.
%WBEMPROVIDERS-I-DEL, Info:Deleting Log files generated by WBEMProviders
%WBEMPROVIDERS-I-PROVDECONFIG, Info:De-configuration of
WBEMProviders successful.
```

5. To ensure that the WBEM Providers software is unregistered, query the CIM server by entering the following command:

   $ **CIMPROVIDER -L -S**

   The following Providers that were installed are not displayed:

   ```
   EventIndicationConsumerModule
   StateChangeIndicationProviderModule
   ChassisProviderModule
   cpuprovidermodule
   MemoryModule
   FirmwareRevisionProviderModule
   EMSWrapperProviderModule
   MPProviderModule
   EnclosureProviderModule
   HPHealthStateProviderModule
   ```

6. To ensure that all the shareable images are unloaded from the CIM Server image, restart the CIM Server after deconfiguration by entering the following command:

   $ **@SYS$STARTUP:WBEM_SERVICES$SHUTDOWN.COM**

   Wait for few minutes for the process to complete, and enter the following command:

   $ **@SYS$STARTUP:WBEM_SERVICES$STARTUP.COM**

2.6 Removing the WBEM Providers Software

To remove the WBEM Providers software, complete the deconfiguration steps described in the Section 2.5 "Deconfiguring the WBEM Providers Software" and enter the following command at the command prompt:

$ **PRODUCT REMOVE WBEMPROVIDERS**

An output similar to the following is displayed:

```
The following product has been selected:
     HP I64VMS WBEMPROVIDERS V1.5-8 Layered Product

Do you want to continue? [YES] Yes

The following product will be removed from destination:
     HP I64VMS WBEMPROVIDERS V1.5-8 DISK$I64_XBM1:[VMS$COMMON.]

Portion done:0%...10%...20%...30%...40%...50%...60%...70%...80%...90%...100%

The following product has been removed:
     HP I64VMS WBEMPROVIDERS V1.5-8 Layered Product
```

2.7 Testing the WBEM Providers Instances

To test the WBEM Providers instances, follow these steps:

1. To define the WBEM Services logicals, enter the following command:

   $ **@SYS$COMMON:[WBEM_SERVICES]WBEM_SERVICES$DEFINE_COMMANDS.COM**

2. Enable the HTTP connection to CIM server by entering the following command:

   $ **CIMCONFIG -S "enableHttpConnection"=TRUE -P**

3. Shutdown the CIM server by entering the following command:

   $ **@SYS$STARTUP:WBEM_SERVICES$SHUTDOWN.COM**

   Wait for few minutes for the process to complete and restart the CIM server by entering the following command:

   $ **@SYS$STARTUP:WBEM_SERVICES$STARTUP.COM**

4. A set of XML files are provided in the SYS$COMMON:[WBEMPROVIDERS.TEST] directory that can be used to test the WBEM Providers software. The name of the XML file indicates the Provider that you want to test. Enter the following commands to generate instances using the WBEMEXEC request and the XML file:

   $ **SET DEF SYS$COMMON:[WBEMPROVIDERS.TEST]**
   $ **WBEMEXEC <INSTANCES.XML>**

For example,

```
$ SET DEF SYS$COMMON:[WBEMPROVIDERS.TEST]
$ WBEMEXEC CS_ENUMERATE_INSTANCES.XML ! Enumerates instances of the CS provider
$ WBEMEXEC CS_ENUMERATE_INSTANCE_NAMES.XML ! Enumerates instance names of the
                                          ! CS Provider
```

5. After the testing is complete, disable the HTTP connection to CIM server by entering the following command:

   $ **CIMCONFIG -S "enableHttpConnection"=FALSE -P**

   ───────────────────────── **Note** ─────────────────────────

   Leaving the HTTP connection open might result in security risks and must be disabled after testing.

   ──

6. Shutdown the CIM server by entering the following command:

   $ **@SYS$STARTUP:WBEM_SERVICES$SHUTDOWN.COM**

   Wait for few minutes for the process to complete and restart the CIM server by entering the following command:

   $ **@SYS$STARTUP:WBEM_SERVICES$STARTUP.COM**

3

Administering Indications and Instances Using HP SIM

This chapter describes how to administer the WBEM Providers software using HP SIM.

Note

You can perform similar tasks using other management applications that are compliant with the Common Information Model (CIM) schema of the Distributed Management Task Force (DMTF).

This chapter addresses the following topics:

- Prerequisites for HP SIM
- Subscribing/Unsubscribing to Indications (Events)
- Viewing Indications (Events)
- Viewing Instances

3.1 Prerequisites for HP SIM

To use HP SIM to administer and view events and indications, ensure that the following prerequisites are satisfied:

- Setting the Global Protocol
- Discovering a System
- Identifying a System

3.1.1 Setting the Global Protocol

To set the Global Protocol Settings using HP SIM, follow these steps:

1. On OpenVMS system, complete the steps described in the Section 2.4 "Configuring WBEM Services for OpenVMS to Support HP SIM".

