Legal Notice

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor’s standard commercial license.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Acknowledgments

Intel® and Itanium® are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Microsoft®, Windows®, and Windows NT® are U.S. registered trademarks of Microsoft Corporation.

RED HAT READY® Logo and RED HAT CERTIFIED PARTNER® Logo are trademarks of Red Hat, Inc.
# Table of Contents

**Preface** ........................................................................................................................................ 4  
  Intended Audience ............................................................................................................................... 4  
  Obtaining HP Insight Management Agents .......................................................................................... 4  
  Typographic Conventions .................................................................................................................... 5  
  Publishing History ............................................................................................................................... 5  
  HP Encourages Your Comments .......................................................................................................... 5  

1 **Overview** .................................................................................................................................... 6  
  HP Manageability Tools .......................................................................................................................... 6  
    HP Systems Insight Manager .............................................................................................................. 6  
    HP Insight Management Agents ........................................................................................................ 6  
    HP System Management Homepage .................................................................................................. 7  
    HP Management Base ....................................................................................................................... 7  

2 **Installing and Configuring HP Insight Management Agents** .......................................................... 8  
  Concepts and Terms to Understand ...................................................................................................... 8  
  Installing HP Insight Management Agent Packages ............................................................................ 8  
  Updating HP Insight Management Agent Packages ........................................................................... 9  
  Configuring HP Insight Management Agent Packages ....................................................................... 9  
    Installation Prompt Types .................................................................................................................. 9  
    Completing the Agent Configuration ............................................................................................... 9  

3 **Reconfiguring HP Insight Management Agents** .............................................................................. 11  

4 **Installing and Configuring HP System Management Homepage** ................................................... 12  
  Installing the HP System Management Homepage ............................................................................ 12  
  Updating the HP System Management Homepage ............................................................................ 12  
  Configuring the HP System Management Homepage ......................................................................... 12  

5 **Troubleshooting** ............................................................................................................................ 13  
  HP Insight Management Agents Network Ports ................................................................................. 13  
  Important Information About Firewalls and Troubleshooting .............................................................. 13  
    Shutting Down iptables ...................................................................................................................... 14  
  First Troubleshooting Steps ............................................................................................................... 14  
  Advanced Troubleshooting Steps ....................................................................................................... 15  

6 **Release Notes** ............................................................................................................................... 19  
  No Agent Support for the LSI1068 SAS I/O Controller in the rx2660 and BL860C Servers .................. 19  
  Storage Agents Might Report Incorrect Information on rx8620 and Superdome Servers ................... 19  
  Storage Agents Do Not Display Serial Number and Firmware Version on SCSI Controller Cards ...... 19  
  Fibre Channel Ports Without Active Link Are Not Visible to Storage Agents ..................................... 20
Preface

This document provides instructions for downloading and configuring HP Insight Management Agents on HP Integrity servers running Linux. As of this publication, these agents work with Red Hat Enterprise Linux (RHEL) and SUSE LINUX Enterprise Server (SLES).

Based on the Simple Network Management Protocol (SNMP), HP Insight Management Agents allow you to remotely monitor configuration information and system status on your Integrity server from any SNMP browser. A central management server using HP Insight Manager 7 or HP Systems Insight Manager gathers and organizes the raw agent information from the browser for display in reports, allowing you to monitor system use and troubleshoot problems.

IMPORTANT: HP recommends that you review the “Release Notes” (page 19) section of this document prior to installing and configuring the HP Insight Management Agents. The release notes contain important information pertaining to the current release of the management agents.

Intended Audience

This document is intended for use by system administrators responsible for installing, configuring, and managing Linux systems. Administrators are expected to have knowledge of Linux operating system concepts, commands, and configuration.

Obtaining HP Insight Management Agents

If you are running HP Insight Management Version 2.3 and later, you must obtain your updates from the HP Support Pack media of the HP Integrity Essentials Foundation Pack for Linux. For information regarding downloading the product and installation instructions, see the HP Integrity Essentials Foundation Pack for Linux Web site at:

http://www.hp.com/go/integritylinuxessentials

NOTE: For HP Insight Management Version 2.3 and earlier, you must obtain the product from the HP Software Depot at:

http://www.hp.com/go/softwaredepot

On the HP Software Depot page, select the Linux link, and then select the HP Server Agents for Linux on the Itanium Processor link.
Typographic Conventions

This document uses the following typographical conventions.