2. Enter the following URL to launch HP SIM on the browser:

   http://*<system name>:<port number>/*

   The system name is the name of CMS.

   For example, *http://abc.com:280/*

   The HP SIM home page is launched.

3. To set the global protocol, select **Options–>Protocol Settings–>Global Protocol Settings**, as shown in Figure 3–1.

Figure 3–1 Protocol Settings
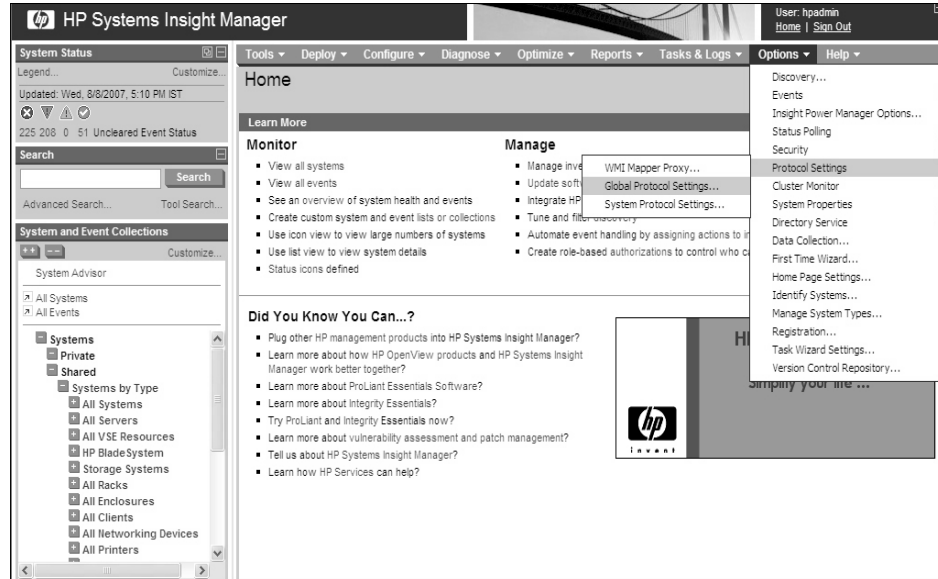
The Global Protocol Settings window is displayed, as shown in Figure 3–2.

Figure 3–2 Global Protocol Settings
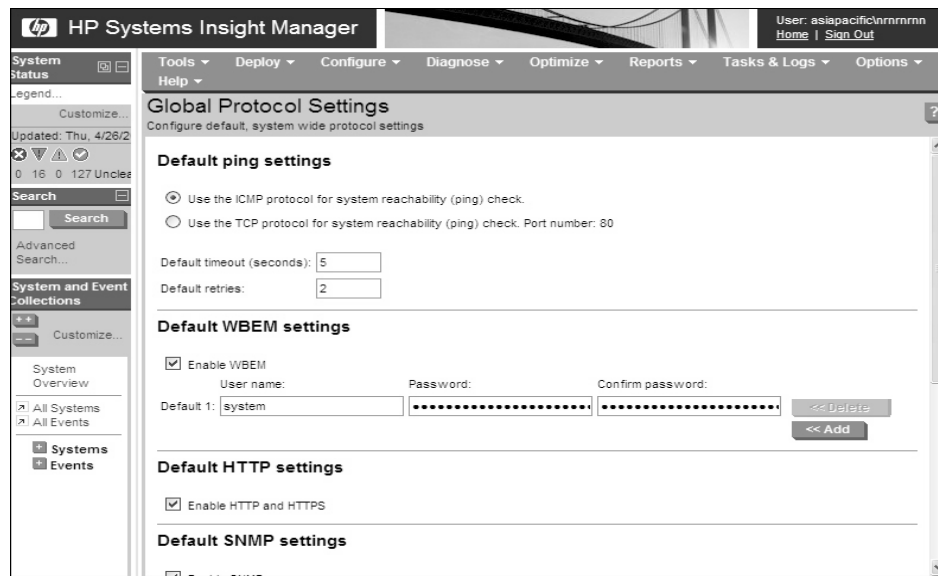
4. Under the Default WBEM settings section, select **Enable WBEM**, as shown in Figure 3–2.

5. Add the users and their associated password that were added while configuring WBEM Services for HP SIM on OpenVMS. Click **OK** to save the settings.

Note

For more information, see the *HP Systems Insight Manager Installation and User's Guide* at: http://docs.hp.com/en/netsys.html

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3.1.2 Discovering a System

To discover an OpenVMS system using HP SIM, follow these steps:

1. Select **Options –>Discovery** in the HP SIM home page, as shown in Figure 3–3.

Figure 3–3 Discovery Option
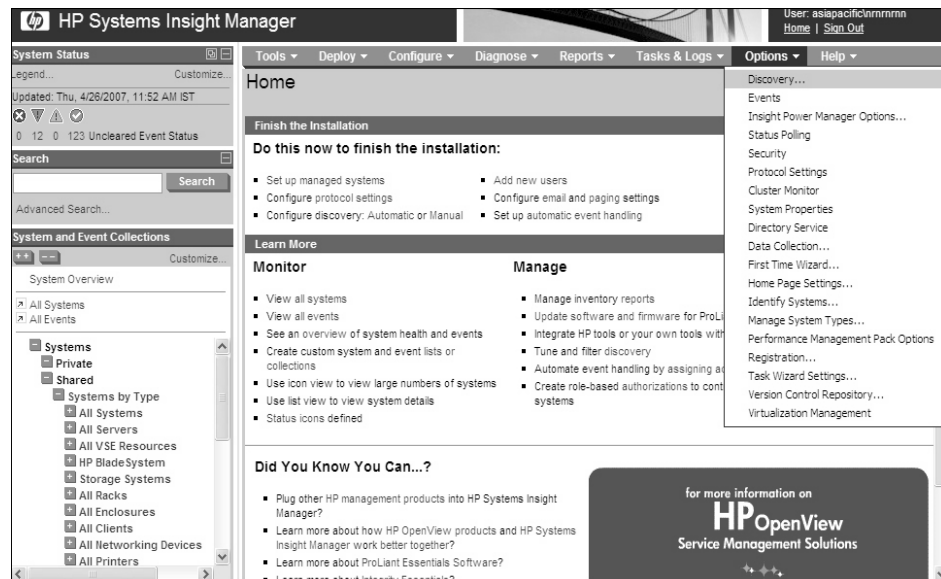
The Discovery page is displayed, as shown in Figure 3–4.

Figure 3–4   Discovery Page
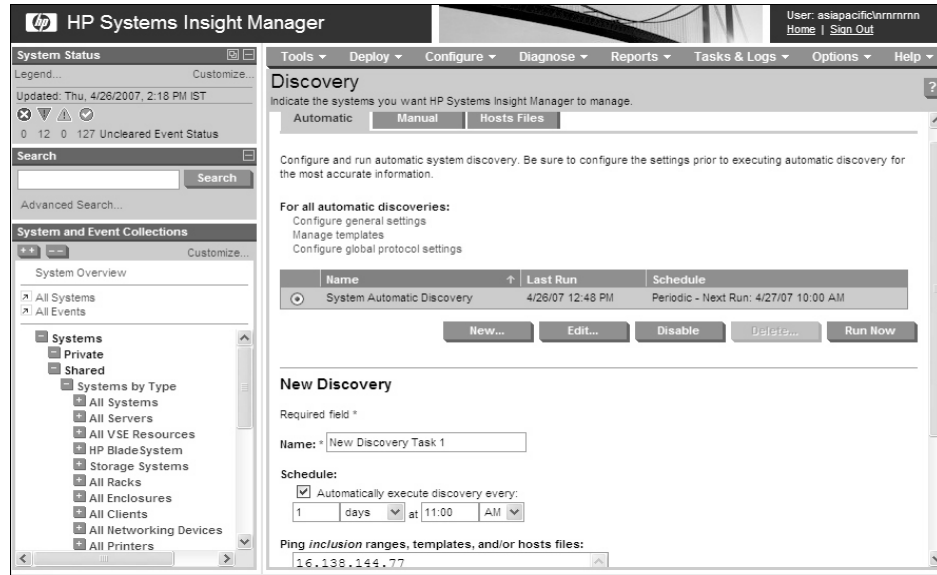
2. Click **New** to add a new system, as shown in Figure 3–4. Enter the IP address, and click **OK** to save the settings.

3. Or click **Edit** to modify the discovered system settings.

4. Click **Run Now**.

Note

For more information, see the *HP Systems Insight Manager Installation and User's Guide* at: http://docs.hp.com/en/netsys.html

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3.1.3 Identifying a System

Identify a system on HP SIM, if the system has not been discovered properly, or if the Global Protocol Settings are different from the System Protocol Settings. To identify a system, follow these steps:

1. In the left pane of the HP SIM page, from the All Systems option, select the required OpenVMS system to open the Systems page.