**Command**
A command name or qualified command phrase.

**ComputerOut**
Text displayed by the computer.

**Ctrl-x**
A key sequence. A sequence such as `Ctrl-x` indicates that you must hold down the key labeled `Ctrl` while you press another key or button.

**ENVIRONVAR**
The name of an environment variable, for example, `PATH`.

**[ERRORNAME]**
The name of an error, usually returned in the `errno` variable.

**Key**
The name of a keyboard key. `Return` and `Enter` both refer to the same key.

**Term**
The defined use of an important word or phrase.

**UserInput**
Commands and other text that you type.

**Variable**
The name of a placeholder in a command, function, or other syntax display that you replace with an actual value.

**[]**
The contents are optional in formats and command descriptions. If the contents are a list separated by `,` you must choose one of the items.

**{}**
The contents are required in formats and command descriptions. If the contents are a list separated by `,` you must choose one of the items.

**...**
The preceding element can be repeated an arbitrary number of times.

**|**
Separates items in a list of choices.

Publishing History

The document publishing date and part number indicate the current edition of the document. The publishing date changes when a new edition is printed. Minor changes might be made at reprint without changing the publishing date. The document part number changes when extensive changes are made. Document updates might be issued between editions to correct errors or document product changes. To ensure that you receive the updated or new editions, subscribe to the appropriate product support service. See your HP sales representative for details. For the latest version of this document online, see the HP Technical Documentation Web site at:

http://docs.hp.com/en/linuxredhat.html#HP%20Integrity%20Essentials%20Foundation%20Pack%20for%20Linux

<table>
<thead>
<tr>
<th>Manufacturing Part Number</th>
<th>Supported OS</th>
<th>Supported Versions</th>
<th>Edition Number</th>
<th>Publication Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>5991-2731</td>
<td>Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES)</td>
<td>RHEL3U8 and RHEL4U4 and earlier SLES8 (Smart Setup media only), SLES9SP3 and SLES10</td>
<td>11</td>
<td>March 2007</td>
</tr>
<tr>
<td>5991-2731</td>
<td>Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES)</td>
<td>RHEL3U8 and RHEL4U4 and earlier SLES8 (Smart Setup media only) and SLES9SP3</td>
<td>10</td>
<td>September 2006</td>
</tr>
</tbody>
</table>

HP Encourages Your Comments

HP encourages your comments concerning this document. We are committed to providing documentation that meets your needs. Send any errors found, suggestions for improvement, or compliments to:

feedback@fc.hp.com

Include the document title, manufacturing part number, and any comment, error found, or suggestion for improvement you have concerning this document.
1 Overview

The HP Insight Management Agents provide system status information that you can monitor your system using HP Systems Insight Manager (SIM). The System Management Homepage is software that provides an interface between the management agents and the manageability tools, organizing information from HP Insight Management Agents for display in a Web page.

You can install and configure HP Insight Management Agents on your Integrity server after installing a supported Linux operating system—either RHEL or SLES. See the “Preface” (page 4) for directions about accessing the operating system support matrix.

The rest of this chapter provides more information about HP Manageability Tools, HP Insight Management Agents, the HP System Management Homepage, and HP Management Base.

NOTE: If HP Insight Management Agents are already installed on your system, see the “Reconfiguring HP Insight Management Agents” (page 11) section.

HP Manageability Tools

HP manageability tools are used to monitor the system status information that is provided by HP Insight Management Agents.

HP Systems Insight Manager

HP SIM is a multiple operating system application for managing HP ProLiant, HP Integrity, and HP 9000 systems running HP Insight Management Agents in a Microsoft Windows, Linux, or HP-UX environment.

HP SIM offers event monitoring and analysis. It delivers the capabilities required to manage all HP platforms from a central management server (CMS) and can be extended to provide custom device management.