2. Click **Tools & Links**, and click the **System Protocol Settings** link, as shown in Figure 3–5.

Figure 3–5 System Protocol Settings link
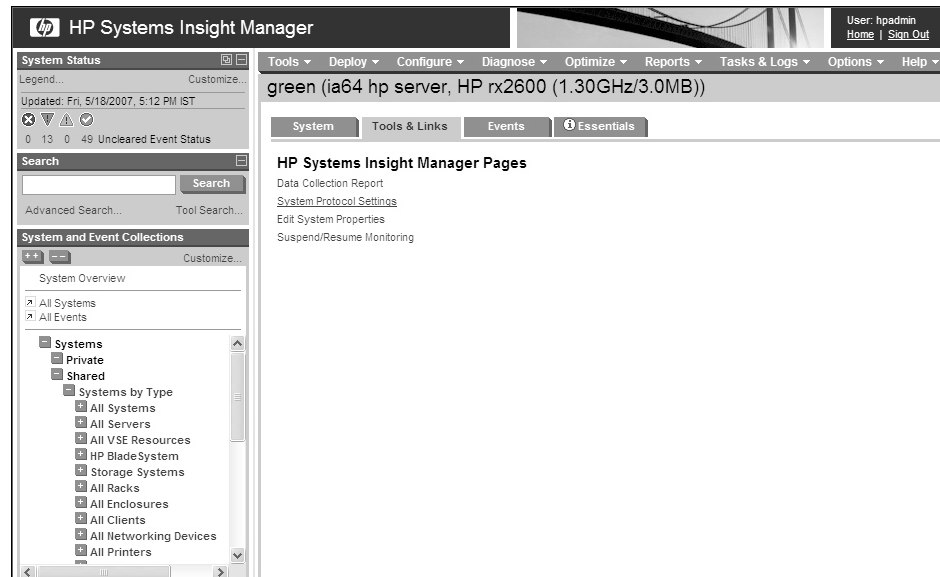
The System Protocol Settings page is displayed, as shown in Figure 3–6.

Figure 3–6 System Protocol Settings
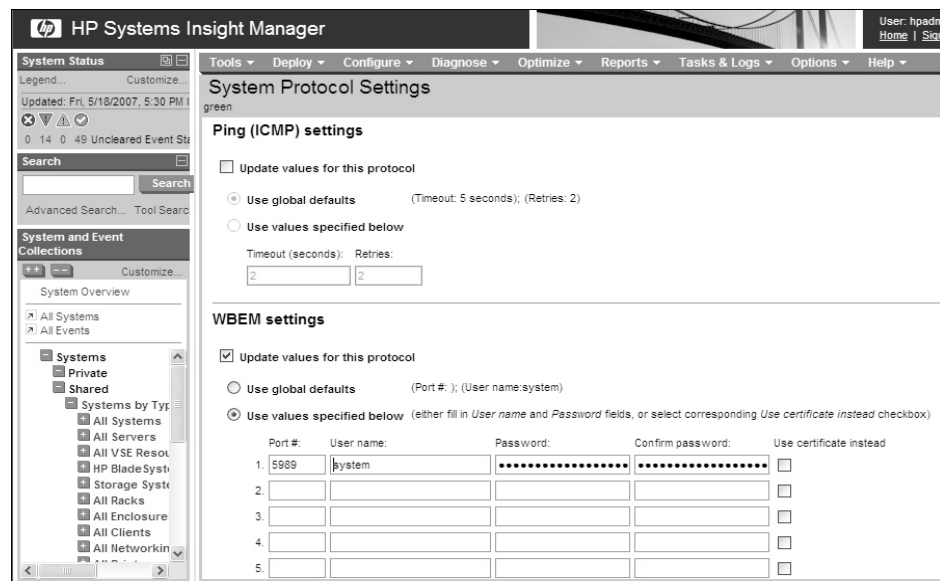
3. Under the WBEM settings section, select **Updated values for this protocol**, as shown in Figure 3–6.

    Select **Use values specified below**, and enter the required user credentials, if the system protocol settings are different from the global protocol settings.
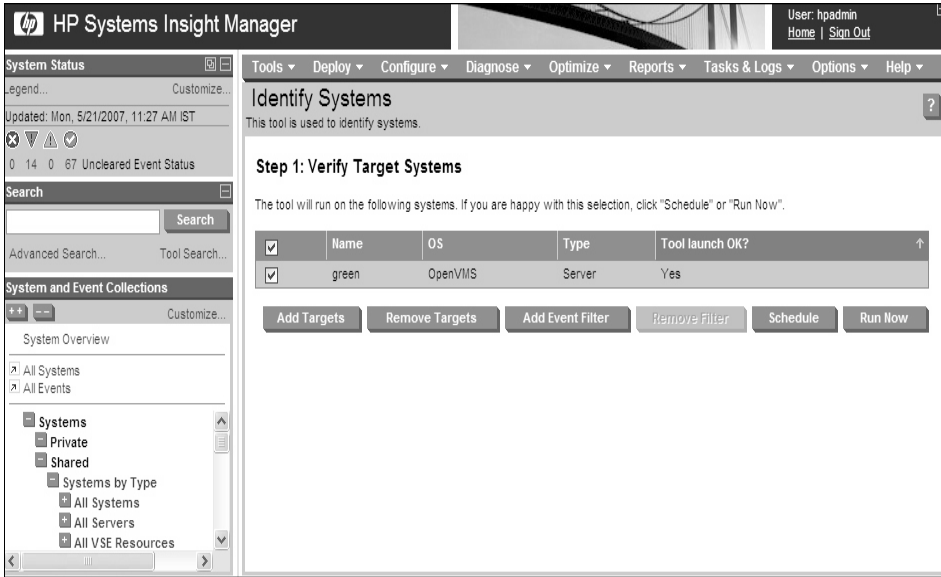
    Click **OK** to save the settings.