For more information, see the following Web site:

http://www.hp.com/go/hpsim

HP Insight Management Agents

The HP Insight Management Agents package is made of multiple components that monitor various aspects of system health and inventory. These components and their functions are:

- Foundation agents—Provides event monitoring, installed software inventory, system utilization information, alarm thresholds.
- Server agents—Provides event monitoring, system inventory, CPUs, PCI, memory, cellular information, LED states
- NIC agents—Provides event monitoring, network statistics, configuration reporting
- Storage agents—Provides event monitoring, storage statistics, configuration reporting

HP Insight Management Agents are based on the SNMP. Once the agents are installed on your HP Integrity server, you can remotely monitor configuration information and system status on that server from any SNMP browser.

A CMS using HP SIM integrates with HP System Management Homepage to collect agent information for display in reports, allowing you to monitor system use and to troubleshoot problems.

You do not need a thorough understanding of SNMP to use HP’s manageability tools or HP Insight Management Agents; however, more details on the SNMP protocol are available at the following Web site:

http://www.net-snmp.net
**HP System Management Homepage**

HP System Management Homepage is software that provides an interface between the HP Insight Management Agents and HP manageability tools. The System Management Homepage software organizes data from HP Insight Management Agents installed on a server into easy-to-read tables, which it displays in a Web interface. For more information about System Management Homepage, see the following Web page:


HP System Management Homepage documentation is located in the `/docs` directory on the HP Support Pack media of the HP Integrity Essentials Foundation Pack for Linux.

**HP Management Base**

HP Management Base for HP Integrity Servers installs an Open intelligent platform management interface (IPMI) driver appropriate for the target system and several utilities for baseboard management controller (BMC) management. These items are needed by other management products, such as HP Insight Management SNMP Agents and HP WBEM Providers. HP Management Base is installed or updated on your system by default using the HP Support Pack media of the HP Integrity Essentials Foundation Pack for Linux. For information about HP Management Base, see `hp BMC(8)`, `hpuid(8)`, `hpseld(8)`, and `openipmi(4)`.
Follow the directions in this section to install, configure, and update HP Insight Management Agents.

Concepts and Terms to Understand

- **SNMP operations** - HP Insight Management Agents are based on the SNMP protocol, which includes the GET, SET, and TRAP operations defined as follows:
  - **GET** operations retrieve information from the system on which you installed HP Insight Management Agents.
  - **SET** operations change values on the system installed with HP Insight Management Agents.
  - **TRAP** operations are initiated from the system installed with HP insight Management Agents to note that a problem or issue needing attention has occurred.

In conjunction with the HP Insight Management Agents, HP SIM automate SNMP operations in an intuitive interface that does not require you have a detailed understanding of SNMP. Although you can use HP manageability tools and HP Insight Management Agents without detailed comprehension of SNMP, you find the background information listed helpful in understanding the operations performed by your HP manageability software, particularly in regard to the relevance of community strings. For detailed information about SNMP, see the Net-SNMP Web site:

http://www.net-snmp.net

- **Community string** - During agent configuration, you are prompted to set values for community strings, which function somewhat like passwords. A community string must be known to both the system running the HP Insight Management Agents and the system serving as the CMS to grant access. A read-only community string allows the user who knows its value to retrieve SNMP data. A read/write community string allows the user who knows its value to both retrieve and modify SNMP data.

**IMPORTANT:** Do not use the same community string for read-only access as you do for read/write access or you might disable read/write access.

- **Trap destination** - A trap destination is a machine to which you want a server’s status indicators sent for further analysis. For example, the HP SIM CMS could be the trap destination for a server installed with HP Insight Management Agents. You are prompted to specify a trap destination during agent configuration. Each trap destination has a corresponding trap community string.

Installing HP Insight Management Agent Packages

The HP Insight Management Agent packages are installed on your system by using the software installer located on the HP Support Pack media of the HP Integrity Essentials Foundation Pack for Linux. Specific instructions for installing from the HP Support Pack media are found Chapter 5 of the *HP Integrity Essentials Foundation Pack for Linux User’s Guide* located in the /docs directory on the HP Support Pack media of the HP Integrity Essentials Foundation Pack for Linux and at the HP Technical Documentation Web site at:

http://www.docs.hp.com/

The installer handles any dependencies and installs any additional required software when installing these packages.
Updating HP Insight Management Agent Packages

HP Insight Management Agent packages are provided on the HP Support Pack media of the HP Integrity Essentials Foundation Pack for Linux.