4. Select **Options–>Identify Systems** to identify the system.

5. Select the required system, and click **Run Now** to verify the target system, as shown in Figure 3–7.

Figure 3–7   Identify Systems

The Task Results page is displayed, as shown in Figure 3–8.

Figure 3–8   Task Results

--- **Note** ---

For more information, see the *HP Systems Insight Manager Installation and User's Guide* at: http://docs.hp.com/en/netsys.html

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3.2 Subscribing/Unsubscribing to Indications (Events)

When creating subscriptions on the CMS using HP SIM, indications are delivered to the CMS whenever an event occurs on the managed system.

To subscribe to indications or events generated on the required OpenVMS systems, follow these steps:

1. Log on to the Windows system on which HP SIM is installed. Ensure that the account used to log on has administrator privileges on HP SIM.

2. Ensure that you are able to ping the OpenVMS system using the first name.

   For example, if the system name is green.hp.com, enter the following command at the command prompt:

   ```
   C:\>PING green
   ```

   An output similar to the following is displayed:

   ```
   Pinging green [12.116.43.172] with 32 bytes of data:

                   Reply from 12.116.43.172: bytes=32 time=317ms TTL=52
                   Reply from 12.116.43.172: bytes=32 time=303ms TTL=52
                   Reply from 12.116.43.172: bytes=32 time=314ms TTL=52
                   Reply from 12.116.43.172: bytes=32 time=313ms TTL=52

                   Ping statistics for 12.116.43.172:
                       Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
                   Approximate round trip times in milli-seconds:
                       Minimum = 303ms, Maximum = 317ms, Average = 311ms
   ```

   Ensure that the IP address corresponds to the OpenVMS system, for which the subscription is intended.

   _____ **Note** _____

   If the first name does not correspond to the IP address of the intended system, or you are unable to ping the OpenVMS system, edit the hosts file in the following location to add the intended system:

   ```
   C:\WINDOWS\system32\drivers\etc\hosts file.
   ```

   For example, add the following line in the hosts file.

   ```
   12.116.43.172 green
   ```

   Save and close the file.

   _____

3. Enter the following command at the command prompt:

   ```
   C:\>MXWBEMSUB -A -N <systemname>
   ```

   For example,

   ```
   C:\>MXWBEMSUB –A –N green
   ```

   An output similar to the following is displayed:

   ```
   Create Subscriptions for:
   green
   Indication subscription successfully created.
   ```

4. If you want to unsubscribe to indications, enter the following command at the command prompt:

   `C:\>`**`MXWBEMSUB -R -N <systemname>`**

   For example,

   `C:\>MXWBEMSUB -R -N green`

   An output similar to the following is displayed:
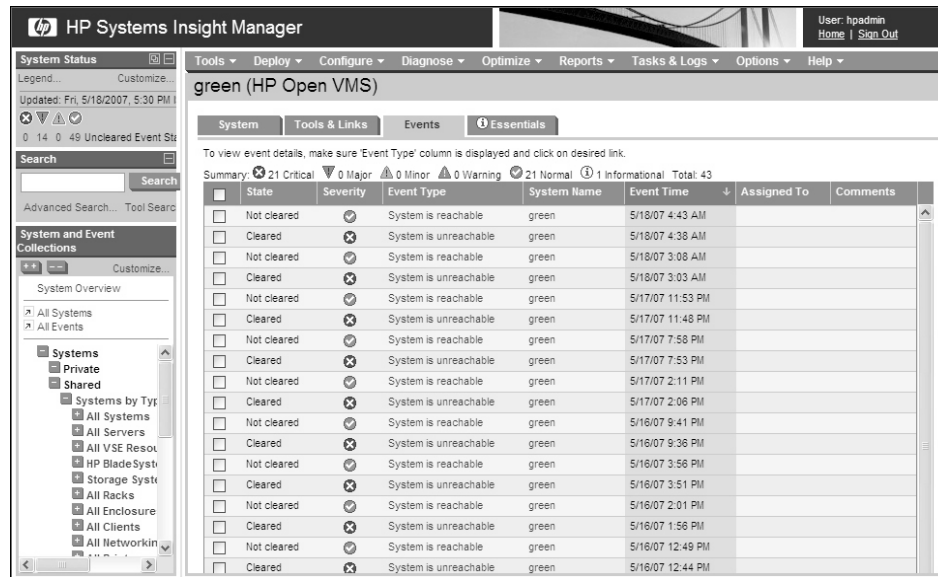
   ```
   Delete Subscriptions from:
   green
   Indication subscription successfully deleted.