For the latest update to the HP Insight Management Agent packages, obtain the HP Support Pack media of the HP Integrity Essentials Foundation Pack for Linux from the following Web site:

http://www.hp.com/go/integritylinux

Configuring HP Insight Management Agent Packages

During the process of installing the HP Insight Management Agent packages, an automated search for SNMP configuration files on your system is performed. Depending on the data found in the configuration files, a series of prompts ask you to supply missing information or gives you the opportunity to change current settings. Refer to the “Installation Prompt Types” (page 9) section for explanations about the types of information for which you are prompted.

NOTE: If you want to reconfigure agents that have already been installed, see the “Reconfiguring HP Insight Management Agents” (page 11) section of this book.

As you input the information requested in the user interface, be aware that if you do not supply any data in response to an installation prompt it is interpreted as no change to the current setting or an appropriate default value is applied. Prompts requiring user input do not allow you to proceed until you supply the requested information.

Installation Prompt Types

- **localhost** - The localhost is the server you install the HP Insight Management Agents on. System Management Homepage requires the data you input at the localhost prompts to operate.

- **Remote Management Stations** - The Remote Management Stations installation prompts request you to provide community string data for a single remote server, which is typically the HP SIM Console. Community string data can also be used by any other application. For a definition of community strings, see “Concepts and Terms to Understand” (page 8).

Completing the Agent Configuration

After you supply the information solicited by the prompts, the SNMP daemon and the HP Insight Management Agent packages start.

NOTE: If you do not specify a trap destination during configuration, errors are logged in /var/log/hp/hpima/. Although the agents run, no traps are sent. For a definition of a trap destination, see “Concepts and Terms to Understand” (page 8).

The data you provide at the installation prompts and the information collected from the SNMP configuration files is stored in /etc/snmp/snmpd.conf. If you are familiar with manual configuration of SNMP agents, you can edit this file and restart the SNMP daemon.

The following output is generated when you finish answering the prompts:

```
===================================================================
The following file(s) contained the prior snmpd configuration:
/etc/snmp/snmpd.conf
They have been saved and will be restored when hpima is removed.
New configuration is stored in /etc/snmp/snmpd.conf
===================================================================
```
(Re)starting the SNMP daemon, configured to support the HP Insight Management Agents

Start SNMP AgentX Intermediary ‘hpimaX’: [ OK ]
Start Foundation Peer Daemon ‘hpimafdnpeerd’: [ OK ]
Start Foundation Host Agent ‘hpimahostd’: [ OK ]
Start Foundation Threshold Agent ‘hpimathreshd’: [ OK ]
Start Server PeerDaemon ‘hpimasvrpeerd’: [ OK ]
Start Server Health Agent ‘hpimahealthd’: [ OK ]
Start Server Standard Equipment Agent ‘hpimastdeqd’: [ OK ]
Start Storage Peer Daemon ‘hpimastorpeerd’: [ OK ]
Start Storage Event Agent ‘hpimaeventd’: [ OK ]
Start Storage Intelligent Disk Array Agent ‘hpimaidad’: [ OK ]
Start Storage SCSI Agent ‘hpimascsid’: [ OK ]
Start Storage Fibre Channel Agent ‘hpimafcad’: [ OK ]
Start NIC Peer Daemon ‘hpimanicpeerd’: [ OK ]
Start NIC Agent ‘hpimanicd’: [ OK ]
Start Event E0 Trap Generator ‘hpimaE0traps’: [ OK ]

HP Insight Management Agents are enabled.
The hpima RPM has installed successfully.

To verify HP Insight Management agent status, enter `/etc/init.d/hpima status`, and then press Enter.
3 Reconfiguring HP Insight Management Agents

If your system came with pre-installed HP Insight Management Agents, you need to reconfigure them to customize settings that require user-specific information, such as IP addresses and community strings.