   ```

3.3 Viewing Indications (Events)

To view the list of indications or events generated on the selected systems, follow these steps:

1. Select **All Events** in the left pane of the HP SIM window. The list of events is displayed, as shown in Figure 3–9.

Figure 3–9 Events list

2. To view the details of an event, select the event. The details are displayed at the bottom of the same window, as shown in Figure 3–10.
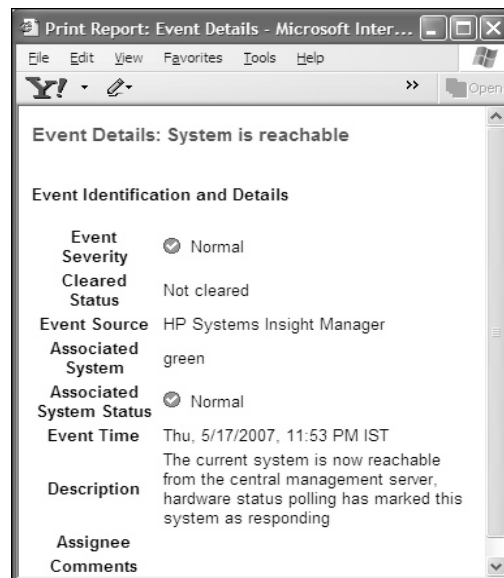
Figure 3–10 Event Details
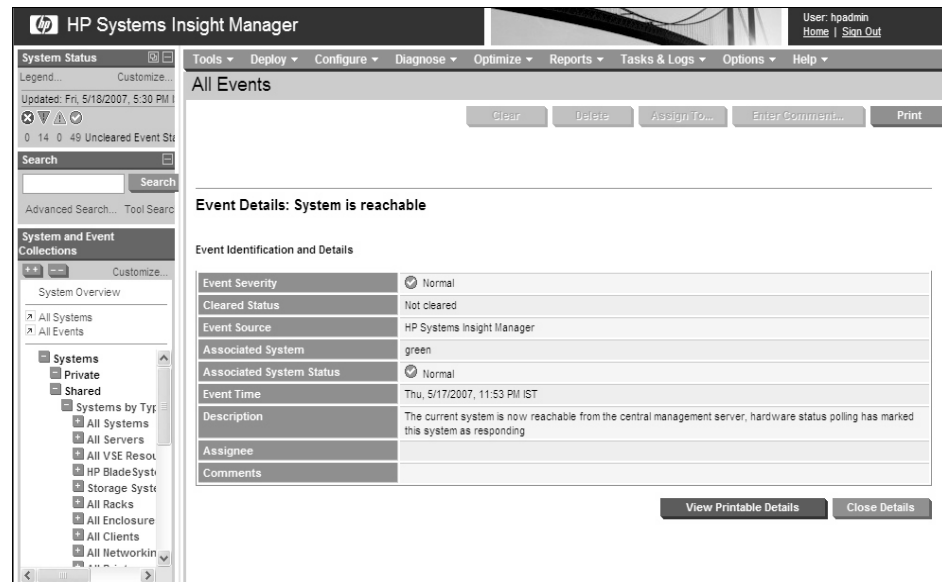
3. To obtain the printable version of the event details, click **View Printable Details** at the bottom of the window. The printable report is displayed in a new window, as shown in Figure 3–11.

Figure 3–11   Printable Event Details

---------------------------------- **Note** ----------------------------------

For more information, see the *HP Systems Insight Manager Installation and User's Guide* at: http://docs.hp.com/en/netsys.html

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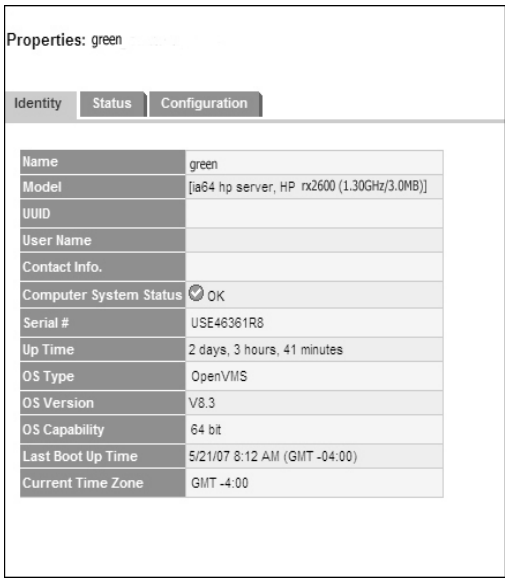
3.4 Viewing Instances

To view the various instances, follow these steps:

1. On the System Page of HP SIM, click **Properties**, as shown in Figure 3–12.

Figure 3–12   System Page
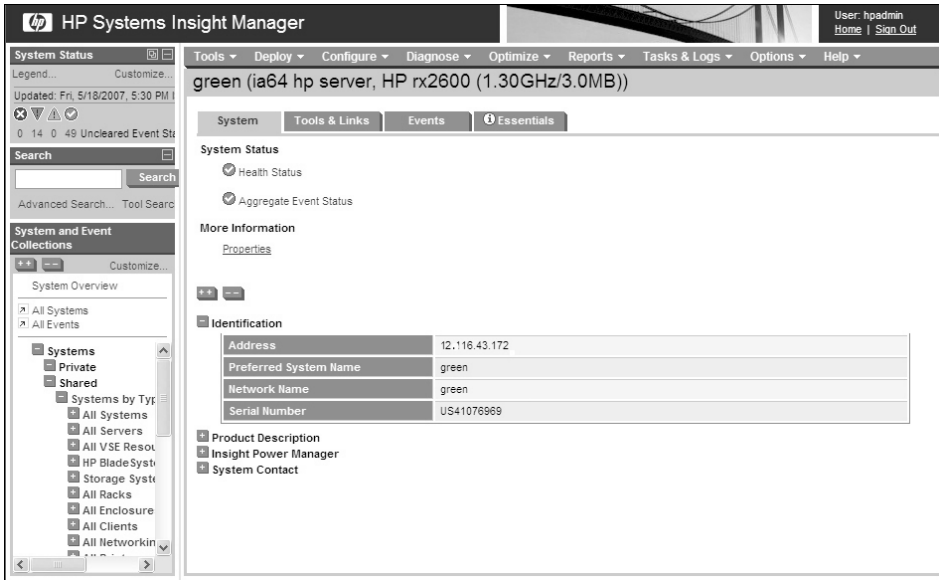
The Properties window is displayed. This window provides details about the system, as shown in Figure 3–13.
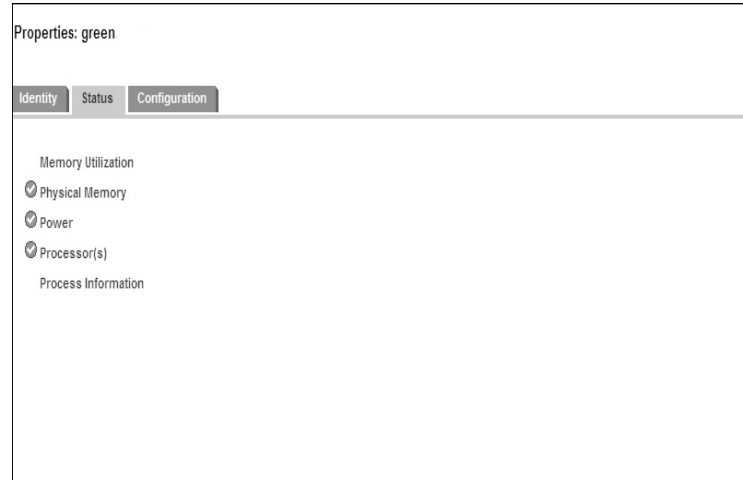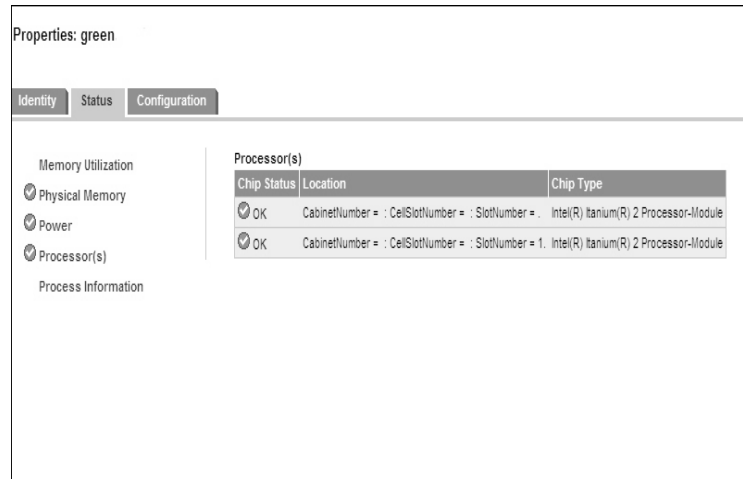
Figure 3–13   Properties Window

2. To view the status of various instances, click **Status**, as shown in Figure 3–14.

Figure 3–14   Status Tab