Before Reconfiguring

Before beginning to reconfigure pre-installed HP Insight Management Agents software, you should check the version of your current software, and update your software to the latest version.

1. To check the HP Insight Management Agents software version, enter the following command:
   
   `# rpm -q hpima`

   The following is an example of the output that is returned from this command:
   
   `hpima-2.2-1.sles9`

2. To update the HP Insight Management Agents software, follow the instructions in “Updating the HP System Management Homepage” (page 12) to obtain the latest version.

Reconfiguring

To reconfigure the HP Insight Management agents, use the following steps:

1. Enter `/etc/init.d/hpima reconfigure` and press Enter.

2. Go to the “Configuring HP Insight Management Agent Packages” (page 9) section and follow the instructions to reconfigure your settings.

You can run the `/etc/init.d/hpima reconfigure` command at any time to reconfigure agents previously installed.
4 Installing and Configuring HP System Management Homepage

Follow the directions in this section to install, configure, and update the HP System Management Homepage.

Installing the HP System Management Homepage

The HP System Management Homepage is installed on your system using the software installer, which is located on the HP Support Pack media of the HP Integrity Essentials Foundation Pack for Linux. When installing the HP System Management Homepage software, the installer handles any dependencies and installs any required additional software.

Updating the HP System Management Homepage

The HP System Management Homepage is provided on the HP Support Pack media of the HP Integrity Essentials Foundation Pack for Linux.

For the latest update to the HP System Management Homepage, obtain the HP Support Pack media of the HP Integrity Essentials Foundation Pack for Linux from the following Web site:

http://www.hp.com/go/integritylinux

Configuring the HP System Management Homepage

After installing the HP System Management Homepage, you must correctly configure it for your system.

For detailed configuration instructions, see the "Configuration of the System Management Homepage on Linux IPF" section in the System Management Homepage Installation and User Guide located in the /docs directory on the HP Support Pack media of the HP Integrity Essentials Foundation Pack for Linux.
5 Troubleshooting

This section provides instructions for troubleshooting basic agent installation and configuration issues. The following assumptions have been made to develop this information:

- The agents are not responding to inquiries from HP SIM.
- You are a Linux system administrator with root privilege.
- No errors were issued during agent installation and initial configuration.
- The net-snmp-utils RPM, part of the agent installation tar archive, was installed on the managed system.
- Commands and options are capitalized correctly.
- You have access to several terminal windows and you have multiple command lines available.
- You understand that shutting down the firewall to troubleshoot creates a security breach, and you assume all risks inherent with that procedure.

**NOTE:** HP views all SNMP traffic as unsecure. Therefore, it is assumed that SNMP traffic is on a private, secure network.

**HP Insight Management Agents Network Ports**

The following table provides a list of network ports used by the HP Insight Management Agents. All the ports are internal unless otherwise indicated.

<table>
<thead>
<tr>
<th>Port</th>
<th>Protocol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>161</td>
<td>udp</td>
<td>SNMP traffic (snmpget/snmpset/snmpwalk) is transferred using this port. It is an external port.</td>
</tr>
<tr>
<td>162</td>
<td>udp</td>
<td>SNMP trap information is sent here. It is an external port.</td>
</tr>
<tr>
<td>199</td>
<td>tcp, udp</td>
<td>Though HP Insight Management Agents uses AgentX, snmpd still listens on this port.</td>
</tr>
<tr>
<td>25375</td>
<td>udp</td>
<td>HPIMASNMP—Communication to hpimaX by peer daemons.</td>
</tr>
<tr>
<td>25376</td>
<td>udp</td>
<td>HPIMASVR</td>
</tr>
<tr>
<td>25378</td>
<td>udp</td>
<td>HPIMASTOR</td>
</tr>
<tr>
<td>25385</td>
<td>udp</td>
<td>HPIMAFDTN</td>
</tr>
<tr>
<td>25393</td>
<td>udp</td>
<td>HPIMANIC—Communication to peer daemons from hpimaX.</td>
</tr>
</tbody>
</table>

**Important Information About Firewalls and Troubleshooting**

Some Linux distributions automatically configure firewall software during installation, usually using iptables, which is the standard Linux kernel’s method of providing firewall support. Such a firewall configuration may block remote management stations from contacting the SNMP daemon, making it difficult to troubleshoot HP Insight Management Agents.

To execute the troubleshooting steps in this document, you must shut down firewall software on the managed server using the following steps. The information in the “Advanced Troubleshooting Steps” (page 15) section applies only when you have the standard Linux firewall capabilities of iptables. Consult your network administrator to determine if this situation exists.
Shutting Down iptables

**WARNING!** Inform your network administrator before you stop a running firewall, even momentarily. Disabling the firewall creates a potential security breach, and you must weigh this threat against the benefits of live troubleshooting.

1. Enter `/etc/init.d/iptables status` and press **Enter** to see if the firewall software is installed and running.
   - If you see the message No such file or directory, then standard firewall software is not installed and you can proceed to “First Troubleshooting Steps” (page 14).
   - Or
   - If you see the message Firewall is stopped, proceed to “First Troubleshooting Steps” (page 14).
   - Or
   - If you see output indicating the firewall is running, proceed to the next step.

2. If the firewall is running, enter `/etc/init.d/iptables stop`, and then press **Enter** to stop the firewall. You can then proceed to “First Troubleshooting Steps” (page 14).

First Troubleshooting Steps

Most errors are due to mismatched community strings entered during agent configuration on the managed server. Follow these steps, which include confirming the community string settings, before performing more advanced troubleshooting:

1. Examine the SNMP daemon configuration file. If your system is running RHEL, this file is located in `/etc/snmp/snmpd.conf`. If your system is running SLES, this file is located in `/etc/snmpd.conf`. The first set of directives should be delimited by the following comment lines (the date should reflect your installation time).

```
#----- 29 Jun 2005: HP Insight Management Agents
:
:
:
# ----- 29 Jun 2005: end modifications
```

**NOTE:** Any remote host names you configured during initial installation appear in this file. Record these remote host names for later use in “Advanced Troubleshooting Steps” (page 15).

2. Find the directives for local host community strings.
   In the following example, ROlocal and RWlocal are used as a generic representations of the names you set for the read-only and read-write community strings, respectively. The names in your file appears as you configured them when you installed the HP Insight Management Agents.
   
   rocommunity ROlocal 127.0.0.1
   rwcommunity RWlocal 127.0.0.1

   Ensure the values of ROlocal and RWlocal are what you thought you set for local host community strings when you configured or reconfigured your agents. Each community string must have a unique string value. If you need to change them, see the instructions in “Reconfiguring HP Insight Management Agents” (page 11).
NOTE: The rocommunity ROlocal string, if it exists, must come before the rwcommunity <RWlocal> community string in the file.

3. Find the directives for remote host community strings:
   rocommunity ROremote remote host name
   rwcommunity RWremote remote host name

   You should see a pair of lines for both the ROremote and the RWremote management stations you specified during agent installation. Ensure the community string values of ROremote and RWremote are what you specified during agent configuration. Also remember that the community string value of ROremote must be different from RWremote for a single remote host. These community strings may be reused on other remote hosts.

NOTE: The rocommunity ROremote string, if it exists, must come before the rwcommunity RWremote community string in the file.

4. Verify that the community strings and host names match what you think you configured them to be, and that they also match the settings in your management console software (HP SIM). If they do not match, follow the directions in “Reconfiguring HP Insight Management Agents” (page 11).

Advanced Troubleshooting Steps

If you verified your community strings and host names as outlined previously, then follow these steps:

1. Shut down the agents and SNMP daemon:
   a. Enter `/etc/init.d/hpima stop`, and then press Enter.
   b. Enter `/etc/init.d/snmpd stop`, and then press Enter.

2. Enter `ping localhost`, and then press Enter to test connectivity to the local host.
   If the command fails, there is a problem with your network configuration, which you must investigate and repair before continuing with agent troubleshooting.

3. For each `<remote host name>` in the snmpd.conf file (described in “First Troubleshooting Steps” (page 14)), enter `ping <remote host name>`, and then press Enter to test connectivity to the remote management station.