3. Click the required instance link to view more information about the instance, as shown in Figure 3–15.
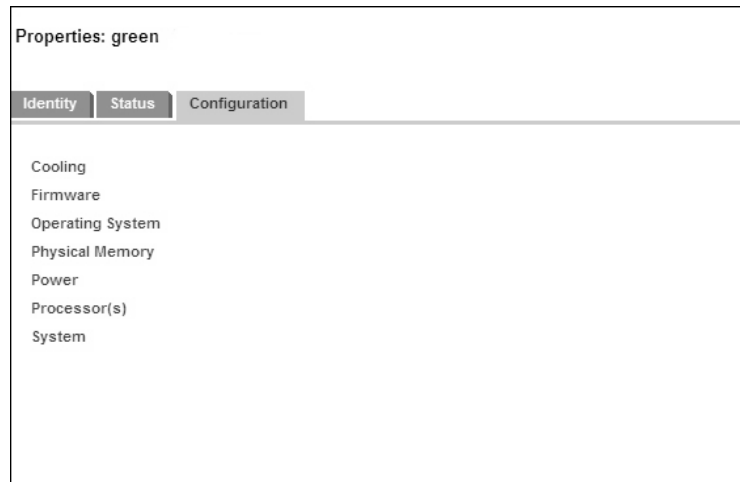
Figure 3–15   Status

4. To view information about the instance configuration , click **Configuration**, as shown in Figure 3–16.
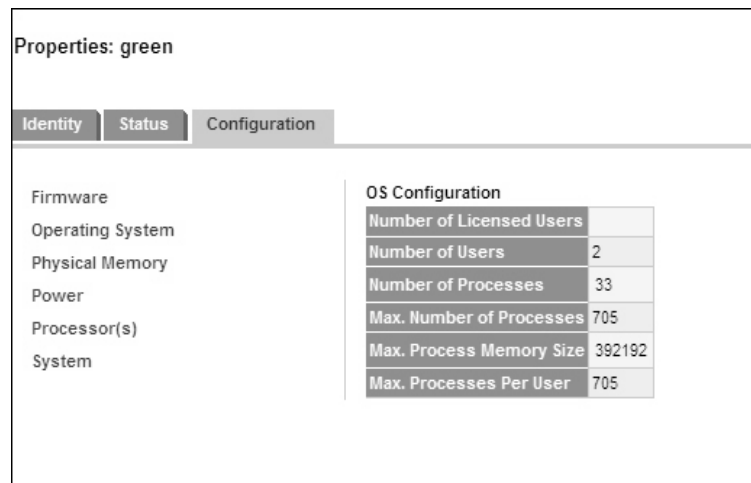
Figure 3–16   Configuration Tab

5. Click the required instance link to view the detailed instance configuration information, as shown in Figure 3–17.

Figure 3–17   Configuration

_____ **Note** _____

For more information, see the *HP Systems Insight Manager Installation and User's Guide* at: http://docs.hp.com/en/netsys.html

_____

Glossary

Central Management Server (CMS)

The server monitoring the client systems in the network using the WBEM Providers software.

Common Information Model (CIM)

An object-based model for describing managed resources. CIM uses the object-oriented paradigm, where managed objects are modeled using the concepts of classes and instances.

Common Information Model Object Manager (CIMOM)

The component of WBEM that manages the interaction between the providers and other modules in the WBEM environment. CIMOM manages CIM objects. It receives and processes CIM operation requests and issues responses.

CIM client

An entity in WBEM architecture which sends CIM Operation requests and receives CIM Operation responses. For example, HP SIM and other network management applications are considered CIM clients.

CIM server

The component of WBEM that manages the interaction between the providers and other modules in the WBEM environment. It is also known as CIMOM.

consumer

A recipient of services. For example, an indication consumer will receive indications (events) that occur in system hardware components.

Distributed Management Task Force (DMTF)

An industry organization involved in the development, adoption, and interoperability of management standards and initiatives for enterprise and Internet environments.

event

An alert generated when an unusual activity is detected on a monitored hardware device.

HP Systems Insight Manager (HP SIM)

HP's management application installed on the CMS that uses WBEM instrumentation on operating systems, such as HP-UX, HP OpenVMS, Linux, and Windows.

indication

An alert or a warning about the failure of a monitored hardware device. It is equivalent to an event in the Event Monitoring Service (EMS) framework.

indication provider

It translates events generated by the Event Monitoring Service (EMS) monitors into WBEM indications, and reports them to the CIMOM.

instance

A representation of the actual physical object that belongs to a class.

instance provider

It provides information about devices, such as model number and serial number of a CPU. In the Support Tools Manager (STM), this functionality is accomplished by Information (Info) Tools.

managed resource

A hardware device that is monitored.

management application

Any application that can be used to query for information about monitored devices and view indications and instances. For example, HP Systems Insight Manager (SIM).

subscription

Configuring WBEM Providers for consumers to receive indications. For example, HP SIM can subscribe to indications that are generated on hardware devices on a system.

WBEM (Web-Based Enterprise Management)

A collection of standards that aid large-scale systems management. WBEM allows management applications to monitor systems in a network.

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