   NOTE: If your system is running RHEL, this file is located in `/etc/snmp/snmpd.conf`.
   If your system is running SLES, this file is located in `/etc/snmpd.conf`.

   If the command fails, there is a problem with your core network configuration or your network in general, which you must investigate and repair before continuing with agent troubleshooting.

4. Open a new window, enter `snmpd -f -L -Cc /opt/hpima/etc/snmpd.conf.open`, and then press Enter. This starts the SNMP daemon that uses a simple configuration file that comes with HP Insight Management Agents.

   The configuration file in the command uses the read-only community string “public” for any host on your network. It is insecure but useful for troubleshooting.

   Ensure that you see the following output, which verifies that SNMP has AgentX functionality.
   Without this functionality, the HP Insight Management Agents cannot communicate through SNMP.
Turning on AgentX master support.
NET-SNMP version <x.x.x>
Wait at least ten seconds to ensure the daemon continues to run. Be aware that the next step might cause output to appear in this window. Examine the output for errors if the operations in the next step fail.

5. On the system that has the HP Insight Management Agents installed, enter:
   
   ```
   snmpget -Oqs -v1 -c public localhost sysDescr.0
   ```
   
   where:
   
   public is the name you set up for your read-only community string

   Then press Enter to test local SNMP functionality.

   **NOTE:** The first option in the command is the capital letter “O” and the final argument ends with a period followed by a zero.

   The output from this command should be a one-line response.

   a. Enter `uname -a`, and then press Enter.
   b. Compare the output of `uname -a` with the output you noted. The responses should largely match. If they do not, you have a malfunctioning SNMP package. Remove the HP Insight Management Agents and reinstall.

6. Check to see if your network is passing SNMP packets.
   
   a. Log in on any of the remote hosts in your `snmpd.conf` file and execute a simple SNMP GET command.

   **NOTE:** The command and syntax varies widely depending on the remote host’s operating system (Windows, Unix, Linux). For example, from a Linux host, you could run:
   
   ```
   snmpget -Oqs -v1 -c public managedhost sysDescr.0
   ```
   
   where:
   
   `managedhost` is the DNS name or IP address of your managed client

   b. If the GET command fails, especially if there is no output in the logging window, your network is not passing SNMP packets. Repair your networking issues before continuing with agent troubleshooting.

7. The HP Insight Management Agents depend on a running SNMP daemon. To check and troubleshoot the daemon status on the managed host, restart the SNMP daemon with the real configuration file:
   
   a. Enter `/etc/init.d/snmpd restart`, and then press Enter.
   b. The logging window should indicate that the previous daemon stopped. Close that window and wait at least ten seconds.
   c. Enter `/etc/init.d/snmpd status`, and then press Enter to check SNMP daemon status.
   d. You should see output similar to the following:
      
      ```
      snmpd (pid xxxxx) is running...
      ```

      If `snmpd` is not running, see the `snmpd(8)` manpage for information on how to turn on “logging to a file” and follow the instructions to start the SNMP daemon.
8. If, while running RHEL, the values for PCI I/O slot numbers appear to be invalid (for example, PCI devices are not mapped to the physical slots in which they are installed), check the /var/log/hp/hpima file for the following message:

   Warning: hpima version <x.x> does not support multi-domain PCI

   If you find this message, you must reset your ACPI configuration value to single-pci-domain.

   See the Red Hat Enterprise Linux Support Notes for further information about this problem and instructions on how to reset the ACPI configuration value. You should have received this document with your RHEL purchase from HP. It is also available at the following Web site:


9. Remove the agent log file /var/log/hp/hpima (if it exists) to clear old messages.

10. Enter /etc/init.d/hpima start to start the agents.
   a. Wait at least one minute, then enter /etc/init.d/hpima status, and then press Enter to check agent status.
   b. Verify that you see the following output:
hpimaX (pid xxxxx) is running...
hpimafdtnpeerd (pid xxxxx) is running...
hpimahostd (pid xxxxx) is running...
hpimathreshd (pid xxxxx) is running...
hpimasvrpeerd (pid xxxxx) is running...
hpimahealthd (pid xxxxx) is running...
hpimastdeque (pid xxxxx) is running...
hpimastorpeerd (pid xxxxx) is running...
hpimaeventd (pid xxxxx) is running...
hpimaeventd (pid xxxxx) is running...
hpimascsid (pid xxxxx) is running...
hpimacapd (pid xxxxx) is running...
hpimancpeerd (pid xxxxx) is running...
hpimanid (pid xxxxx) is running...
hpimaE0traps (pid xxxxx) is running...

If any of the programs listed in the previous example are not running, examine the
/var/log/hp/hpima file for errors.

11. Enter `snmpget -Oqs -v1 -c ROlocal localhost sysDescr.0`, and then press
`Enter` to test basic SNMP functionality with the real community strings.

**NOTE:** The first option in the command is the capital letter “O” and the final argument is
a period followed by a zero.

The output from this command should be a one-line response.

a. Enter `uname -a`, and then press `Enter`.

b. Compare the output of `uname -a` with the output you noted. The responses should
largely match. If they do not match, your community string is not properly configured.
See “First Troubleshooting Steps” (page 14) for troubleshooting information.

12. Repeat the preceding step using the `RWlocal` community string.

13. Enter `snmpget -Oqs -v1 -c ROlocal -mALL localhost cpqHoMibRevMajor.0`
to retrieve an agent data value from the managed system.

You should see the following output:

```
cpqHoMibRevMajor.0 1
```

14. Repeat the previous step with the `RWlocal` community string.
6 Release Notes

This section contains important information about known issues for this release of the HP Insight Management Agents, which might affect the installation, configuration, or use of the agents.

No Agent Support for the LSI1068 SAS I/O Controller in the rx2660 and BL860C Servers

The mpt driver that is included in the RHEL4 Update 4 release does not contain agent support, therefore it does not have the necessary agent components required by the HP System Insight Manager to operate properly on the rx2660 and BL860C Servers. This issue is resolved with a special version of the mpt driver that HP has qualified, which can be downloaded from the HP Support Web site as follows:

1. Go to http://www.hp.com/go/integritylinux
2. Click the Software & Drivers link.
3. Do the following under the section Support for your products:
   a. Click the Download drivers and software (and firmware) option.
   b. In the product field, enter mpt rx2660.
   c. Press Enter.
4. Select the appropriate product if necessary, then OS from the Product search results list.
6. Click the Download option to obtain a tar archive of all necessary files.

Storage Agents Might Report Incorrect Information on rx8620 and Superdome Servers

For users with rx8620 or Superdome servers, the Storage SNMP Agents can incorrectly report bay and chassis information when the systems are configured to use multiple PCI domains. There is a workaround for this situation, which is to configure the partition to use the single PCI domain ACPI configuration. To do this, proceed as follows:

1. Boot to the EFI shell.
2. Set the PCI domain:
   Shell> acpiconfig single-pci-domain
   single-pci-domain settings have been enabled.
   A reset is required for the settings to take effect.
3. Reset the system:
   Shell> reset

Storage Agents Do Not Display Serial Number and Firmware Version on SCSI Controller Cards

The Storage SNMP Agents do not display the SCSI controller OIDs for the serial number and firmware.

You can obtain this information yourself, as follows:

- Check the SCSI controller card for the serial number, which is labeled on the card.
- Watch for the firmware version during system initialization. When the SCSI controller card is initialized, the firmware version is displayed.
Fibre Channel Ports Without Active Link Are Not Visible to Storage Agents

On RHEL Advanced Server (AS) 3 Update 3, RHEL AS 4 Update 1, and SLES 9, for Qlogic driver versions earlier than Version 8.00.02b1, the Qlogic Fibre Channel Host Bus Adapters (HBAs) are not visible when they are not connected to an active link.

To solve this problem, upgrade to Qlogic driver Version 8.00.02b1 or higher. Details regarding the upgrade of these drivers are contained in Chapter 3 of the *HP Integrity Essentials Foundation Pack for Linux User’s Guide* found at:

http://docs.hp.com/en/linuxredhat.html#HP%20Integrity%20Essentials%20Foundation%20Pack%20for%20Linux

Additional information regarding Fibre Channel HBAs can be found at the HP SAN Infrastructure Web site at:
