HP Power Manager 4.0
User Guide

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Part Number 333101-004

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Audience Assumptions

This guide is intended for individuals requiring information about the management of HP UPSs.

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Overview

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Introduction

HP Power Manager enables you to monitor, manage, and control power environments through comprehensive control of individual HP UPSs. A familiar browser interface provides secure access to Management Servers anywhere on the network. You can control power failure settings and define UPS load segments to allow for maximum uptime of critical servers.

For a detailed list of supported UPSs, refer to the Supported Hardware matrix on the HP Power Manager Product Overview page on the HP website (http://www.hp.com/products/ups).

You can configure HP Power Manager to send alert traps to HP Systems Insight Manager and other SNMP management programs. The software can also run as a stand-alone power management system. This flexibility enables you to monitor, manage, and communicate with a UPS through a network port, USB port, or serial port with a single serial card (RS-232) or multiserver serial card (Six Port Card) installed. To facilitate day-to-day maintenance tasks, the software provides detailed system logs and system diagnostics, including UPS battery checks.

Use HP Power Manager to:

- Customize alerts
  - Send email notification messages.
  - Send broadcast notification messages.
  - Send SNMP traps.
  - Issue computer commands at power failure.

- Monitor, manager, and control UPSs
  - Manage a graceful shutdown of attached equipment during utility power failure.
  - Manage independent UPS load segments to provide separate power control of connected equipment.
  - Prioritize the timing of equipment shutdown and reboot connected equipment by load segment.
  - Delay restart by load segment after a power outage to sequence the startup of system components.
  - Shut down and reboot any UPS and attached equipment, based on a user-specified schedule
  - Display text logs and graphical logs for analysis.
  - Monitor the status of UPSs and perform diagnostics.
  - Communicate with a UPS through a network port, USB port, or serial port with a single serial card (RS-232) or multiserver serial card (Six Port Card) installed.

Overview

HPPM is a Web-based application that enables administrators to manage an HP UPS from a browser-based management console. Administrators can monitor, manage, and control a single UPS locally and remotely.

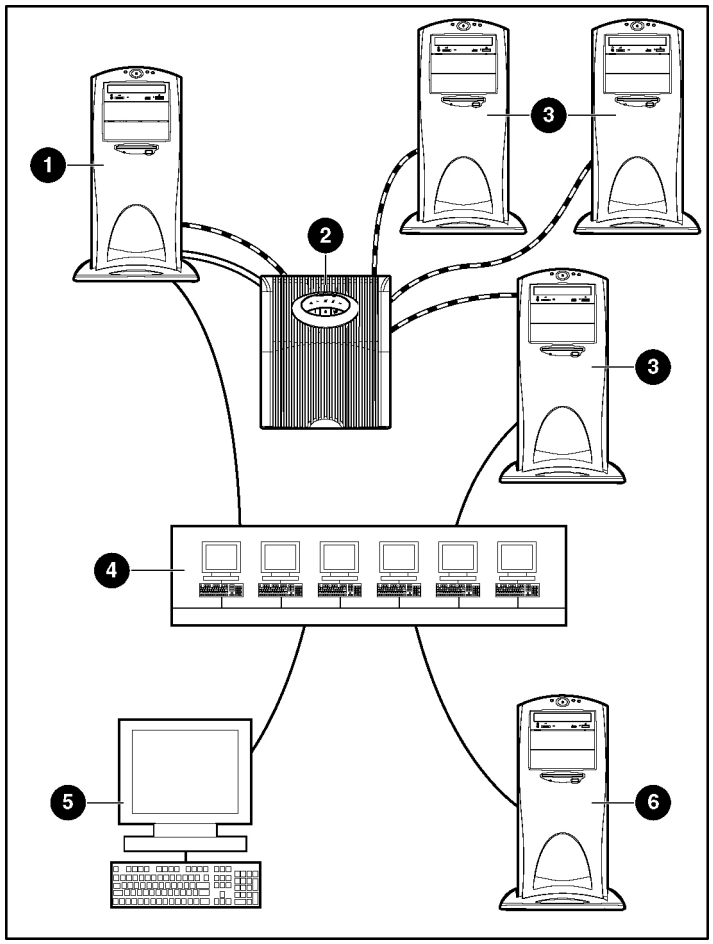
During a utility power failure, the UPS switches to battery mode. An email alert can be issued to the system administrator, and a prioritized system shutdown begins based on user-defined settings for that specific UPS. After power is restored, the software can facilitate a prioritized power-up for connected equipment.

The UPS can be configured to extend runtimes for critical devices during utility power failures. For most UPSs, the receptacles on the rear panel can be divided into two or more groups, called load segments, which can be controlled independently. By shutting down a load segment that is connected to less critical equipment, the runtime for more critical equipment is extended, providing additional protection.

Architecture

The architecture consists of two major components:

- Management Server
- Remote Agent



Item	Description
1	HPPM Management Server

Item	Description
2	A UPS that is serial port, network port, or USB port attached to and managed by the Management Server
3	Remote Agent server
4	Intranet
5	A remote workstation browsing into the Management Server over the network
6	HP Systems Insight Manager receiving alert traps from HPPM (optional)

Management Server

One Management Server is needed for each UPS that is monitored, managed, and controlled by HPPM. The server can be connected to the UPS through a serial port, USB port, or network port. Specific features of the Management Server include:

- Controlling security and authentication, such as:
  - Supporting multiple users and associating each login with specific device access (access categories are regular user and administrator)
  - Providing the option of SSL security
- Performing specified actions when alarms are set or cleared. The following unattended actions are supported:
  - Sending email notifications, broadcast messages, and SNMP traps
  - Executing system batch jobs during shutdown (on the Management Server or Remote Agent)
  - Performing operating system shutdown by notifying the Remote Agents when to shut down
  - Shutting down and restarting by load segment, if applicable
  - Performing a UPS shutdown
- Performing a graceful, remote shutdown of the local operating system after a specified delay

- Maintaining event logs, which include the following types:
  - UPS event log, which contains UPS-related events, such as the UPS going on battery
  - Application event log, which contains application-related events, such as failed logins or settings changes
- Logging data variables. The following data values are logged:

  NOTE: Depending on the specific UPS model, some variables might not be supported. The following list is only an example.

  - Input voltage
  - Input current
  - Input frequency
  - Output voltage
  - Output current
  - Output source
  - Output load
  - Output power
  - UPS temperature
  - Runtime remaining
  - Battery status
  - Battery voltage
  - Battery capacity
  - Self test summary
- Providing content for the user interface using an embedded Web server (The user interface is accessed using a supported Web browser. For more information on supported browsers, refer to the section, "Browser Requirements (on page 28).")

  IMPORTANT: Power protection for the Management Server is essential. The Management Server is the central point of control of the power management environment. If the Management Server goes down, the ability to gracefully shut down attached servers is lost.

NOTE: For the latest supported operating systems, refer to the HP Power Manager Product Overview page (http://www.hp.com/products/ups) on the HP website.

Remote Agent

The Management Server provides both status and shutdown information to the Remote Agent. The Remote Agent runs on a machine and allows the software to gracefully shut down the operating system of that server and run a script during power failure. Install the Remote Agent on any machine that is powered by the UPS and any machine that the software uses to initiate a command. However, it is not necessary to install the Remote Agent on the machine running the Management Server component.

NOTE: For the latest supported operating systems, refer to the HP Power Manager Product Overview page (http://www.hp.com/products/ups) on the HP website.

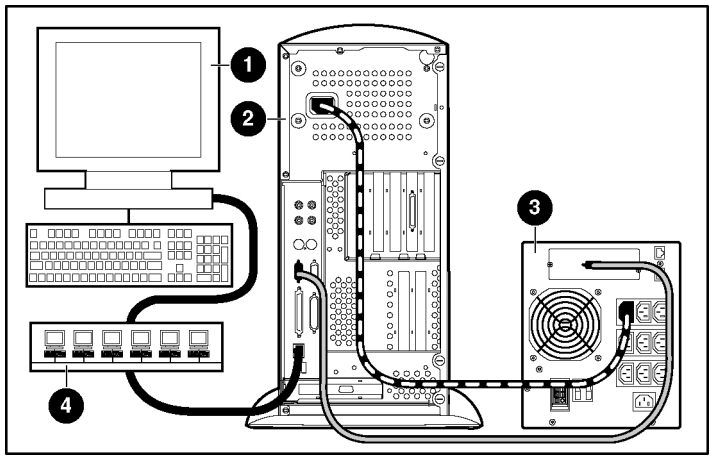
Supported Hardware Configurations

HP Power Manager requires that the Management Server and the computers running the Remote Agents are connected to the network. UPSs can be attached in any of the following configurations:

- Configuration A (on page 17)—A Management Server is serially attached to one UPS.
- Configuration B (on page 17)—Several Management Servers are serially attached to a Six Port Card on a single UPS.
- Configuration C (on page 19)—One Management Server is serially attached to a UPS and communicates to several Remote Agents over the network.
- Configuration D (on page 20)—A Management Server is attached to one UPS through the USB port.
- Configuration E (on page 21)—A Management Server communicates with one UPS over the network.

Configuration A

This figure illustrates a UPS serially attached to a Management Server that is plugged into a load segment of the UPS. The Management Server is connected directly to the network. A remote workstation can browse into the Management Server over the network.

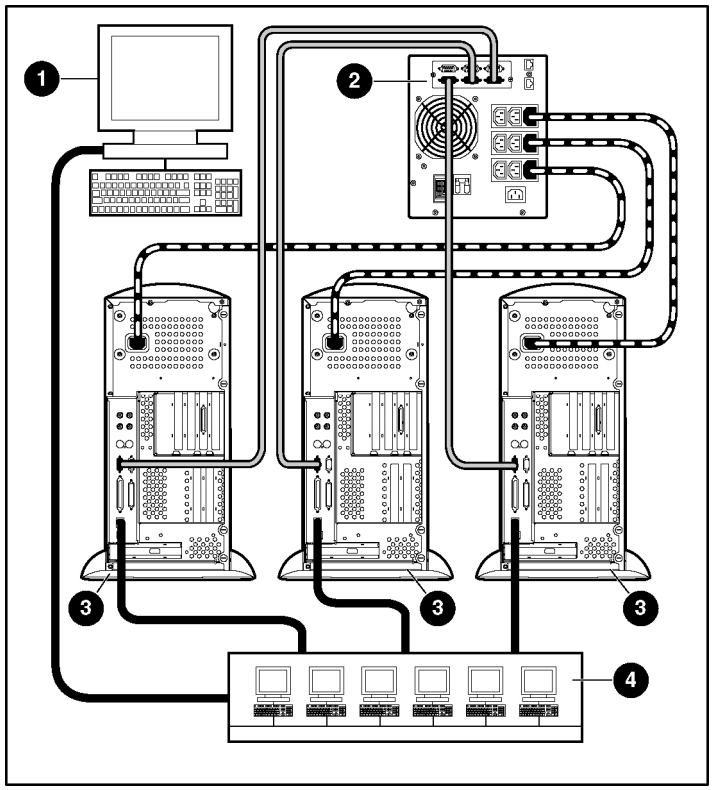


Item	Description
1	Remote workstation browsing into the Management Server over the network
2	HPPM Management Server
3	UPS
4	Network

Configuration B

In this figure, each server is a Management Server and is serially attached to the UPS through a Six Port Card. The Six Port Card makes each server operate as if it is the only Management Server attached to the UPS. The Six Port Card supports up to three attached servers, and these servers do not communicate with each other.

NOTE: Attached Remote Agents are not tested or supported in this configuration.

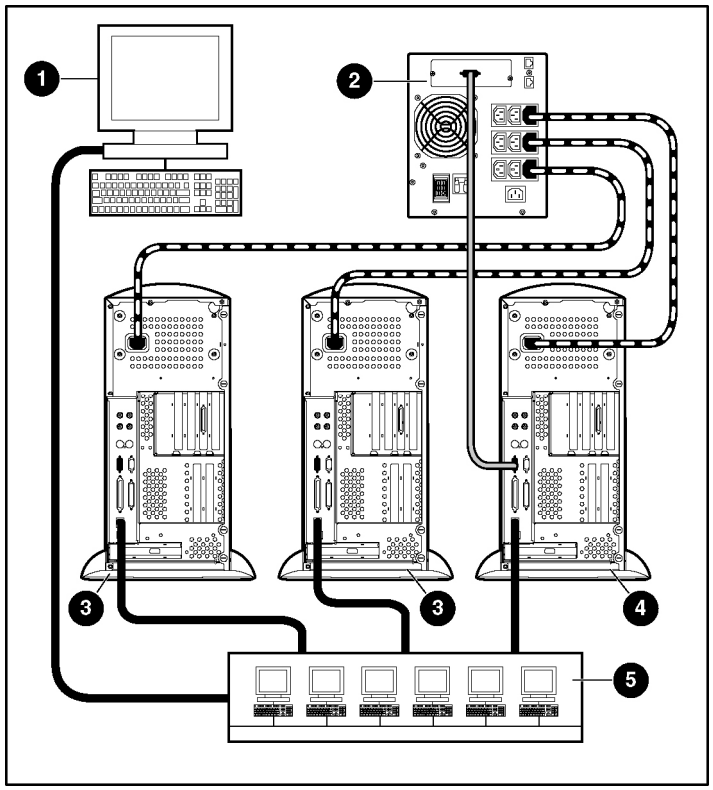


Item	Description
1	Remote workstation browsing into the Management Server over the network
2	UPS with Six Port Card installed
3	HPPM Management Servers
4	Network

Configuration C

In this figure, only one server is a Management Server and is serially attached to the UPS. This Management Server communicates to the Remote Agent servers over the network to begin a graceful shutdown in the event of a power failure or other configured shutdown events.

NOTE: Up to 15 Remote Agent servers can be managed by one Management Server.

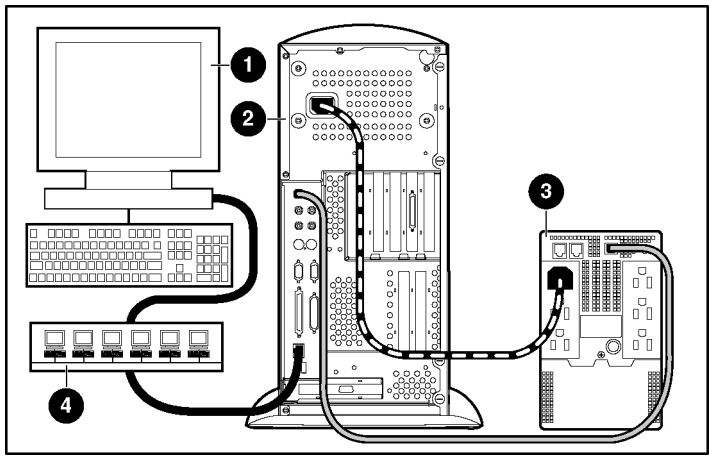


Item	Description
1	Remote workstation browsing into the Management Server over the network
2	UPS
3	Remote Agent servers

Item	Description
4	HPPM Management Server
5	Network

Configuration D

This figure illustrates a UPS that is connected to the Management Server through a USB port. The Management Server is plugged into a load segment of the UPS and connected directly to the network. A remote workstation can browse into the Management Server over the network.

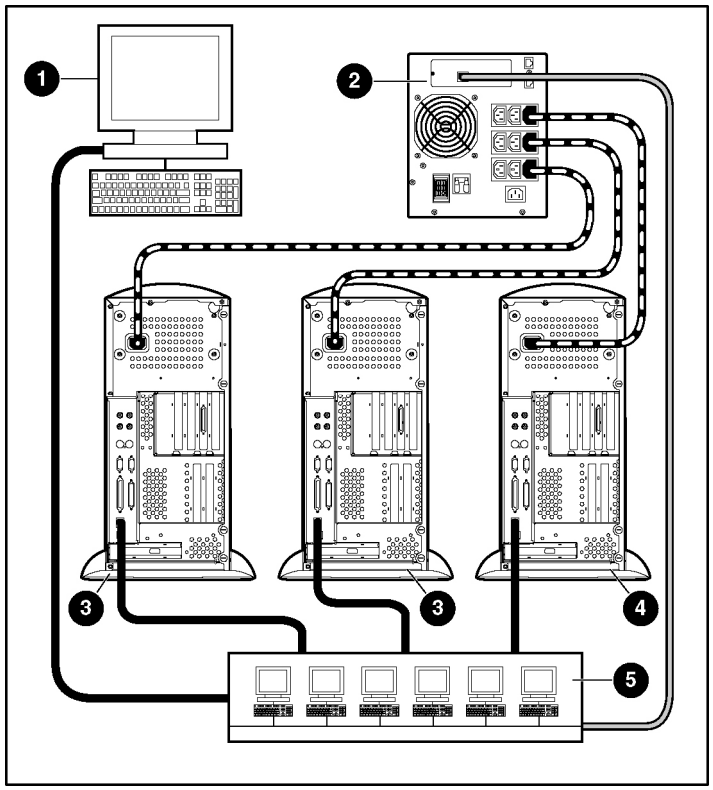


Item	Description
1	Remote workstation browsing into the Management Server over the network
2	HPPM Management Server
3	UPS
4	Network

Configuration E

In this figure, only one server is a Management Server and it communicates to the UPS over the network. This Management Server communicates to the Remote Agent servers over the network to begin a graceful shutdown in the event of a power failure or other configured shutdown events.

NOTE: Up to 15 Remote Agent servers can be managed by one Management Server.



Item	Description
1	Remote workstation browsing into the Management Server over the network
2	UPS
3	Remote Agent servers

Item	Description
4	HPPM Management Server
5	Network

Process Overview

To get HP Power Manager up and running in your environment:

1. Visit the HP website (http://www.hp.com/products/ups) to download the latest version of HP Power Manager.
2. Connect all equipment powered by the UPS to the receptacles on the UPS rear panel. If the UPS has multiple load segments, note which load segment powers each device.

   NOTE: By default, HP Power Manager associates the Management Server with load segment 1. If you connect the Management Server to a different load segment, you must change the default association when configuring HP Power Manager.

3. Power up the UPS and all attached equipment.
4. Be sure that the serial, USB, or network cable connecting the UPS to the Management Server is properly installed.
5. Install the Management Server software according to the instructions for your operating system. There must be one Management Server for each UPS.
6. Install the Remote Agent software according to the instructions for your operating system.
7. Browse in to the Management Server.
8. Manage the Remote Agents.
9. Configure the power fail settings.
10. Configure and customize optional settings:
    - Schedule shutdowns.
    - Set up additional user accounts.
    - Set up event notifications.
    - Set up additional shutdown events.

- Integrate HP Power Manager with HP Systems Insight Manager.
- Set up shutdown scripts (SDScripts).

Installation

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System Requirements

NOTE: For the latest system requirements, refer to the Supported Hardware matrix on the HP Power Manager Product Overview page (http://www.hp.com/products/ups) on the HP website.

NOTE: The Management Server and Remote Agent for HP Power Manager 4.0 are not backward compatible with earlier versions of HP Power Manager.

The following table lists the Management Server minimum hardware and software requirements.

Hardware and Software	Suggested Minimum Requirements	HPPM Version
Hardware	500-MHz processor	
Disk space	25 MB free disk space	
System memory	128 MB of RAM	
Operating System (32-bit)	Microsoft® Windows® XP Professional with Service Pack 2	4.0
	Microsoft® Small Business Server 2000 with Service Pack 4	4.0
	Microsoft® Windows® 2000 Server and Advanced Server with Service Pack 4	4.0
	Microsoft® Windows® Server 2003 Standard Edition x86 with Service Pack 1	4.0
	Microsoft® Windows® Server 2003 Enterprise Edition x86 with Service Pack 1	4.0
	Microsoft® Windows® Server 2003 SBS, Standard and Premium x86 with Service Pack 1	4.0
	Red Hat Linux 7.3 Professional with Errata Kernel 2.4.20-28	4.0
	Red Hat Linux 8.0 Professional with Errata Kernel 2.4.20-28	4.0
	Red Hat Enterprise Linux 2.1 for x86 with Update 5	4.0
	Red Hat Enterprise AS/ES Linux 3 for x86 with Update 4	4.0
	SUSE Linux Enterprise Server 9 for x86 with Errata Kernel 2.6.5-7.111	4.0
Operating System (64-bit)	Microsoft® Windows® Server 2003 for AMD64 and Intel EM64T	4.0
	Microsoft® Windows® Server 2003 Enterprise Edition For Integrity with Service Pack 1	4.0
	Red Hat Enterprise Linux 2.1 for Itanium with Update 6	4.0
	Red Hat Enterprise AS/ES Linux 3 for Itanium with Update 4	4.0

Hardware and Software	Suggested Minimum Requirements	HPPM Version
	Red Hat Enterprise AS/ES Linux 3 for AMD64 and Intel EM64T with Update 4	4.0
	SUSE LINUX Enterprise Server 9 for AMD64 and Intel EM64T with Service Pack 1	4.0
	HP-UX 11.0 for HP 9000 with patch bundle HPUX_800_11.0_11081152	4.0
	HP-UX 11i v1 for HP 9000 with Errata Kernel 11.11	4.0
	HP-UX 11i v2 for Integrity with Errata Kernel 11.23	4.0
Server software	A supported operating system with a static IP address (recommended) and TCP/IP installed and configured	
	SNMP services installed and active (optional)	

The following table lists the Remote Agent minimum hardware and software requirements.

Hardware and Software	Suggested Minimum Requirements	HPPM Version
Hardware	200-MHz processor	
Disk space	10 MB free disk space	
System memory	64 MB of RAM (180 MB for NetWare 6.0)	
Operating System (32-bit)	Microsoft® Windows® XP Professional with Service Pack 2	4.0
	Microsoft® Small Business Server 2000 with Service Pack 4	4.0
	Microsoft® Windows® 2000 Server and Advanced Server with Service Pack 4	4.0
	Microsoft® Windows® Server 2003 Standard Edition x86 with Service Pack 1	4.0
	Microsoft® Windows® Server 2003 Enterprise Edition x86 with Service Pack 1	4.0
	Microsoft® Windows® Server 2003 SBS, Standard and Premium x86 with Service Pack 1	4.0

Hardware and Software	Suggested Minimum Requirements	HPPM Version
	Red Hat Linux 7.3 Professional with Errata Kernel 2.4.20-28	4.0
	Red Hat Linux 8.0 Professional with Errata Kernel 2.4.20-28	4.0
	Red Hat Enterprise Linux 2.1 for x86 with Update 5	4.0
	Red Hat Enterprise AS/ES Linux 3 for x86 with Update 3	4.0
	SUSE LINUX Enterprise Server 9 for x86 with Errata Kernel 2.6.5-7.104	4.0
	Novell NetWare 5.1 with Support Pack 7	4.0
	Novell NetWare 6.0 with Support Pack 5	4.0
	Novell NetWare 6.5 with Support Pack 2	4.0
Operating System (64-bit)	Microsoft® Windows® Server 2003 for AMD64 and Intel EM64T	4.0
	Microsoft® Windows® Server 2003 Enterprise Edition For Integrity	4.0
	Red Hat Enterprise Linux 2.1 for Itanium with Update 5	4.0
	Red Hat Enterprise AS/ES Linux 3 for Itanium with Update 3	4.0
	Red Hat Enterprise AS/ES Linux 3 for AMD64 and Intel EM64T with Update 3	4.0
	SUSE Linux Enterprise Server 9 for AMD64 and Intel EM64T with Errata Kernel 2.6.5-7.104	4.0
	HP-UX 11.0 for HP 9000 with patch	4.0
	HP-UX 11i v1 for HP 9000 with patch	4.0
	HP-UX 11i v2 for Integrity with patch	4.0

Browser Requirements

The following table lists the minimum browser requirements.

NOTE: For all clients other than HP-UX, browsing requires the use of Macromedia Flash Player 6.0, which is included in the Management Server installation. If you do not have Flash Player installed, you are prompted to install it. Click the link and follow the installation prompts.

Software	Browser
Web browser on a client	Microsoft® operating systems • Microsoft® Internet Explorer 6.0 with Service Pack 1 (32-bit only) Red Hat Linux operating system (32-bit only) • Mozilla 1.4 SUSE Linux operating system (32-bit only) • Mozilla 1.6 HP-UX operating system • Mozilla 1.4
Monitor resolution	Minimum supported resolution of 1024 x 768, 16-bit high color (maximize browser window for optimal display)

Mozilla Settings

When using SSL with Mozilla, a browser session with the Management Server might hang. To resolve the problem, change the following Mozilla settings:

1. Open the folder into which Mozilla was installed, and under the defaults directory, open the **pref** subdirectory.
2. Using the text editor, open the file **all.js**.
3. Change the entry:

   ```
   pref("network.http.max-connections-per-server", 8)
   ```

   to read

   ```
   pref("network.http.max-connections-per-server, 1)
   ```
4. Save the file, and restart Mozilla.

Installation Overview

Follow these guidelines when installing the HP Power Manager components:

- Management Server—Install the Management Server on the computer that is connected to the UPS serial port or USB port. In a networked configuration, you can install the Management Server on any computer on the network that is powered by the UPS. This Management Server will communicate with the UPS and manage other systems and devices connected to the UPS.

  NOTE: Devices must be managed by a single Management Server.

- Remote Agent—Install the Remote Agent on any computer that is powered by the UPS.

For each component, there are three installation options:

- GUI installation—A series of dialog boxes and prompts guide you through the installation process.
- Non-GUI installation—A series of commands are necessary to complete the installation.
- Silent installation—A preconfigured initialization file is specified during installation. This file contains all the information a user is typically prompted to enter.

  Silent installation is typically used by system administrators who have many installations that are configured identically and require minimal user interaction. During a silent installation you will:

  – Install an HP Power Management Server or Remote Agent through the assisted installation method that is appropriate for the operating system.

  – Configure the Management Server exactly as the final replicated systems should be configured. Use the exact same UPS model, and thoroughly test the configuration, including any alarm or notification events.

  – Use the DevManBE.ini file that is generated in the directory of the application as a template in the Management Server silent install process.

    Use the DevManRA.ini file that is generated in the directory of the application as a template in the Remote Agent silent install process.

– Change any items that should be unique, such as Device Name, Management Server Name, or Remote Agent Name, through the normal operation of the software.

The following table summarizes the available installation options for each operating system.

Operating System	GUI Installation	Non-GUI Installation	Silent Installation	Local/Remote Installation
Windows®	Available	-	Available	-
Linux	-	Available	Available	-
HP-UX	-	Available	Available	Available
NetWare	-	Available	-	-

Installing Components on Windows Operating Systems

The Management Server and Remote Agent can be installed using the GUI or silent installation methods on any supported Windows® operating system.

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

IMPORTANT: The Management Server and Remote Agent components cannot be installed on the same computer.

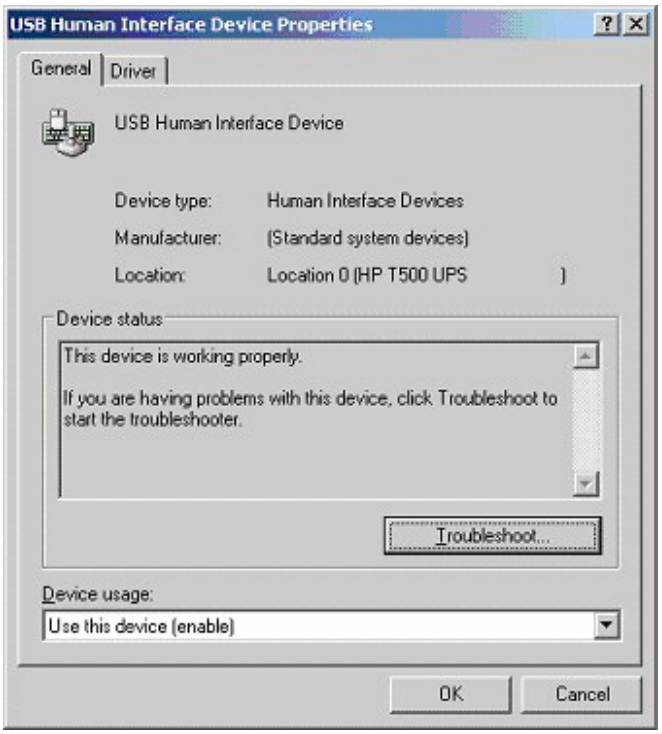
NOTE: You might need to reboot after installing the Remote Agent on Windows®.

NOTE: The Management Server and Remote Agent for HP Power Manager 4.0 are not backward compatible with earlier versions of HP Power Manager.

Installing the Management Server Using the GUI Method

NOTE: Before installing the software, be sure that the serial, USB, or network cable connecting the UPS to the Management Server is properly installed.

1. If the Management Server is connected to the UPS through the USB port, verify that the UPS is detected by the operating system, and then click **OK**.



2. Insert the HP Rack and Power Management Pack CD (shipped with each UPS) into the CD-ROM drive of the computer. If the AutoPlay feature is enabled, the Welcome screen appears. If the AutoPlay feature is disabled, explore the CD, and double-click AUTORUN.EXE in the root folder.

   If the software has been downloaded from the HP website (http://www.hp.com/products/ups), follow the instructions to unpack the files, then locate and run SETUP.EXE.

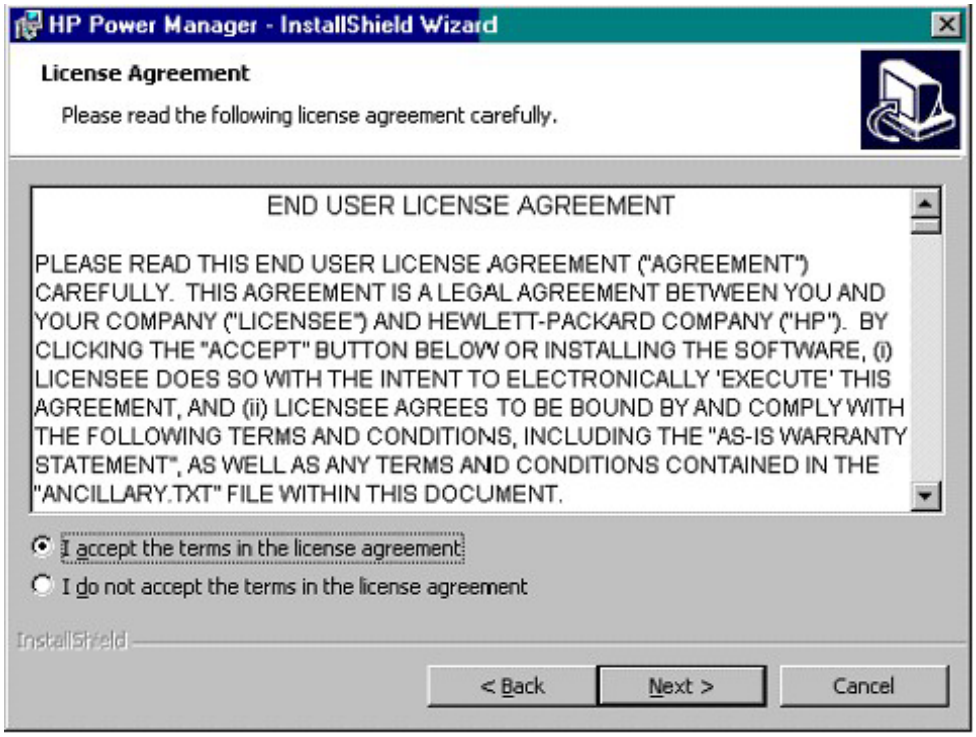
3. Select **HP Power Manager** from the side menu.
4. Select **Management Server**.

   The Welcome screen appears.

5. Read the introduction, and click **Next**.

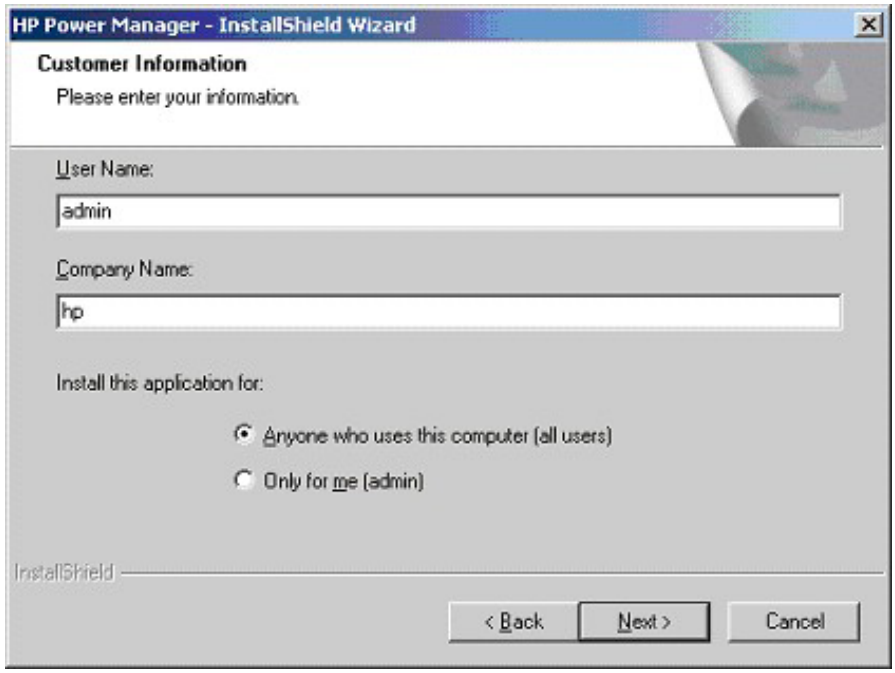
The **License Agreement** screen appears.

6. Read the license agreement, select **I accept the terms in the license agreement**, and click **Next**.



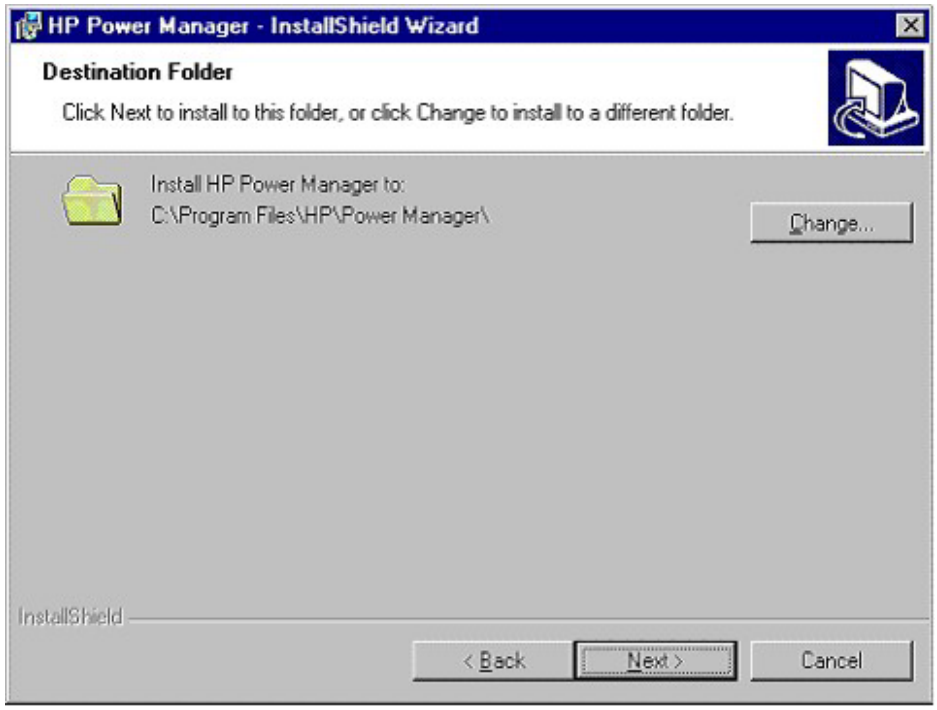
The **Customer Information** screen appears.

7. Verify or change the customer information, select whether to install for all users or only the current user, and click **Next**.



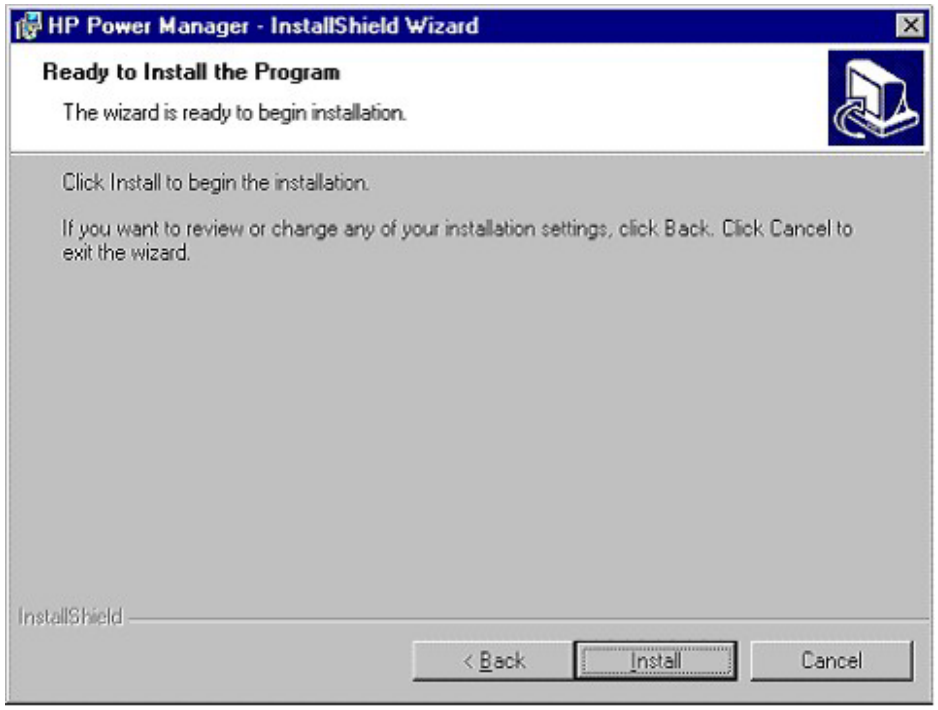
The **Destination Folder** screen appears.

8. Click **Next** to install the Management Server in the default folder, which is displayed below the Install HP Power Manager to: field. To specify a different folder, click **Change**, navigate to the appropriate folder, and click **Next**.

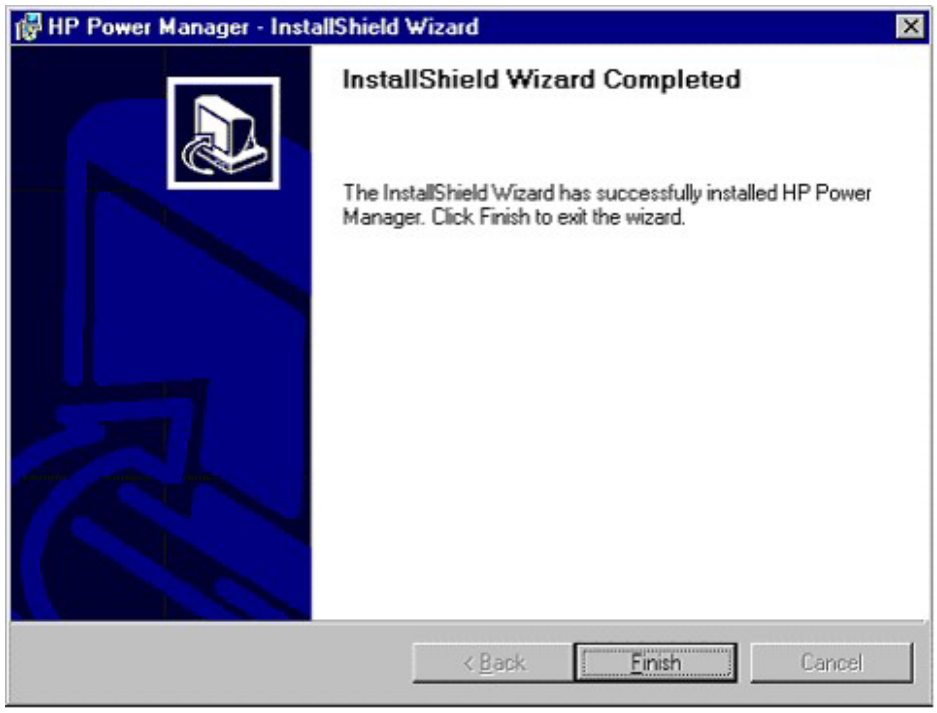


The **Ready to Install the Program** screen appears.

9. Click **Install**. The wizard installs the software.



10. Click **Finish** to complete the install wizard and continue with the configuration process ("Configuring the Management Server" on page 38).



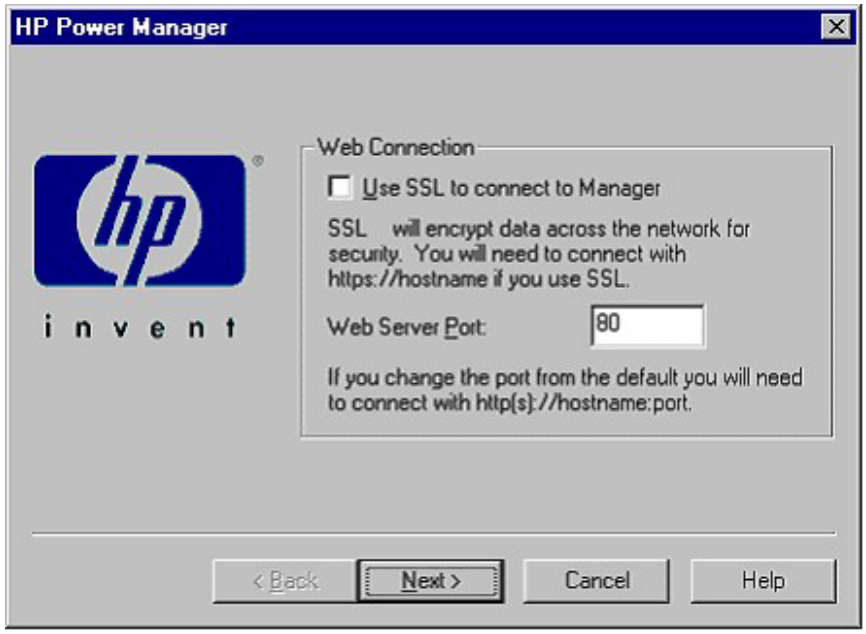
Configuring the Management Server

NOTE: It might take a moment for the configuration screen to appear. If there are open windows on the desktop, you might need to minimize the windows to view the configuration screen.

1. Click **Next** to use the standard HTTP protocol and port for Web browser access to the Management Server.
2. To use SSL on the standard port, select **Use SSL to connect to Manager**. To use a non-standard port for browser access, change the value in the Web Server Port: field.
3. Verify the port you specify is not already being used.
4. Click **Next**.

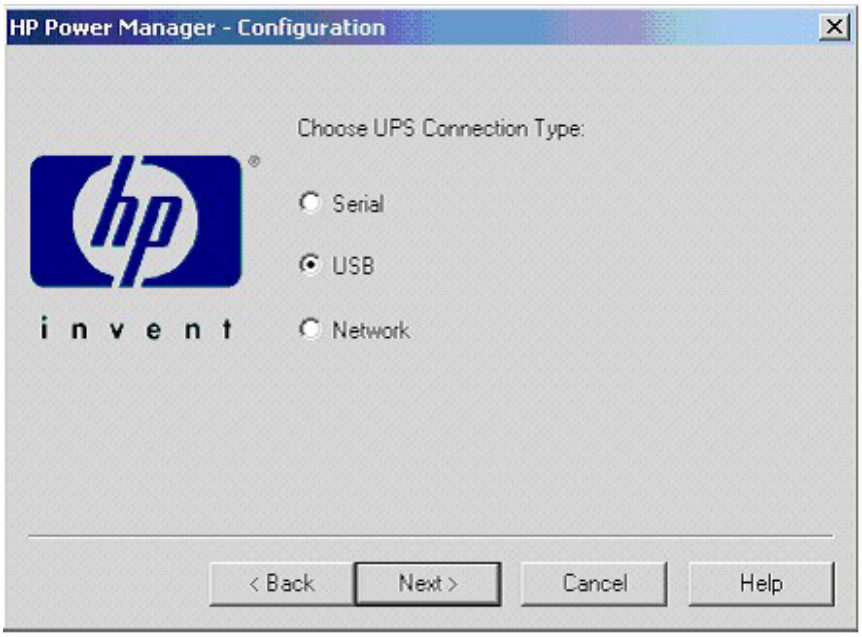
For more information about security considerations, refer to "Security Considerations Overview (on page 201)."

IMPORTANT: The common Web server port is port 80. The default port for SSL is 443. Verify no other Web servers are currently running on these ports or the port that you select. Make note of the port number for future reference. For port configuration limitations, refer to "Cannot Access HPPM After Installation."



NOTE: To reconfigure the Web connection or communications port or to change to a different UPS, refer to "Reconfiguring Components on Windows Operating Systems (on page 62)."

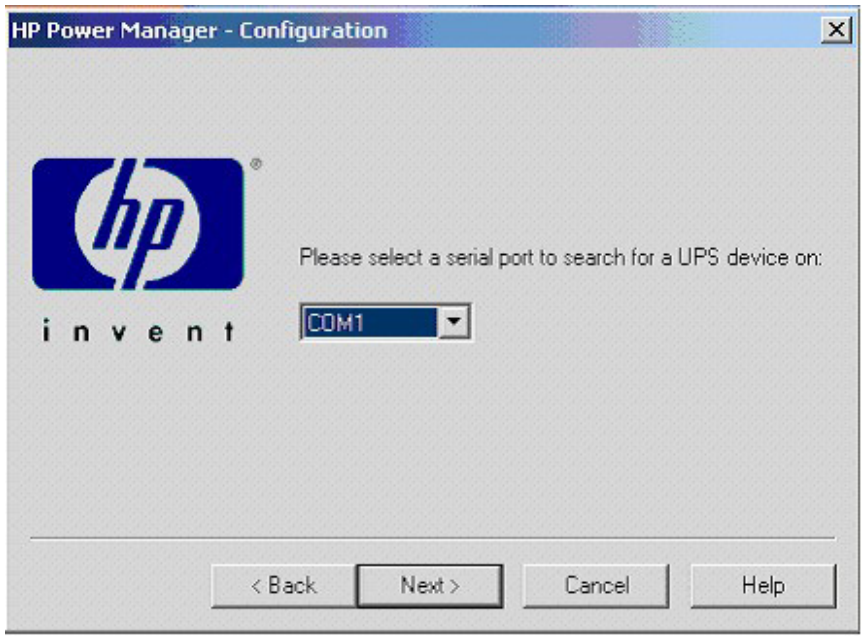
5. Select the type of connection (Serial, USB, or Network) that is used to attach the UPS to the Management Server.



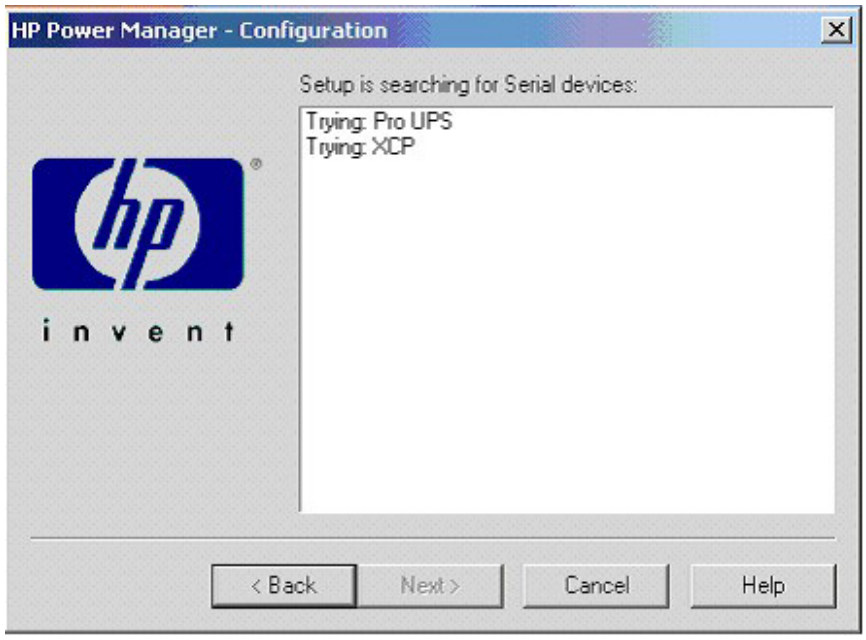
6. Click **Next**. The next several screens in the configuration program vary, depending on the type of connection you selected.

Configuring a Serial Port Connected UPS

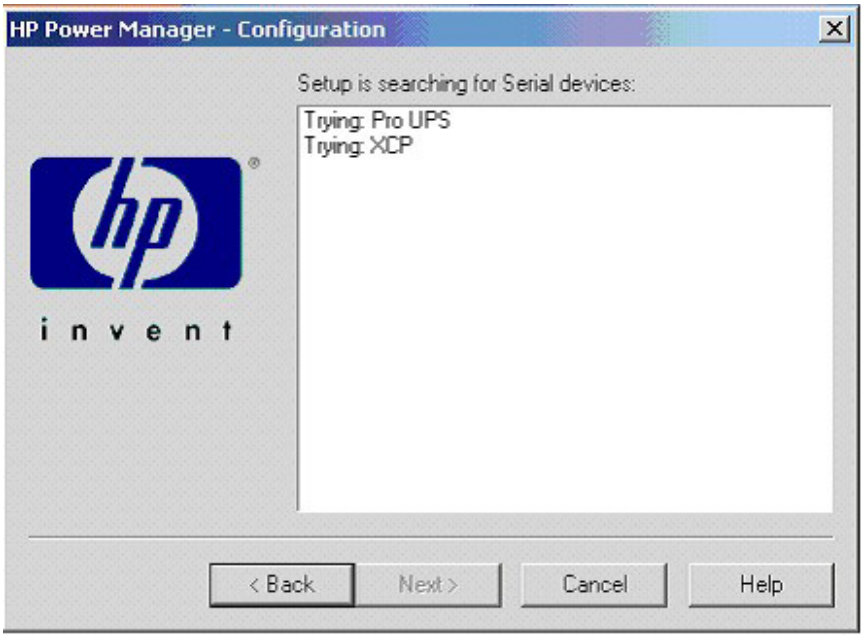
1. Select the serial (COM) port that the computer uses to communicate with the UPS. Click **Next**.



The configuration program searches for the serial port connected UPS.



2. After the configurator detects the UPS, click **Finish**.

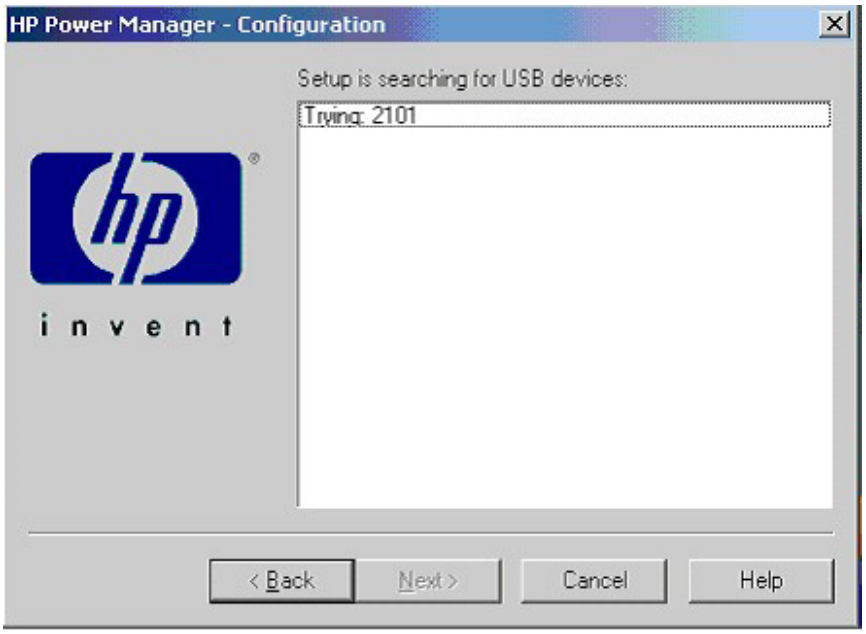


NOTE: An icon in the Windows® system tray shows the status of the connection between the Management Server and the Remote Agent. It might take a few moments for the icon to change. A green check mark displays if the Management Server is communicating with the UPS without errors. If there are problems, the blue hexagon icon displays. Hover over the icon with the mouse pointer, and a tool tip displays a status message. For more information about the system tray icon status messages, refer to "System Tray Icon (on page 110)."

If the configurator fails to detect the UPS, click **Back** to check your selections.

Configuring a USB Port Connected UPS

The configuration program automatically searches for a USB port connected UPS.



After the configurator detects the UPS, click **Finish**.

NOTE: An icon in the Windows® system tray shows the status of the connection between the Management Server and the Remote Agent. It might take a few moments for the icon to change. A green check mark displays if the Management Server is communicating with the UPS without errors. If there are problems, the blue hexagon icon displays. Hover over the icon with the mouse pointer, and a tool tip displays a status message. For more information about the system tray icon status messages, refer to "System Tray Icon (on page 110)."

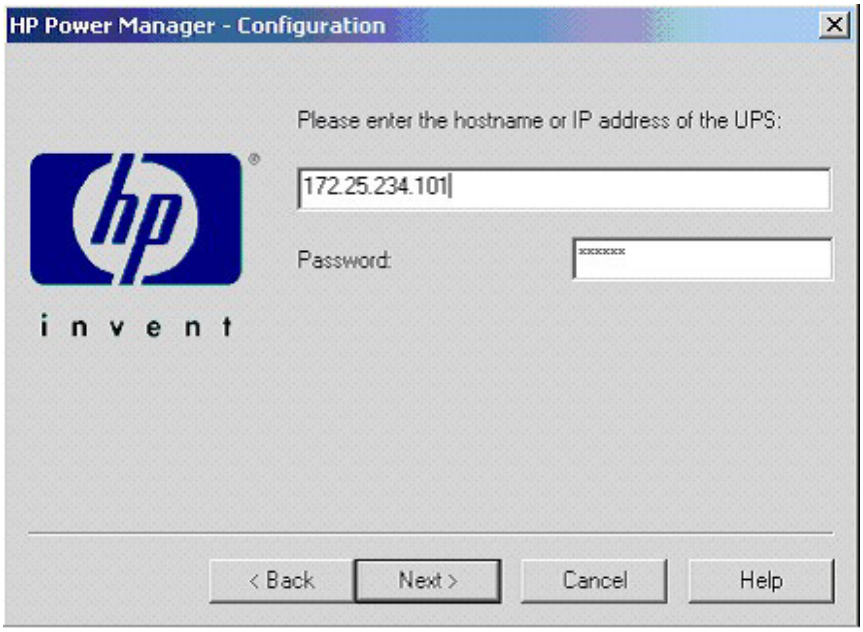
If the configurator fails to detect the UPS, click **Back** to check your selections.

Configuring a Network Port Connected UPS

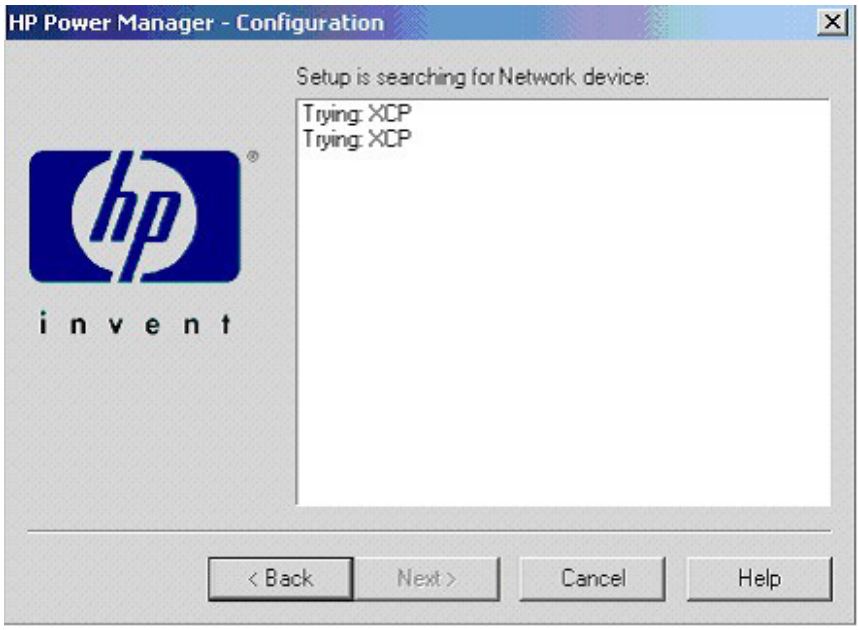
1. Enter the host name or IP address of the network port connected UPS in the Hostname field.
2. Enter the password that is configured in the UPS network adapter in the Password field. The password is case-sensitive. The default adapter password is MustB6.

   IMPORTANT: The password you enter must match the password configured in the UPS network adapter. If you want to change the password, first configure the adapter with the new password, and then enter the new password during the Management Server configuration process. For more information about configuring the adapter, refer to the HP Power Products CD that came with the adapter.

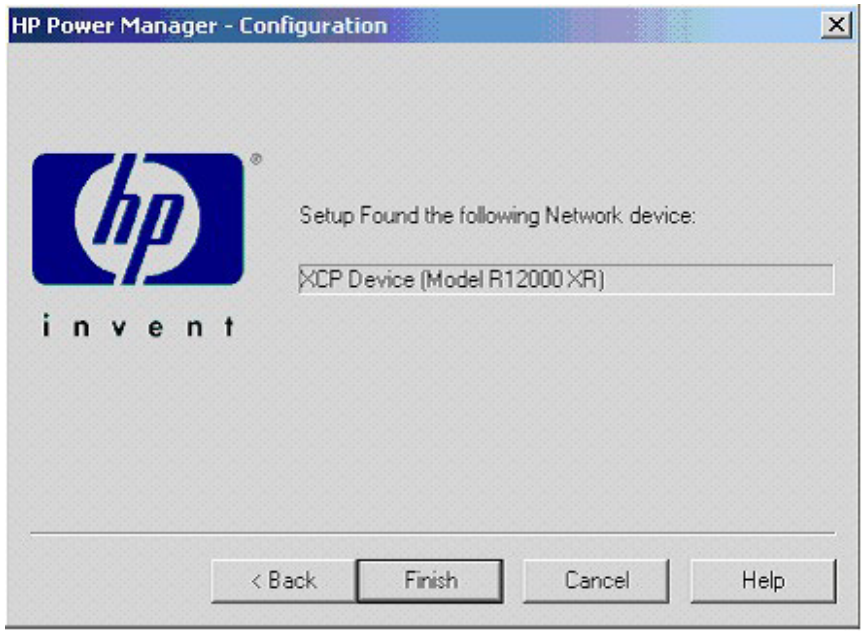
3. Click **Next**.


HP Power Manager - Configuration
Please enter the hostname or IP address of the UPS:
172.25.234.101
Password:
invent
< Back
Next >
Cancel
Help

The configuration program searches for the network port connected UPS.



4. After the configurator detects the UPS, click **Finish**.



NOTE: An icon in the Windows® system tray shows the status of the connection between the Management Server and the Remote Agent. It might take a few moments for the icon to change. A green check mark displays if the Management Server is communicating with the UPS without errors. If there are problems, the blue hexagon icon displays. Hover over the icon with the mouse pointer, and a tool tip displays a status message. For more information about the system tray icon status messages, refer to "System Tray Icon (on page 110)."

If the configurator fails to detect the UPS, click **Back** to check your selections.

Installing the Remote Agent Using the GUI Method

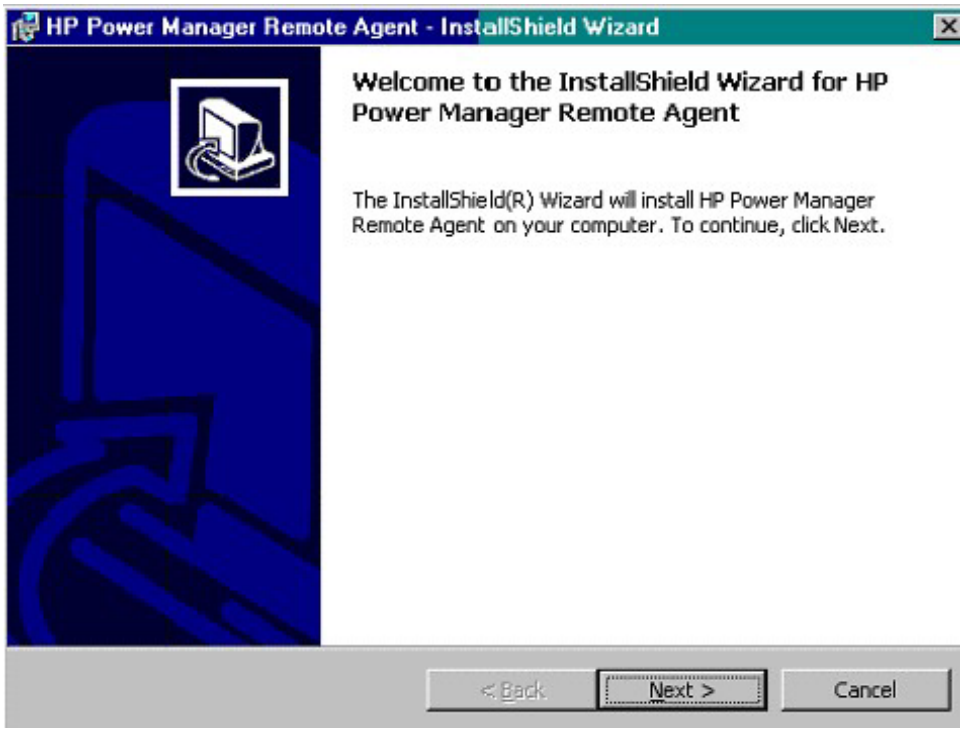
1. Insert the HP Rack and Power Management Pack CD into the CD-ROM drive of the computer. If the AutoPlay feature is enabled, the installation menu automatically starts. If the AutoPlay feature is disabled, explore the CD, and double-click AUTORUN.EXE in the root folder.

   If the software has been downloaded from the HP website (http://www.hp.com/products/ups), follow the instructions to unpack the files, then locate and run SETUP.EXE.

2. Select **HP Power Manager** from the side menu.
3. Select **Remote Agent**.

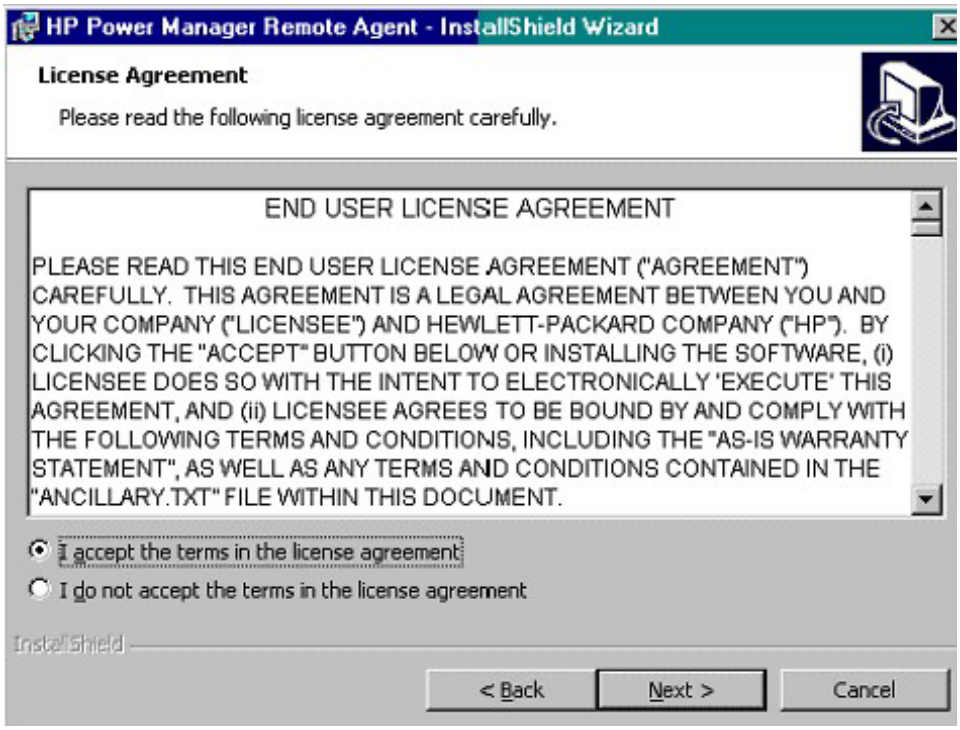
   The Welcome screen appears.

4. Read the introduction, and click **Next**.



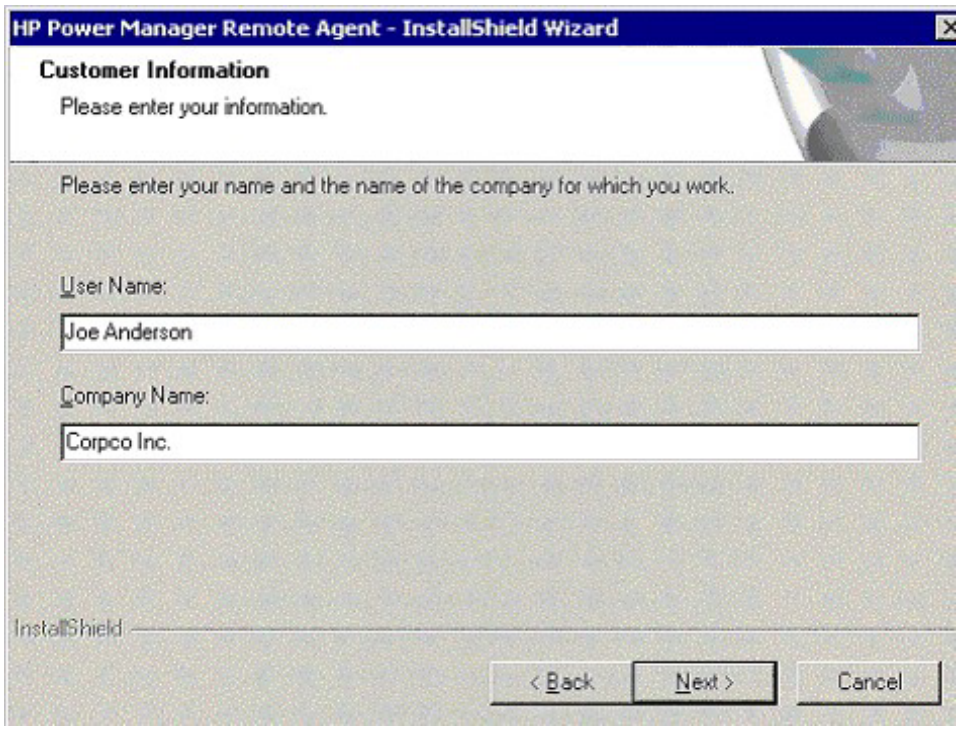
The **License Agreement** screen appears.

5. Read the license agreement, select **I accept the terms in the license agreement**, and click **Next**.



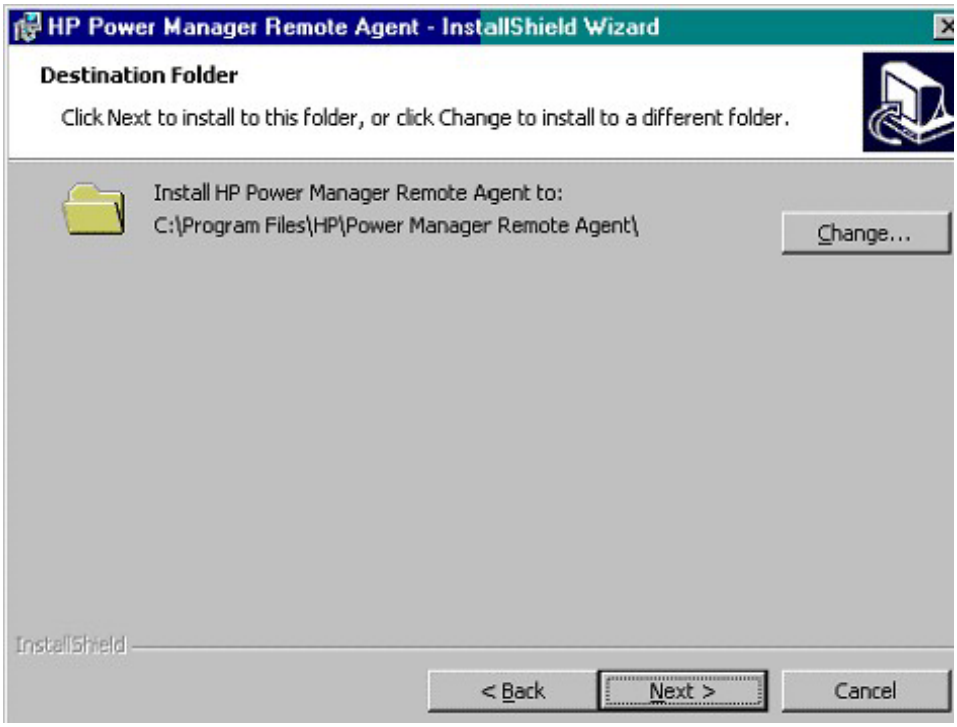
The **Customer Information** screen appears.

6. Verify or change the customer information, select whether to install for all users or only the current user, and click **Next**.



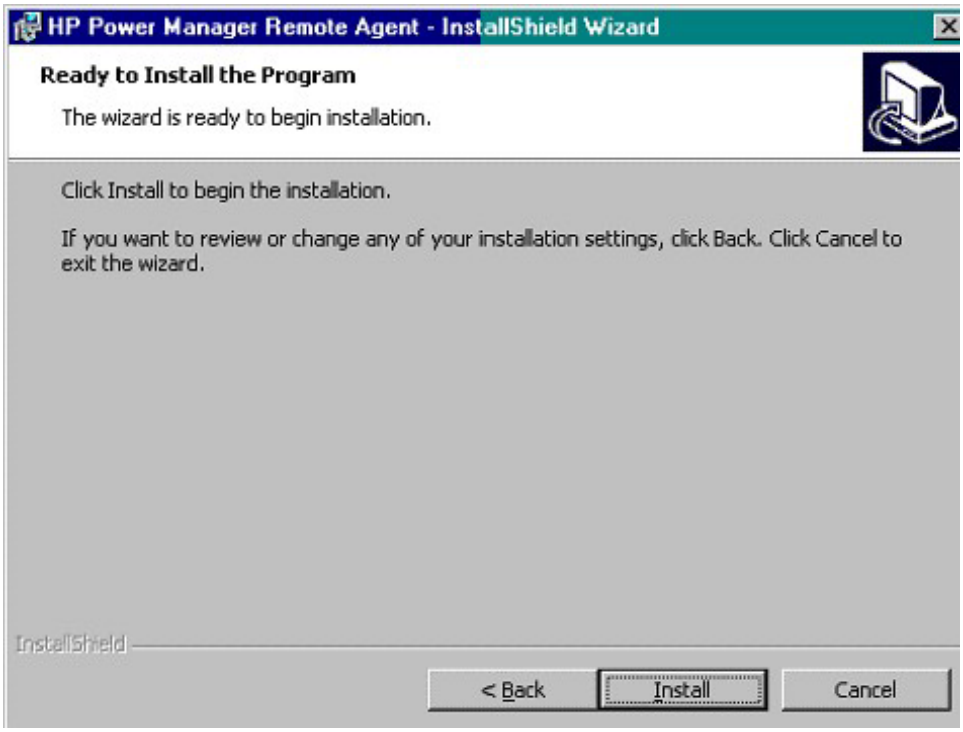
The **Destination Folder** screen appears.

7. Click **Next** to install the Remote Agent in the default folder that is displayed below the Install HP Power Manager to: field. To specify a different folder, click **Change**, navigate to the appropriate folder, and click **Next**.

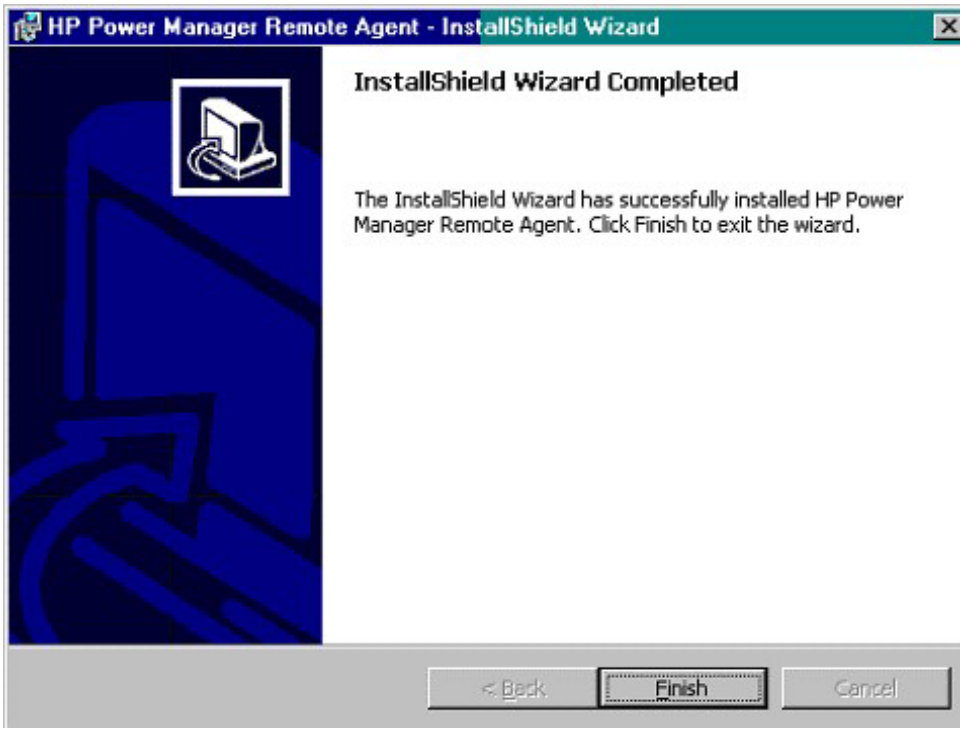


The **Ready to Install the Program** screen appears.

8. Click **Install**. The wizard installs the software.



9. Click **Finish** to complete the install wizard and continue with the configuration process.

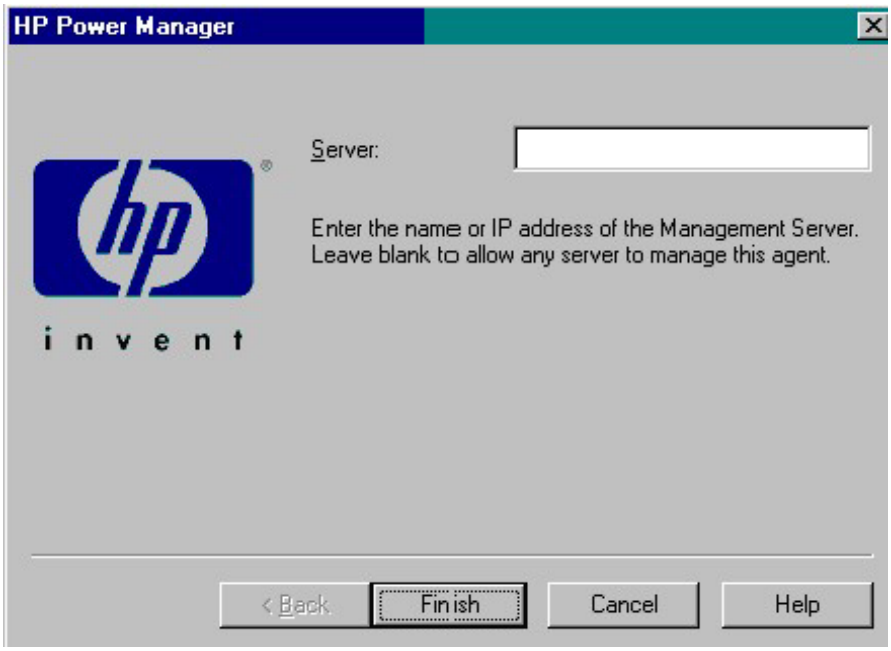


NOTE: It might take a moment for the configuration screen to appear. If there are open windows on the desktop, you might need to minimize the windows to view the configuration screen.

10. For the most security, enter the host name or valid IP address of the Management Server. This setting ensures only that particular Management Server executes commands and operating system shutdowns on the computer running the Remote Agent.

    If security is not a concern, leave this field as is.

11. Click **Finish**.



NOTE: An icon in the Windows® system tray shows the status of the connection between the Management Server and the Remote Agent. It might take a few moments for the icon to change. A green check mark displays if the Management Server is communicating with the UPS without errors. If there are problems, the blue hexagon icon displays. Hover over the icon with the mouse pointer, and a tool tip displays a status message. For more information about the system tray icon status messages, refer to "System Tray Icon (on page 110)."

NOTE: To reconfigure the Web connection or communications port or to change to a different UPS, refer to "Reconfiguring Components on Windows Operating Systems (on page 62)."

Installing the Management Server Using the Silent Installation Method

NOTE: Before installing the software, be sure that the serial, USB, or network cable connecting the UPS to the Management Server is properly installed.

Silent installation is typically used by system administrators who have many installations that are configured identically and require minimal user interaction. During a silent installation you will:

- Install a Management Server through the assisted installation method that is appropriate for the operating system.
- Configure the Management Server exactly as the final replicated systems should be configured. Use the exact same UPS model, and thoroughly test the configuration, including any alarm or notification events.

  NOTE: Configuring the Management Server includes attaching devices and configuring the power fail settings, event shutdown settings, and event settings.

- Use the DevManBE.ini file that is generated in the directory of the application as a template in the Management Server silent install process.

  NOTE: To prevent more than one Management Server from managing the same devices or agents, a unique DevManBE.ini file is needed for each Management Server.

- Change any items that should be unique, such as Device Name, Management Server Name, or Remote Agent Name, through the normal operation of the software.

To install the Management Server using the silent installation method:

1. Create a temporary directory.
2. Copy the following files into the temporary directory you created using the assisted install method:
   - DevManBE.ini—During an assisted install, this file is landed in the same folder in which HP Power Manager is installed.
   - Setup.exe—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - Setup.iss—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - SetupBE.exe—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).

3. From the directory that contains all four files, run `./Setup.exe /s DevManBE.ini` to install silently.

   If the .ini file is not located in the same folder as the Setup file, use the `switch f` option. For example, `Setup /s /f <path> DevManBE.ini`. Replace <path> with the `DevManBE.ini` file location.

   NOTE: If you are installing to a location other than the default path (szDir=C:\Program Files\HP\Power Manager), edit the destination path in the Setup.iss file.

The following command line parameters can be specified and are applicable for both interactive and silent modes.

`/s`	Performs a silent install or upgrade.
`/r`	Reboots the computer at completion of setup. This option is supported only on Windows® and only for a silent install or upgrade.
`/f DevManBE.ini`	Specifies a configuration .ini file used for both upgrades and clean installs. When this option is specified, the device detection and configuration step is omitted. If this option is specified for the upgrade, it overwrites any saved .ini file settings. This parameter is required for silent installations but is optional for upgrading.

Installing the Remote Agent Using the Silent Installation Method

Silent installation is typically used by system administrators who have many installations that are configured identically and require minimal user interaction. During a silent installation you will:

- Install a Remote Agent through the assisted installation method that is appropriate for the operating system.
- Configure the Remote Agent exactly as the final replicated systems should be configured.

  NOTE: You must configure the IP address of the Management Server in one of two ways:

  - Leave the IP address field blank to use the same DevManRA.ini file for all of your Remote Agent installs. This enable the Remote Agent to accept commands from any Management Server that discovers the Remote Agent.
  - Create a DevManRA.ini file for each site. This points each UPS to the correct Management Server and is the more secure option.

- Use the DevManRA.ini file that is generated in the directory of the application as a template in the Remote Agent silent install process.
- Change any items that should be unique, such as Device Name, Management Server Name, or Remote Agent Name, through the normal operation of the software.

To install the Remote Agent using the silent installation method:

1. Create a temporary directory.
2. Copy the following files into the temporary directory you just created:
   - DevManRA.ini—During an assisted install, this file is landed in the same folder in which HP Power Manager is installed.
   - Setup.exe—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - Setup.iss—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - SetupRA.exe—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
3. From the directory that contains all four files, run `./Setup.exe /s DevManRA.ini` to install silently.

   If the .ini file is not located in the same folder as the Setup file, use the `switch f` option. For example, `Setup /s /f <path> DevManRA.ini`. Replace <path> with the `DevManRA.ini` file location.

The following command line parameters can be specified and are applicable for both interactive and silent modes.

`/s`	Performs a silent install or upgrade.
`/r`	Reboots the computer at completion of setup. This option is supported only on Windows® and only for a silent install or upgrade.
`/f DevManRA.ini`	Specifies a configuration .ini file used for both upgrades and clean installs. When this option is specified, the device detection and configuration step is omitted. If this option is specified for the upgrade, it overwrites any saved .ini file settings. This parameter is required for silent installations but is optional for upgrading.

Reconfiguring Components on Windows Operating Systems

- To reconfigure the Management Server Web connection settings, change the communications port selection.
- To change to a different UPS:
  - Right-click the system tray icon on the Management Server to display a context menu from which the Management Server service can be stopped or started. In this menu, you can also configure new settings using the Configure option or launch a browser session using the Connect option.

    -or-

  - Select **HP Power Manager Configure** from the HP Power Manager option in the Start Programs menu on the Management Server.
- To change the IP address that the Remote Agent uses for the Management Server, right-click the system tray icon on the Remote Agent computer to display a context menu.

Upgrading Management Server Components on Windows Operating Systems

1. Insert the HP Rack and Power Management Pack CD (shipped with each UPS) into the CD-ROM drive of the computer. If the AutoPlay feature is enabled, the Welcome screen appears. If the AutoPlay feature is disabled, explore the CD, and double-click AUTORUN.EXE in the root folder.

   If the software has been downloaded from the HP website (http://www.hp.com/products/ups), follow the instructions to unpack the files, then locate and run SETUP.EXE.

2. Select **HP Power Manager** from the side menu.
3. Select **Management Server**. The Setup dialog box appears.
4. Click **Upgrade**.

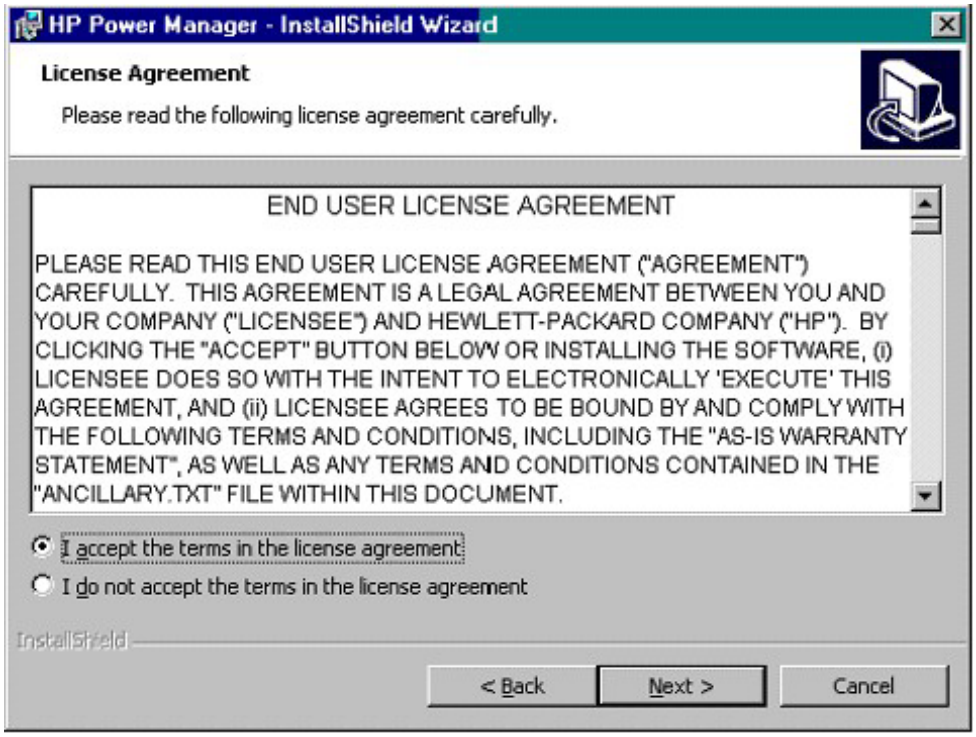
   NOTE: Upgrading does not delete any previous HPPM custom settings. All HPPM custom settings are saved.

   The Welcome screen appears.

5. Read the introduction, and click **Next**.

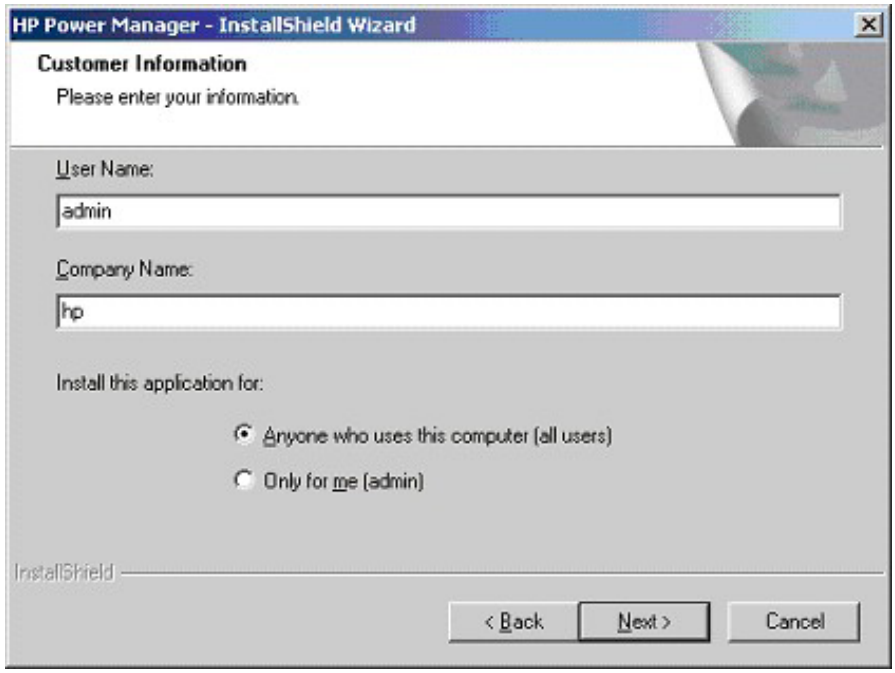
The **License Agreement** screen appears.

6. Read the license agreement, select **I accept the terms in the license agreement**, and click **Next**.



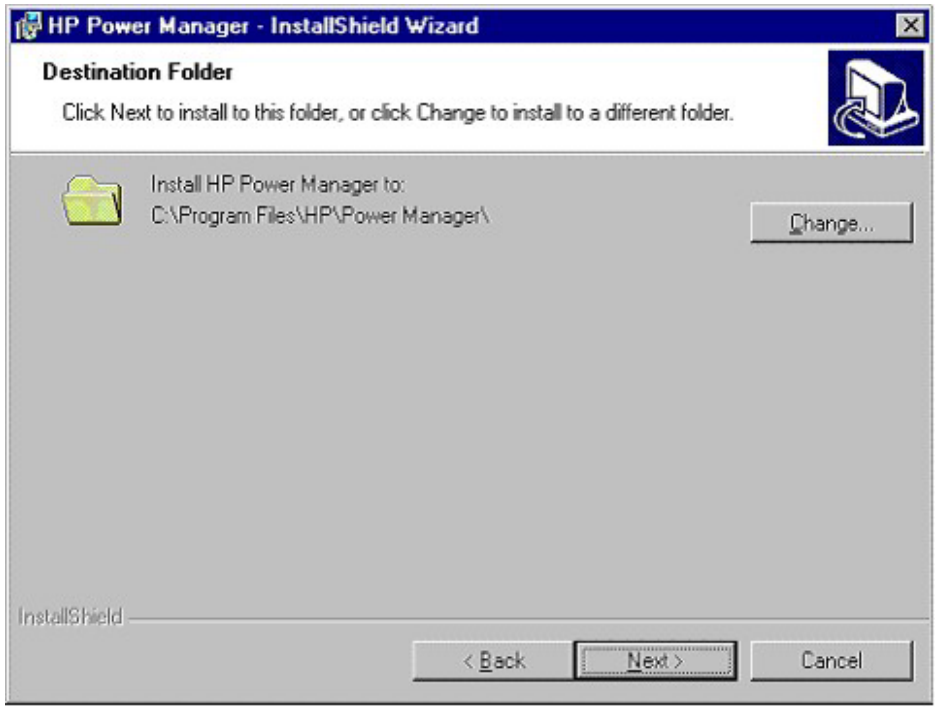
The **Customer Information** screen appears.

7. Verify or change the customer information, select whether to install for all users or only the current user, and click **Next**.



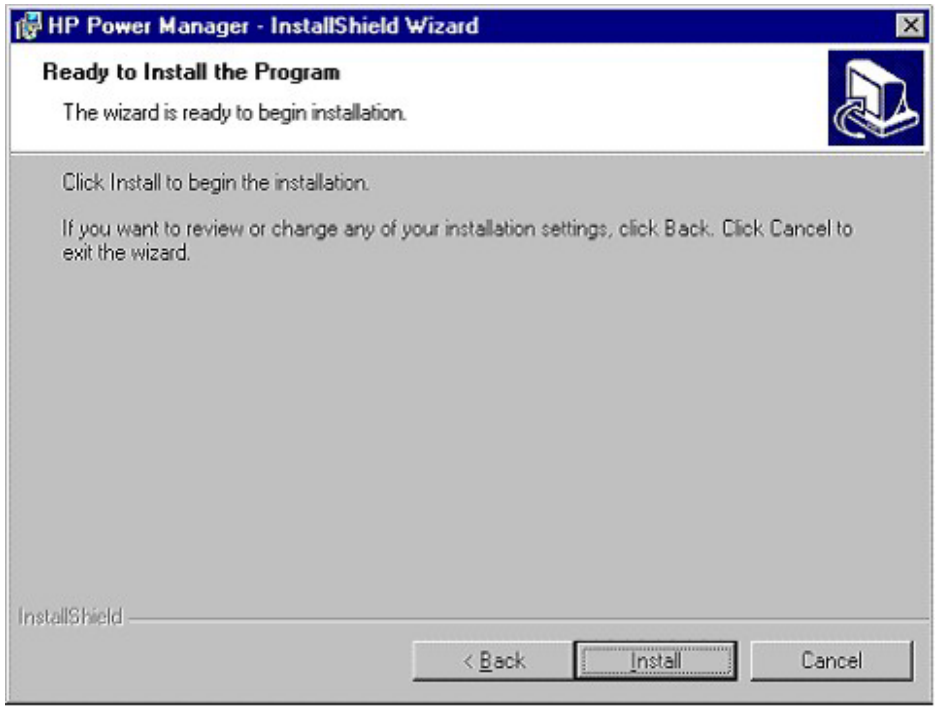
The **Destination Folder** screen appears.

8. Click **Next** to install the Management Server in the default folder, which is displayed below the Install HP Power Manager to: field. To specify a different folder, click **Change**, navigate to the appropriate folder, and click **Next**.

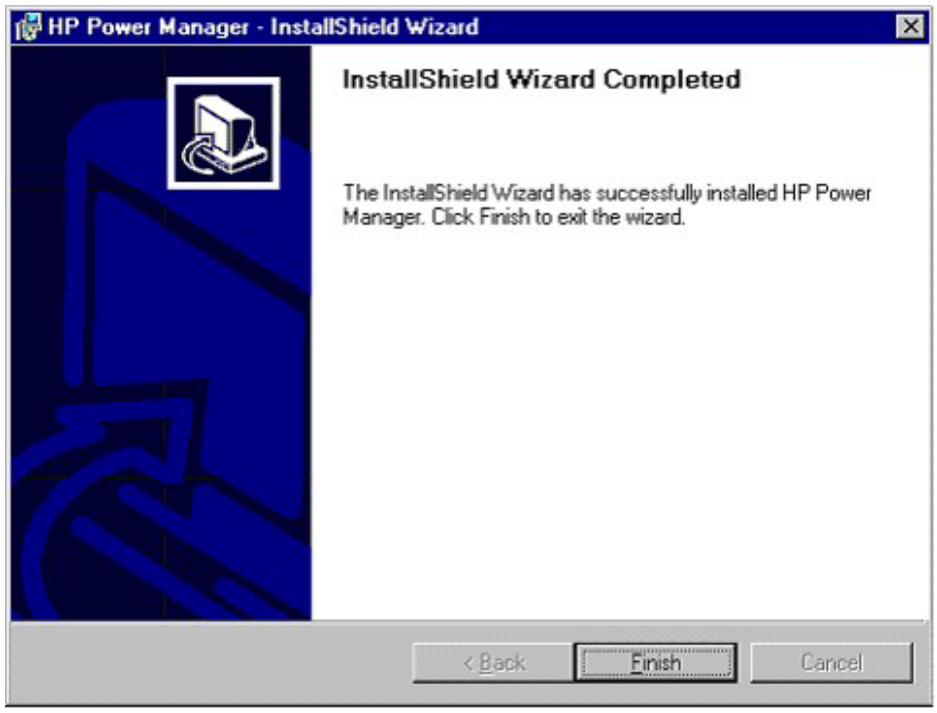


The **Ready to Install the Program** screen appears.

9. Click **Install**. The wizard installs the software.



10. Click **Finish** to complete the install wizard and continue with the configuration process ("Configuring the Management Server" on page 38).



Upgrading Remote Agent Components on Windows Operating Systems

1. Insert the HP Rack and Power Management Pack CD into the CD-ROM drive of the computer. If the AutoPlay feature is enabled, the installation menu automatically starts. If the AutoPlay feature is disabled, explore the CD, and double-click AUTORUN.EXE in the root folder.

   If the software has been downloaded from the HP website (http://www.hp.com/products/ups), follow the instructions to unpack the files, then locate and run SETUP.EXE.

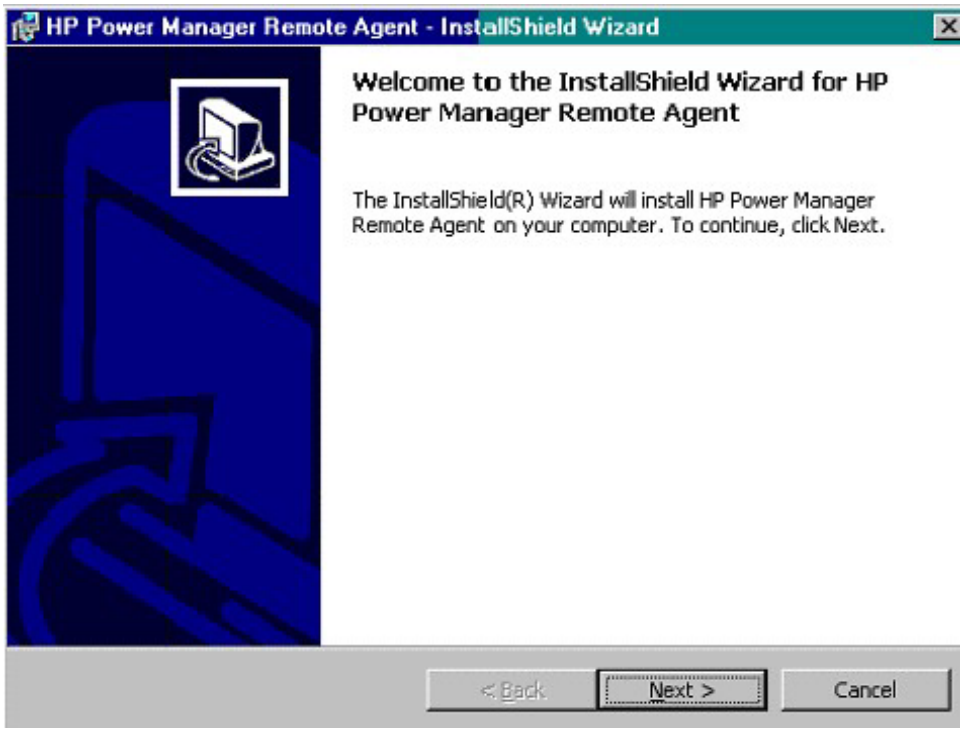
2. Select **HP Power Manager** from the side menu.
3. Select **Remote Agent**. The Setup dialog box appears.

4. Click **Upgrade**.

   NOTE: Upgrading does not delete any previous HPPM custom settings. All HPPM custom settings are saved.

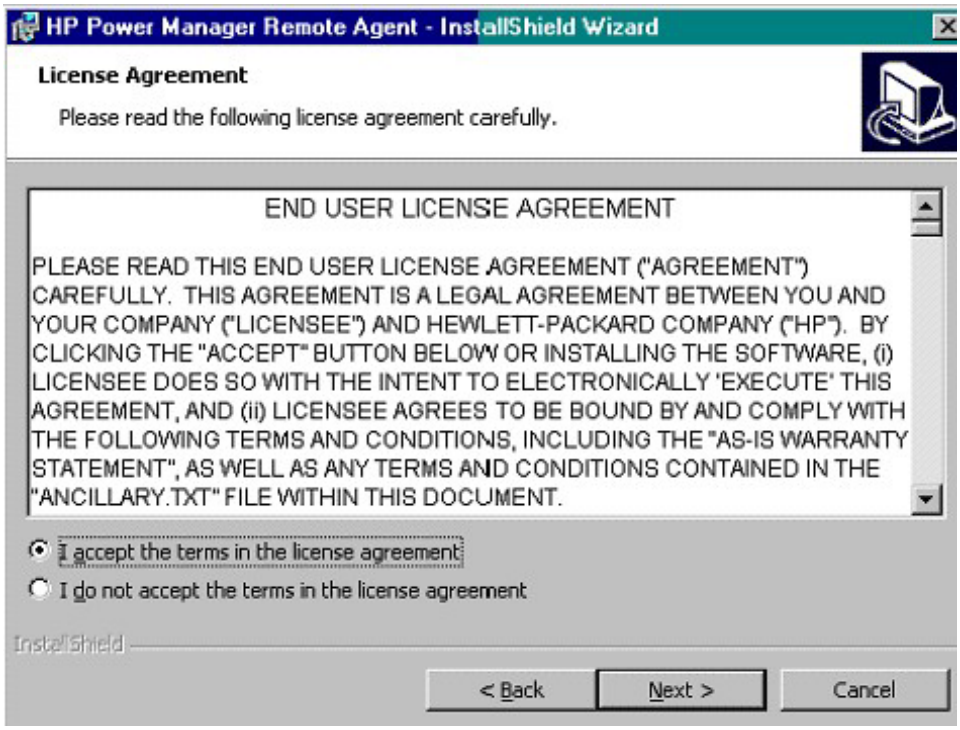
   The Welcome screen appears.

5. Read the introduction, and click **Next**.



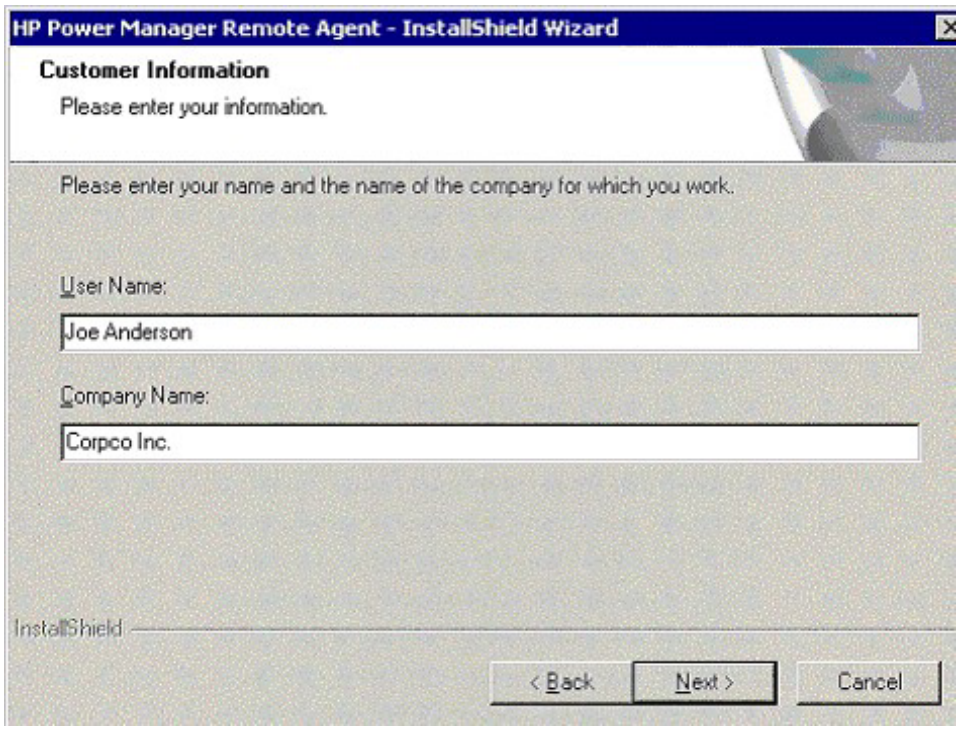
   The **License Agreement** screen appears.

6. Read the license agreement, select **I accept the terms in the license agreement**, and click **Next**.



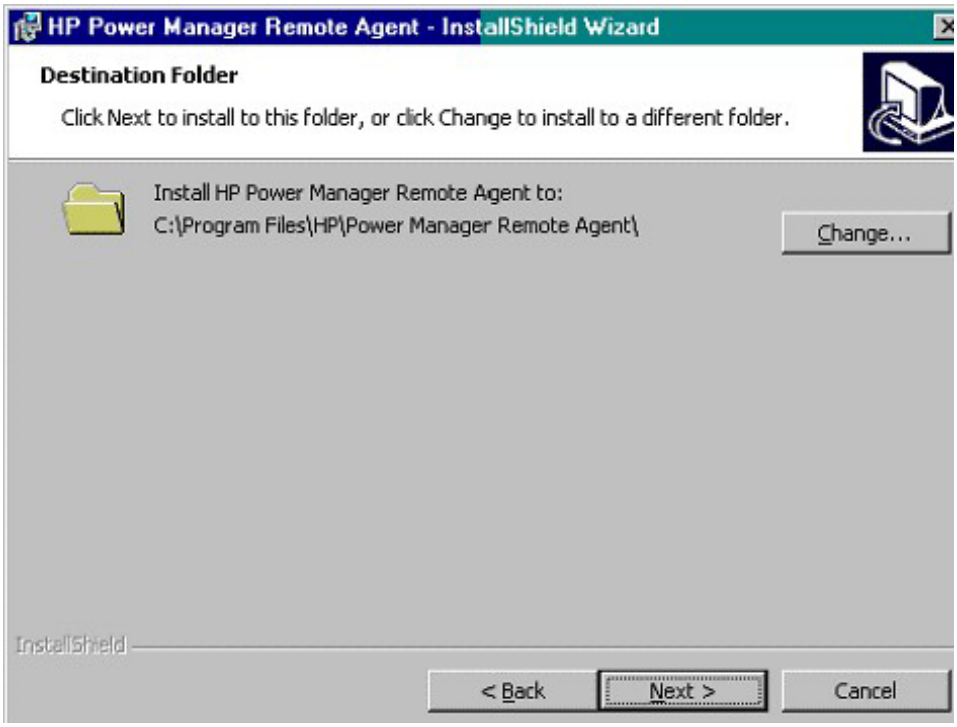
The **Customer Information** screen appears.

7. Verify or change the customer information, select whether to install for all users or only the current user, and click **Next**.



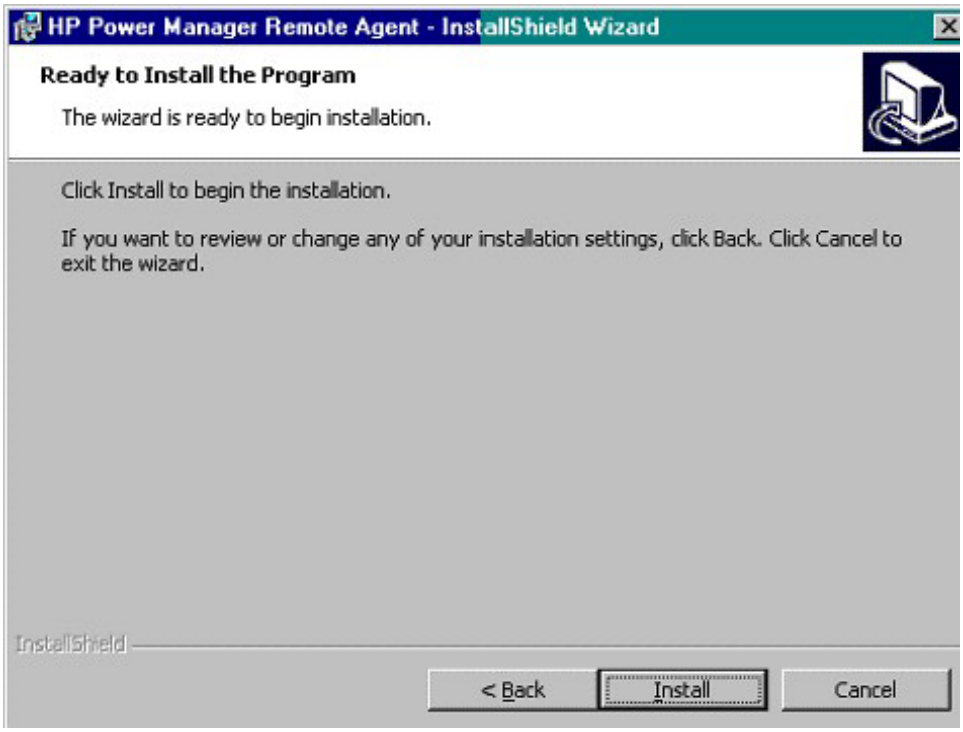
The **Destination Folder** screen appears.

8. Click **Next** to install the Remote Agent in the default folder that is displayed below the Install HP Power Manager to: field. To specify a different folder, click **Change**, navigate to the appropriate folder, and click **Next**.

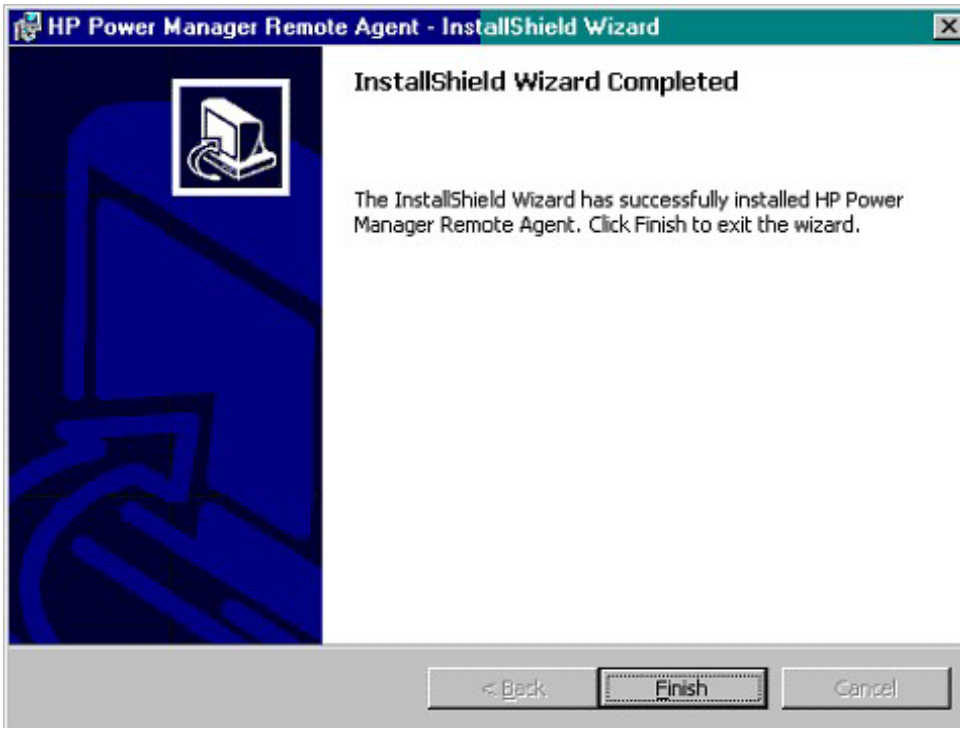


The **Ready to Install the Program** screen appears.

9. Click **Install**. The wizard installs the software.



10. Click **Finish** to complete the install wizard and continue with the configuration process.

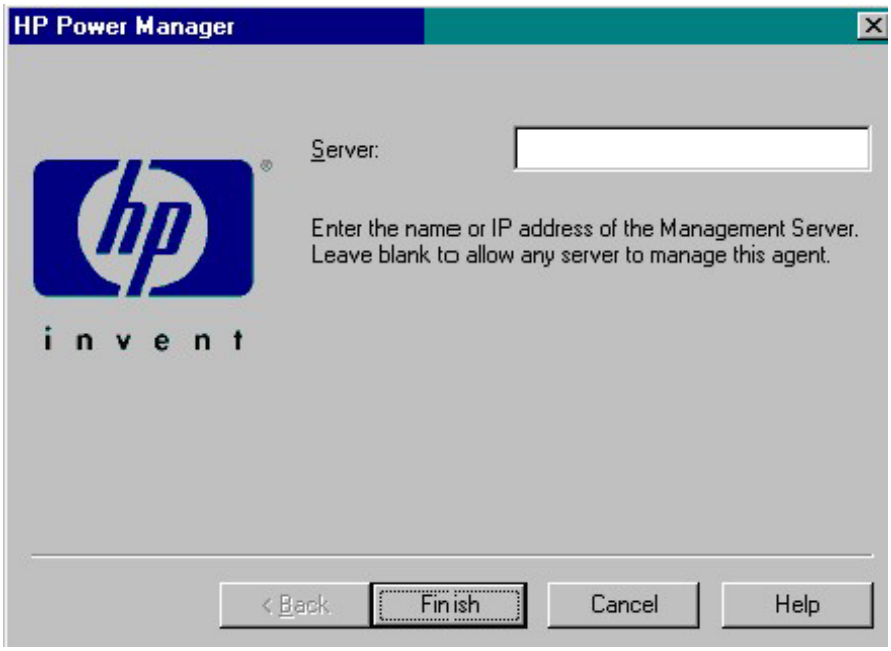


NOTE: It might take a moment for the configuration screen to appear. If there are open windows on the desktop, you might need to minimize the windows to view the configuration screen.

11. For the most security, enter the host name or valid IP address of the Management Server. This setting ensures only that particular Management Server executes commands and operating system shutdowns on the computer running the Remote Agent.

    If security is not a concern, leave this field as is.

12. Click **Finish**.



NOTE: An icon in the Windows® system tray shows the status of the connection between the Management Server and the Remote Agent. It might take a few moments for the icon to change. A green check mark displays if the Management Server is communicating with the UPS without errors. If there are problems, the blue hexagon icon displays. Hover over the icon with the mouse pointer, and a tool tip displays a status message. For more information about the system tray icon status messages, refer to "System Tray Icon (on page 110)."

NOTE: To reconfigure the Web connection or communications port or to change to a different UPS, refer to "Reconfiguring Components on Windows Operating Systems (on page 62)."

Installing Components on Linux Operating Systems

The Management Server and Remote Agent can be installed using an installation script or the silent installation option on any supported Linux operating system.

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

NOTE: The Management Server and Remote Agent components cannot be installed on the same computer.

NOTE: The Management Server and Remote Agent for HP Power Manager 4.0 are not backward compatible with earlier versions of HP Power Manager.

Installing the Management Server Using the Installation Script

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

NOTE: Before installing the software, be sure that the serial, USB, or network cable connecting the UPS to the Management Server is properly installed.

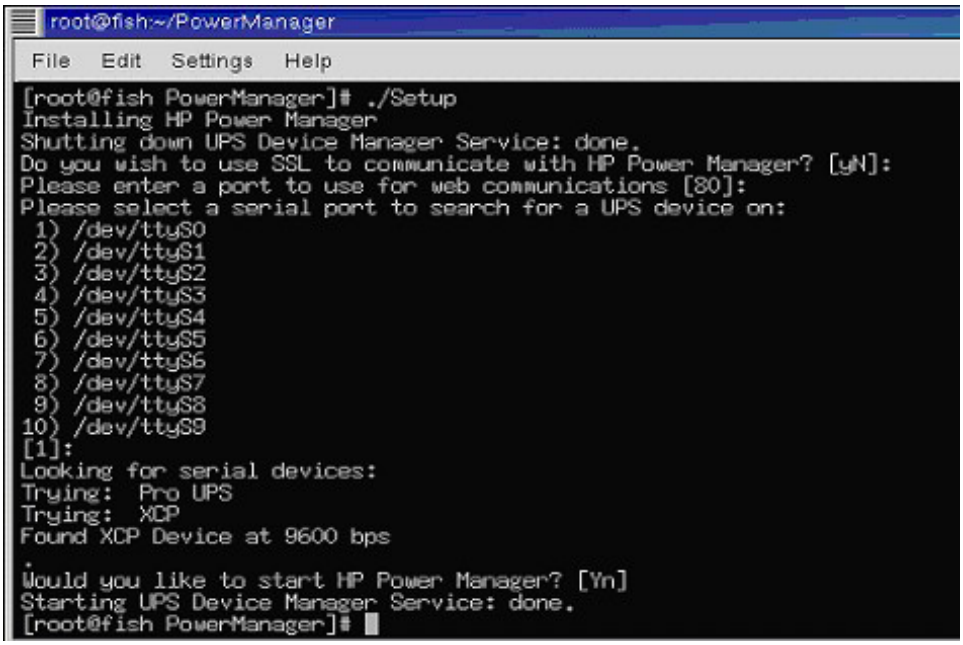
1. HPPM can be loaded 2 ways:
   - If loading the software from the HP Rack and Power Management CD, insert the CD into the CD-ROM drive of the computer. From the console or a terminal window, go to the HPPM/...Linux/Manager subdirectory. Execute the following installation script:

     ```
     ./Setup
     ```

   - If the downloading the software from the HP website, follow the instructions on the website to unpack the files. Locate the Linux Management Server installation script (Setup). Execute the following script:

     ```
     ./Setup
     ```

The script installs the Management Server component and requests information to configure the application. Default values or valid options are shown in brackets following each prompt.



The installer launches a separate configuration program.

The script displays: `Do you wish to use SSL to communicate with HP Power Manager?`

2. To use the standard HTTP protocol for Web browser access to the Management Server, enter `n`. To use the SSL, enter `y`.

   For more information about security considerations, refer to "HP Power Manager Security Considerations Overview (on page 201)."

   The script displays: `Please enter a port to use for web connections.`

3. To use standard TCP/IP port (80 for HTTP, 443 for SSL) with the selected protocol for Web browser access to the Management Server, press the **Enter** key. To use a non-standard port for browser access, enter a valid numerical value for the port number.

The script displays: `Please select a serial port to search for a UPS device on.`

4. If the serial cable from the UPS is connected to serial port /dev/ttyS0 on the computer, press the **Enter** key. If it is connected to a different serial port, enter the number corresponding to that serial port from the displayed list.

   If a UPS is discovered, the type of communications protocol and baud rate is displayed. If no UPS is detected, verify that the cable is connected securely from the serial port to the UPS and that the correct port was selected before trying again.

Installing the Remote Agent Using the Installation Script

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

1. HPPM can be loaded 2 ways:

   – If loading the software from the HP Rack and Power Management CD, insert the CD into the CD-ROM drive of the computer. From the console or a terminal window, go to the HPPM/...Linux/Manager subdirectory. Execute the following installation script:

   ```
   ./Setup
   ```

   – If the downloading the software from the HP website, follow the instructions on the website to unpack the files. Locate the Linux Management Server installation script (Setup). Execute the following script:

   ```
   ./Setup
   ```

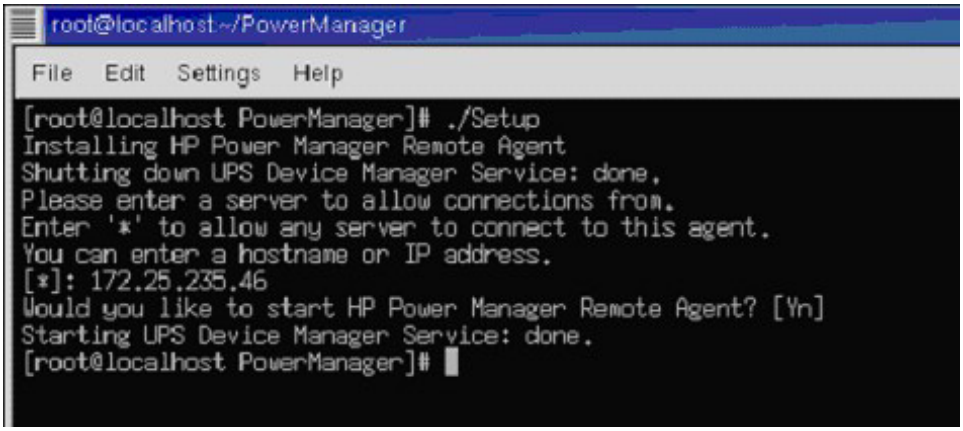
   The script installs the Remote Agent component and requests information to configure the application. Default values or valid options are shown in brackets following each prompt.

   The installer launches a separate configuration program.

   The script displays: `Please enter a server to allow connections from.`

2. For the most security, enter the host name or IP address of the Management Server. This configuration ensures only that particular Management Server executes commands and operating system shutdowns on the computer running the Remote Agent.

If security is not a concern, enter an asterisk and press the **Enter** key.



Installing the Management Server Using the Silent Installation Method

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

NOTE: Before installing the software, be sure that the serial, USB, or network cable connecting the UPS to the Management Server is properly installed.

Silent installation is typically used by system administrators who have many installations that are configured identically and require minimal user interaction. During a silent installation you will:

- Install a Management Server through the assisted installation method that is appropriate for the operating system.
- Configure the Management Server exactly as the final replicated systems should be configured. Use the exact same UPS model, and thoroughly test the configuration, including any alarm or notification events.

  NOTE: Configuring the Management Server includes attaching devices and configuring the power fail settings, event shutdown settings, and event settings.

- Use the DevManBE.ini file that is generated in the directory of the application as a template in the Management Server silent install process.

NOTE: To prevent more than one Management Server from managing the same devices or agents, a unique DevManBE.ini file is needed for each Management Server.

- Change any items that should be unique, such as Device Name, Management Server Name, or Remote Agent Name, through the normal operation of the software.

To install the Management Server on a Linux system using the silent installation method:

1. Create a temporary directory.
2. Copy the following files into the temporary directory you just created:
   - DevManBE.ini—During an assisted install, this file is landed in the same folder in which HP Power Manager is installed.
   - EULA.txt—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - Setup—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - Uninstall—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - PowerManager-4.0-10.i586.rpm—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
3. From the directory that contains all five files, run `./HPPMInstall -s DevManBE.ini` to install silently.

   If the .ini file is not located in the same folder as the Setup file, use the `switch f` option. For example, `Setup -s -f <path> DevManBE.ini`. Replace <path> with the `DevManBE.ini` file location.

The following command line parameters can be specified and are applicable for both interactive and silent modes.

`-s`	Performs a silent install or upgrade.

`-r`	Reboots the computer at completion of setup. This option is supported only on Windows® and only for a silent install or upgrade.
`-log`	Creates an installation log (/user/local/DevMan/setup.log). Default is disabled for interactive mode and enabled for silent mode. This option is supported only on Linux. The installation log is created automatically for Windows® during silent installations in \%systemdrive%\setup.log.
`-f DevManBE.ini`	Specifies a configuration .ini file used for both upgrades and clean installs. When this option is specified, the device detection and configuration step is omitted. If this option is specified for the upgrade, it overwrites any saved .ini file settings. This parameter is required for silent installations but is optional for upgrading.

Installing the Remote Agent Using the Silent Installation Method

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

Silent installation is typically used by system administrators who have many installations that are configured identically and require minimal user interaction. During a silent installation you will:

- Install a Remote Agent through the assisted installation method that is appropriate for the operating system.
- Configure the Remote Agent exactly as the final replicated systems should be configured.

NOTE: You must configure the IP address of the Management Server in one of two ways:

  - Leave the IP address field blank to use the same DevManRA.ini file for all of your Remote Agent installs. This enable the Remote Agent to accept commands from any Management Server that discovers the Remote Agent.
  - Create a DevManRA.ini file for each site. This points each UPS to the correct Management Server and is the more secure option.

- Use the DevManRA.ini file that is generated in the directory of the application as a template in the Remote Agent silent install process.
- Change any items that should be unique, such as Device Name, Management Server Name, or Remote Agent Name, through the normal operation of the software.

To install the Remote Agent using the silent installation method:

1. Create a temporary directory.
2. Copy the following files into the temporary directory you just created:
   - DevManRA.ini—During an assisted install, this file is landed in the same folder in which HP Power Manager is installed.
   - EULA.txt—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - Setup—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - Uninstall—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - PowerManagerRA-4.0-10.i586.rpm—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
3. From the directory that contains all five files, run `./Setup.exe -s DevManRA.ini` to install silently.

   If the .ini file is not located in the same folder as the Setup file, use the `switch f` option. For example, `Setup -s -f <path> DevManRA.ini`. Replace <path> with the `DevManRA.ini` file location.

The following command line parameters can be specified and are applicable for both interactive and silent modes.

`-s`	Performs a silent install or upgrade.
`-r`	Reboots the computer at completion of setup. This option is supported only on Windows® and only for a silent install or upgrade.
`-log`	Creates an installation log (/user/local/DevMan/setup.log). Default is disabled for interactive mode and enabled for silent mode. This option is supported only on Linux. The installation log is created automatically for Windows® during silent installations in \%systemdrive%\setup.log.
`-f DevManRA.ini`	Specifies a configuration .ini file used for both upgrades and clean installs. When this option is specified, the device detection and configuration step is omitted. If this option is specified for the upgrade, it overwrites any saved .ini file settings. This parameter is required for silent installations but is optional for upgrading.

Reconfiguring Management Server Components on Linux Operating Systems

To configure the Web connection, SSL, or communications port, run `/etc/init.d/DevMan setup`.

Reconfiguring Remote Agent Components on Linux Operating Systems

To configure the Management Server IP address or hostname, run `/etc/init.d/DevMan setup`.

Upgrading Management Server Components on Linux Operating Systems

Upgrade HPPM using one of the following methods:

- If upgrading the software from CD, insert the CD into the CD-ROM drive of the computer. From the console or a terminal window, go to the HPPM/...Linux/Manager subdirectory. Execute the following installation script:

  ```
  ./Setup -s
  ```

  No output appears in the terminal.

- If downloading the software from the HP website (http://www.hp.com/products/ups), follow the instructions on the website to unpack the files. Locate the Linux Management Server installation script (Setup). Execute the following script:

  ```
  ./Setup -s
  ```

  No output appears in the terminal.

The script installs the newest version of the Management Server, keeping all old settings intact.

Upgrading Remote Agent Components on Linux Operating Systems

Upgrade HPPM using one of the following methods:

- If upgrading the software from CD, insert the CD into the CD-ROM drive of the computer. From the console or a terminal window, go to the HPPM/...Linux/Agent subdirectory. Execute the following installation script:

  ```
  ./SetupRA -s
  ```

  No output appears in the terminal.

- If downloading the software from the HP website (http://www.hp.com/products/ups), follow the instructions on the website to unpack the files. Locate the Linux Remote Agent installation script (SetupRA). Execute the following script:

  ```
  ./SetupRA -s
  ```

  No output appears in the terminal.

The script installs the newest version of the Remote Agent, keeping all old settings intact.

Installing Components on HP-UX Operating Systems

The Management Server and Remote Agent can be installed using an installation script, SAM, or silent installation option on any supported HP-UX operating system.

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

NOTE: The Management Server and Remote Agent components cannot be installed on the same computer.

NOTE: The Management Server and Remote Agent for HP Power Manager 4.0 are not backward compatible with earlier versions of HP Power Manager.

Installing the Management Server Locally Using the Installation Script Method

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

NOTE: Before installing the software, be sure that the serial, USB, or network cable connecting the UPS to the Management Server is properly installed.

1. HPPM can be loaded two ways:
   - If loading the software from the HP Rack and Power Management CD, insert the CD into the CD-ROM drive of the computer. From the console or a terminal window, go to the HPPM/...HP-UX/Manager subdirectory. Execute the following installation script:

```
./HPPMInstall
```

– If the downloading the software from the HP website, follow the instructions on the website to unpack the files. Locate the installation script (HPPMInstall). Execute the following script:

```
./HPPMInstall
```

The script installs the Management Server component and requests information to configure the application. Default values or valid options are shown in brackets following each prompt.

```
Do you agree to the terms of the license agreement ["yes"]? y

=======  05/06/04 07:45:23 CDT  BEGIN swinstall SESSION
         (non-interactive) (jobid=RPM-IA64-WRKST-0028)

       * Session started for user "root@RPM-IA64-WRKST".

       * Beginning Selection
       * Target connection succeeded for "RPM-IA64-WRKST:/".
       * Source:
         /home/compaq/fishstick/HPPM-3.2[Build4].HP-UX.depot
       * Targets:                RPM-IA64-WRKST:/
       * Software selections:
            HPPowerManagerServer.exec,r=3.2Build4
       * Selection succeeded.


       * Beginning Analysis and Execution
       * Session selections have been saved in the file
         "/.sw/sessions/swinstall.last".
       * The analysis phase succeeded for "RPM-IA64-WRKST:/".
       * The execution phase succeeded for "RPM-IA64-WRKST:/".
       * Analysis and Execution succeeded.


NOTE:    More information may be found in the agent logfile using the
         command "swjob -a log RPM-IA64-WRKST-0028 @ RPM-IA64-WRKST:/".

=======  05/06/04 07:45:50 CDT  END swinstall SESSION (non-interactive)
         (jobid=RPM-IA64-WRKST-0028)

-n Shutting down UPS Device Manager Service:
done.
Do you wish to use SSL to communicate with HP Power Manager? [yN]: Y
Please enter a port to use for web communications [443]:
Please select a serial port to search for a UPS device on:
 1) /dev/tty0p0
 2) /dev/tty1p0
[1]: 1
Looking for serial devices:
Trying:  Pro UPS
Trying:  XCP
Found XCP Device at 9600 bps.

Would you like to start HP Power Manager? [Yn]Y
-n Starting UPS Device Manager Service:
EXE : DevManBE
done.
Sending output to nohup.out
#
```

The script displays the EULA.

2. To accept the EULA, enter `y`.

The script displays: `Do you wish to use SSL to communicate with HP Power Manager?`

3. To use the standard HTTP protocol for Web browser access to the Management Server, enter `n`. To use SSL, enter `y`.

   IMPORTANT: If you choose to implement SSL with HPPM, ensure that you have HP-UX Strong Random Number Generator installed on the HP-UX system running the Management Server component. This is needed to generate a unique SSL certificate.

   For more information about security considerations, refer to "Security Considerations Overview (on page 201)."

   The script displays: `Please enter a port to use for web connections.`

4. To use standard TCP/IP port (80 for HTTP, 443 for SSL) with the selected protocol for Web browser access to the Management Server, press the **Enter** key. To use a non-standard port for browser access, enter a valid numerical value for the port number.

   The script displays: `Please select a serial port to search for a UPS device on.`

5. If the serial cable from the UPS is connected to serial port /dev/ttyS0 on the computer, press the **Enter** key. If it is connected to a different serial port, enter the number corresponding to that serial port from the displayed list.

   If a UPS is discovered, the type of communications protocol and baud rate is displayed. If no UPS is detected, verify that the cable is connected securely from the serial port to the UPS and that the correct port was selected before trying again.

Installing the Remote Agent Locally Using the Installation Script Method

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

1. HPPM can be loaded two ways:

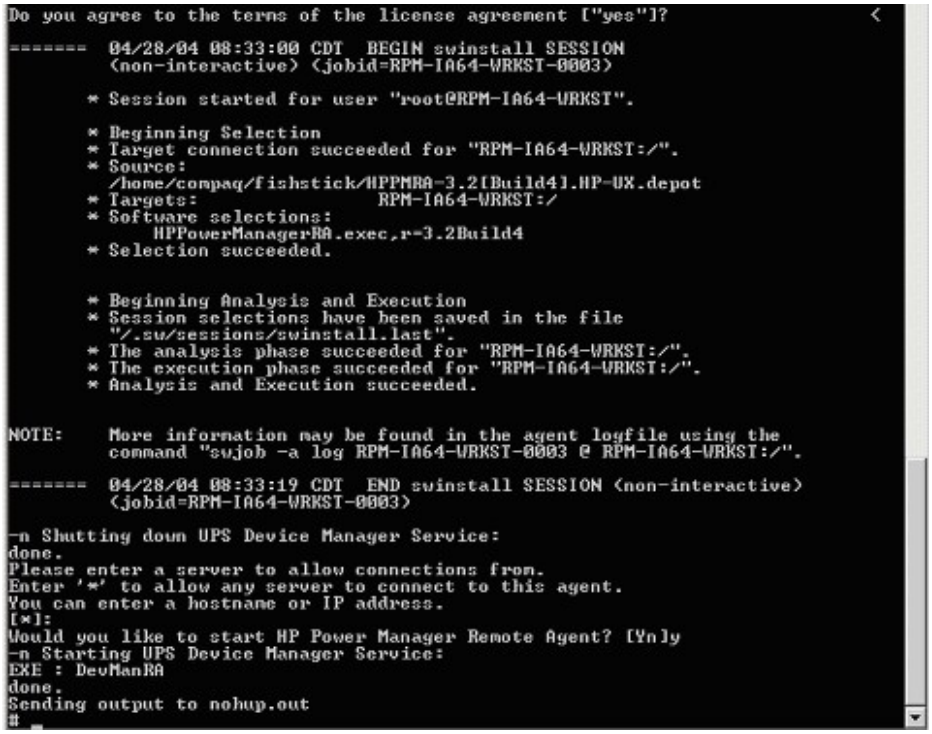
– If loading the software from the HP Rack and Power Management CD, insert the CD into the CD-ROM drive of the computer. From the console or a terminal window, go to the HPPM/...HP-UX/Manager subdirectory. Execute the following installation script:

```
./HPPMInstall
```

– If the downloading the software from the HP website, follow the instructions on the website to unpack the files. Locate the installation script (HPPMInstall). Execute the following script:

```
./HPPMInstall
```

The script installs the Remote Agent component and requests information to configure the application. Default values or valid options are shown in brackets following each prompt.



The script displays the EULA.

2. To accept the EULA, enter `y`.

The script displays: `Please enter a server to allow connections from.`

3. Enter an asterisk to allow any server to connect to this agent, or enter the host name or IP address of the Management Server.

Installing the Management Server Locally Using the SAM Method

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

NOTE: Before installing the software, be sure that the serial, USB, or network cable connecting the UPS to the Management Server is properly installed.

1. From the SAM application, double-click **Software Management**.
2. Click **Install Software to Local Host**.
3. Change the Source Depot Path to a fully qualified path and depot name.
4. Select the HP Power Manager you are about to install.
5. Click **Actions>Install** from the top menu.
6. Click **OK** to analyze the depot file.
7. Click **OK** to install the depot file.
8. Click **Done** to complete the installation and continue with the configuration process.
9. Enter `/sbin/init.d/DevMan setup` in the terminal, and press the **Enter** key.

   The installer launches a separate configuration program.

   The script installs the Management Server component and requests information to configure the application. Default values or valid options are shown in brackets following each prompt.

   The script displays: `Do you wish to use SSL to communicate with HP Power Manager?`
10. To use the standard HTTP protocol for Web browser access to the Management Server, enter `n`. To use SSL, enter `y`.

IMPORTANT: If you choose to implement SSL with HPPM, ensure that you have HP-UX Strong Random Number Generator installed on the HP-UX system running the Management Server component. This is needed to generate a unique SSL certificate.

For more information about security considerations, refer to "Security Considerations Overview (on page 201)."

The script displays: `Please enter a port to use for web connections.`

11. To use standard TCP/IP port (80 for HTTP, 443 for SSL) with the selected protocol for Web browser access to the Management Server, press the **Enter** key. To use a non-standard port for browser access, enter a valid numerical value for the port number.

    The script displays: `Please select a serial port to search for a UPS device on.`

    If a UPS is discovered, the type of communications protocol and baud rate is displayed. If no UPS is detected, verify that the cable is connected securely from the serial port to the UPS and that the correct port was selected before trying again.

Installing the Remote Agent Locally Using the SAM Method

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

1. From the SAM application, double-click **Software Management**.
2. Click **Install Software to Local Host**.
3. Change the Source Depot Path to a fully qualified path and depot name.
4. Select the HP Power Manager you are about to install.
5. Click **Actions>Install...** from the top menu.
6. Click **OK** to analyze the depot file.
7. Click **OK** to install the depot file.
8. Click **Done** to complete the installation and continue with the configuration process.
9. Enter `/sbin/init.d/DevMan setup` in the terminal, and press the **Enter** key.

The installer launches a separate configuration program.

The script installs the Remote Agent component and requests information to configure the application. Default values or valid options are shown in brackets following each prompt.

The script displays the EULA.

10. To accept the EULA, enter `y`.

    The script displays: `Please enter a server to allow connections from.`

11. For the most security, enter the IP address of the Management Server. This configuration ensures only that particular Management Server executes commands and operating system shutdowns on the computer running the Remote Agent.

Installing the Management Server Remotely Using the Installation Script Method

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

NOTE: Before installing the software, be sure that the serial, USB, or network cable connecting the UPS to the Management Server is properly installed.

1. Find the server on the network, and log in as a super user. Locate the HP-UX Management Server installation script (`HPPM Install`), and execute:

   `./HPPMInstall.`

The script installs the Management Server component and requests information to configure the application. Default values or valid options are shown in brackets following each prompt.

The script displays the EULA.

2. To accept the EULA, enter `y` to continue.

   The script displays: `Do you wish to use SSL to communicate with HP Power Manager?`

3. To use the standard HTTP protocol for Web browser access to the Management Server, enter `n`. To use the SSL, enter `y`.

IMPORTANT: If you choose to implement SSL with HPPM, ensure that you have HP-UX Strong Random Number Generator installed on the HP-UX system running the Management Server component. This is needed to generate a unique SSL certificate.

For more information about security considerations, refer to "Security Considerations Overview (on page 201)."

The script displays: `Please enter a port to use for web connections.`

4. To use standard TCP/IP port (80 for HTTP, 443 for SSL) with the selected protocol for Web browser access to the Management Server, press the **Enter** key. To use a non-standard port for browser access, enter a valid numerical value for the port number.

   The script displays: `Please select a serial port to search for a UPS device on.`

5. If a UPS is discovered, the type of communications protocol and baud rate is displayed. If no UPS is detected, verify that the cable is connected securely from the serial port to the UPS and that the correct port was selected before trying again.

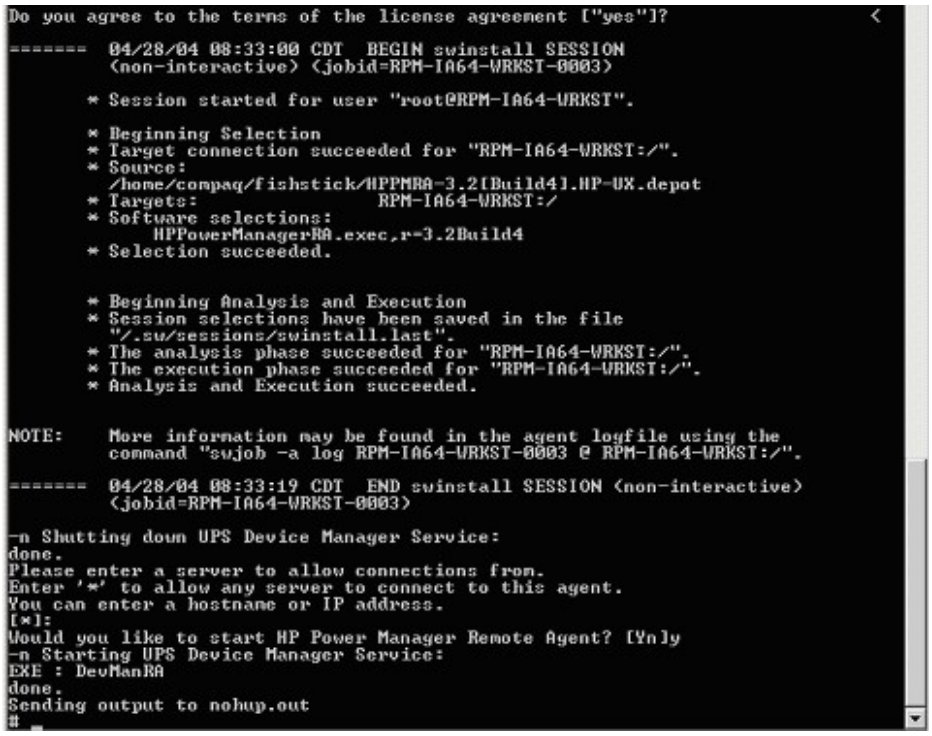
Installing the Remote Agent Remotely Using the Installation Script Method

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

1. Find the server on the network, and log in as a super user. Locate the HP-UX Remote Agent installation script (`HPPM Install`) and execute:

   ```
   ./HPPMInstall
   ```

The script installs the Remote Agent component and requests information to configure the application. Default values or valid options are shown in brackets following each prompt.



The script displays the EULA.

2. To accept the EULA, enter `y`.

   The script displays: `Please enter a server to allow connections from.`

3. Enter an asterisk to allow any server to connect to this agent, or enter the host name or IP address of the Management Server.

Installing the Management Server Remotely Using the SAM Method

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

NOTE: Before installing the software, be sure that the serial, USB, or network cable connecting the UPS to the Management Server is properly installed.

1. From a remote machine, enter `sam` at the command line prompt.
2. Click **Software Management.**
3. Click **Install Software to Local Host.**
4. Change the Source Depot Path to a fully qualified path and depot name.
5. Select the HP Power Manager you are about to install.
6. Select **Actions>Install** from the top menu, and click **OK** and **Done.**
7. Click **OK** to analyze the depot file.
8. Click **OK** to install the depot file.
9. Click **Done** to complete the installation and continue with the configuration process.
10. Enter `/sbin/init.d/DevMan setup` in the terminal, and press the **Enter** key.

    The installer launches a separate configuration program.

    The script installs the Management Server component and requests information to configure the application. Default values or valid options are shown in brackets following each prompt.

    The script displays: `Do you wish to use SSL to communicate with HP Power Manager?`
11. To use the standard HTTP protocol for Web browser access to the Management Server, enter `n`. To use SSL, enter `y`.

    IMPORTANT: If you choose to implement SSL with HPPM, ensure that you have HP-UX Strong Random Number Generator installed on the HP-UX system running the Management Server component. This is needed to generate a unique SSL certificate.

    For more information about security considerations, refer to "Security Considerations Overview (on page 201)."

    The script displays: `Please enter a port to use for web connections.`

12. To use standard TCP/IP port (80 for HTTP, 443 for SSL) with the selected protocol for Web browser access to the Management Server, press the **Enter** key. To use a non-standard port for browser access, enter a valid numerical value for the port number.

    The script displays: `Please select a serial port to search for a UPS device on.`

13. If a UPS is discovered, the type of communications protocol and baud rate is displayed. If no UPS is detected, verify that the cable is connected securely from the serial port to the UPS and that the correct port was selected before trying again.

Installing the Remote Agent Remotely Using the SAM Method

> **IMPORTANT:** To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

1. From a remote machine, enter `sam` at the command line prompt.
2. Click **Software Management.**
3. Click **Install Software to Local Host.**
4. Change the Source Depot Path to a fully qualified path and depot name.
5. Select the HP Power Manager you are about to install.
6. Select **Actions>Install** from the top menu, and click **OK** and **Done.**
7. Click **OK** to analyze the depot file.
8. Click **OK** to install the depot file.
9. Click **Done** to complete the installation and continue with the configuration process.
10. Enter `/sbin/init.d/DevMan setup` in the terminal, and press the **Enter** key.

    The installer launches a separate configuration program.

    The script installs the Management Server component and requests information to configure the application. Default values or valid options are shown in brackets following each prompt.

    The script displays the EULA.

11. To accept the EULA, enter `y`.

    The script displays: `Please enter a server to allow connections from.`

12. Enter an asterisk to allow any server to connect to this agent, or enter the host name or IP address of the Management Server.

Installing the Management Server Using the Silent Installation Method

> **IMPORTANT:** To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."
>
> **NOTE:** Before installing the software, be sure that the serial, USB, or network cable connecting the UPS to the Management Server is properly installed.

Silent installation is typically used by system administrators who have many installations that are configured identically and require minimal user interaction. During a silent installation you will:

- Install a Management Server through the assisted installation method that is appropriate for the operating system.
- Configure the Management Server exactly as the final replicated systems should be configured. Use the exact same UPS model, and thoroughly test the configuration, including any alarm or notification events.

  > **NOTE:** Configuring the Management Server includes attaching devices and configuring the power fail settings, event shutdown settings, and event settings.

- Use the DevManBE.ini file that is generated in the directory of the application as a template in the Management Server silent install process.

  > **NOTE:** To prevent more than one Management Server from managing the same devices or agents, a unique DevManBE.ini file is needed for each Management Server.

- Change any items that should be unique, such as Device Name, Management Server Name, or Remote Agent Name, through the normal operation of the software.

To install the Management Server on a system running HP-UX using the silent installation method:

1. Create a temporary directory.
2. Copy the following files into the temporary directory you just created:
   - DevManBE.ini—During an assisted install, this file is landed in the same folder in which HP Power Manager is installed.
   - EULA—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - HPPMInstall—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - HPPMUninstall—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - HPPM4Build9HPUX.depot—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
3. From the directory that contains all five files, run `./HPPMInstall -s DevManBE.ini` to install silently.

   If the .ini file is not located in the same folder as the HPPMInstall file, use the `switch f` option. For example, `HPPMInstall -s -f <path> DevManBE.ini`. Replace <path> with the `DevManBE.ini` file location.

The following command line parameters can be specified and are applicable for both interactive and silent modes.

`-s`	Performs a silent install or upgrade.
`-r`	Reboots the computer at completion of setup. This option is supported only on Windows® and only for a silent install or upgrade.
`-log`	Creates an installation log (/user/local/DevMan/setup.log). Default is disabled for interactive mode and enabled for silent mode. This option is supported only on Linux. The installation log is created automatically for Windows® during silent installations in \%systemdrive%\setup.log.

`-f DevManBE.ini`	Specifies a configuration .ini file used for both upgrades and clean installs. When this option is specified, the device detection and configuration step is omitted. If this option is specified for the upgrade, it overwrites any saved .ini file settings. This parameter is required for silent installations but is optional for upgrading.

Installing the Remote Agent Using the Silent Installation Method

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

Silent installation is typically used by system administrators who have many installations that are configured identically and require minimal user interaction. During a silent installation you will:

- Install a Remote Agent through the assisted installation method that is appropriate for the operating system.
- Configure the Remote Agent exactly as the final replicated systems should be configured.

  NOTE: You must configure the IP address of the Management Server in one of two ways:

  - Leave the IP address field blank to use the same DevManRA.ini file for all of your Remote Agent installs. This enable the Remote Agent to accept commands from any Management Server that discovers the Remote Agent.
  - Create a DevManRA.ini file for each site. This points each UPS to the correct Management Server and is the more secure option.
- Use the DevManRA.ini file that is generated in the directory of the application as a template in the Remote Agent silent install process.
- Change any items that should be unique, such as Device Name, Management Server Name, or Remote Agent Name, through the normal operation of the software.

To install the Remote Agent on a system running HP-UX using the silent installation method:

1. Create a temporary directory.

2. Copy the following files into the temporary directory you just created:
   - DevManRA.ini—During an assisted install, this file is landed in the same folder in which HP Power Manager is installed.
   - EULA—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - HPPMInstall—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - HPPMUninstall—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
   - HPPM4Build9HPUX.depot—This file is included with the installation files on the HP Power Management Pack CD and the software download package on the HP website (http://www.hp.com/products/ups).
3. From the directory that contains all five files, run `./HPPMInstall -s DevManRA.ini` to install silently.

   If the .ini file is not located in the same folder as the HPPMInstall file, use the `switch f` option. For example, `HPPMInstall -s -f <path> DevManRA.ini`. Replace <path> with the `DevManRA.ini` file location.

The following command line parameters can be specified and are applicable for both interactive and silent modes.

`-s`	Performs a silent install or upgrade.
`-r`	Reboots the computer at completion of setup. This option is supported only on Windows® and only for a silent install or upgrade.
`-log`	Creates an installation log (/user/local/DevMan/setup.log). Default is disabled for interactive mode and enabled for silent mode. This option is supported only on Linux. The installation log is created automatically for Windows® during silent installations in \%systemdrive%\setup.log.

`-f DevManRA.ini`	Specifies a configuration .ini file used for both upgrades and clean installs. When this option is specified, the device detection and configuration step is omitted. If this option is specified for the upgrade, it overwrites any saved .ini file settings. This parameter is required for silent installations but is optional for upgrading.

Reconfiguring Management Server Components on HP-UX Operating Systems

To reconfigure the Web connection, SSL, or communications port, run `/sbin/init.d/DevMan setup`.

Reconfiguring Remote Agent Components on HP-UX Operating Systems

To reconfigure the Management Server IP address or hostname, run `/sbin/init.d/DevMan setup`.

Upgrading Management Server Components on HP-UX Operating Systems

Upgrade HPPM using one of the following methods:

- If upgrading the software from CD, insert the CD into the CD-ROM drive of the computer. From the console or a terminal window, go to the HPPM/...HPUX/Manager subdirectory. Execute the following installation script:

  `./HPPMInstall -s`

  No output appears in the terminal.

- If downloading the software from the HP website (http://www.hp.com/products/ups), follow the instructions on the website to unpack the files. Locate the HPUX Management Server installation script (HPPMInstall). Execute the following script:

  ```
  ./HPPMInstall -s
  ```

  No output appears in the terminal.

The script installs the newest version of the Management Server, keeping all old settings intact.

Upgrading Remote Agent Components on HP-UX Operating Systems

Upgrade HPPM using one of the following methods:

- If upgrading the software from CD, insert the CD into the CD-ROM drive of the computer. From the console or a terminal window, go to the HPPM/...HPUX/Agent subdirectory. Execute the following installation script:

  ```
  ./HPPMInstall -s
  ```

  No output appears in the terminal.

- If downloading the software from the HP website (http://www.hp.com/products/ups), follow the instructions on the website to unpack the files. Locate the HPUX Remote Agent installation script (HPPMInstall). Execute the following script:

  ```
  ./HPPMInstall -s
  ```

  No output appears in the terminal.

The script installs the newest version of the Remote Agent, keeping all old settings intact.

Installing Components on NetWare Operating Systems

The Remote Agent can be installed using a configuration module or the silent installation option on any supported NetWare operating system.

NOTE: If DNS is not being used, verify the host name and IP address are added to the hosts file (sys:etc\hosts).

NOTE: The Management Server and Remote Agent for HP Power Manager 4.0 are not backward compatible with earlier versions of HP Power Manager.

Installing the Remote Agent Using the Configuration Module

IMPORTANT: To ensure your system has the minimum requirements needed to run HPPM, refer to "System Requirements (on page 25)."

1. If loading the software from the HP Rack and Power Management CD, insert CD into the CD-ROM drive of the computer. From the HPPM/...NetWare/Agent subdirectory of the CD, copy the contents into a directory on the NetWare server, and then unzip the files.

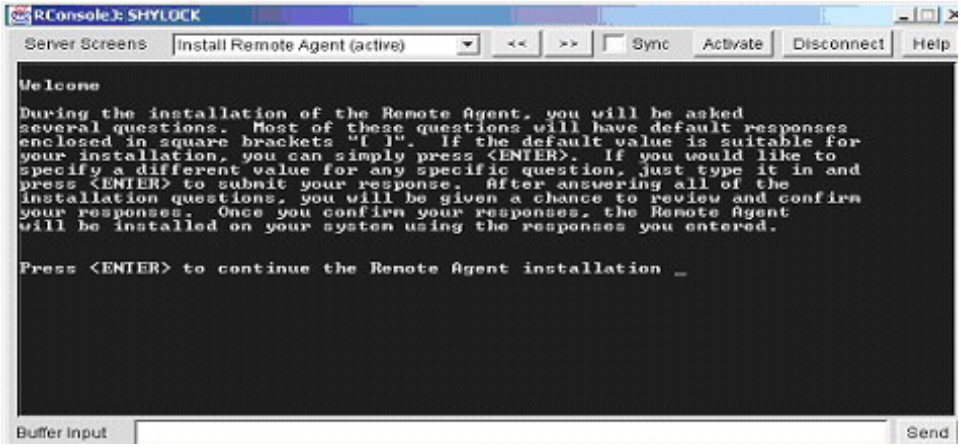
   From the NetWare system console, load the configuration module (PMCONFIG.NLM) using the full path. For example, if the files were copied into a folder called HP on the SYS: volume, the module would be loaded as follows:

   ```
   SYS:HP/PMCONFIG
   ```

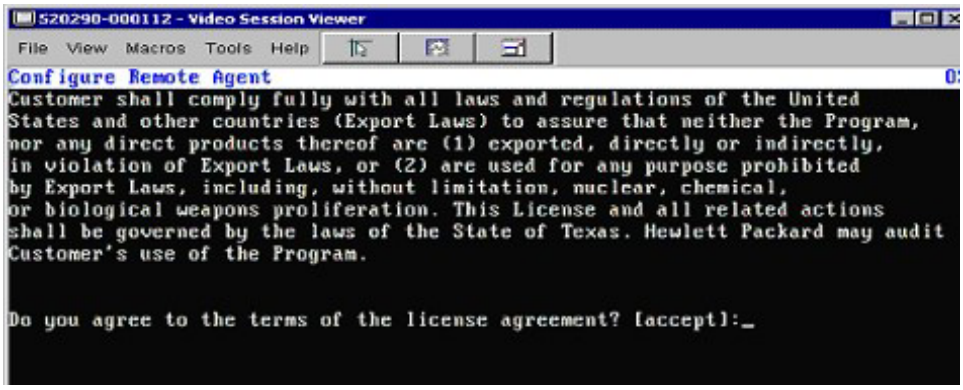
   If the software has been downloaded from the HP website (http://www.hp.com/products/ups), follow the instructions on the website to unpack the files. Copy the files to the NetWare server. From the NetWare system console, load the configuration module (PMCONFIG.NLM) using the default path. For example, if the files were copied into a folder called HP on the SYS: volume, the module would be loaded as follows:

   ```
   SYS:HP/PMCONFIG
   ```

The module displays information about the configuration process.

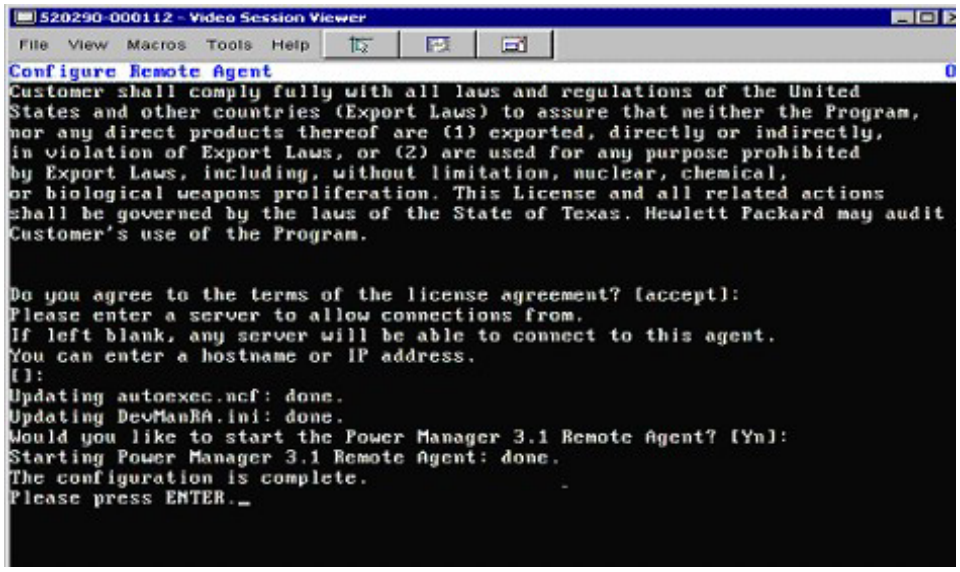


2. Press the **Enter** key to continue the installation.



The **License Agreement** screen appears.

3. Enter `accept` to accept the license agreement.



   The module displays: `Enter the IP address of the Management Server.`

4. For the most security, enter the host name or IP address of the Management Server. This configuration ensures only that particular Management Server executes commands and operating system shutdowns on the computer running the Remote Agent.

   If security is not a concern, enter an asterisk, and press the **Enter** key.

5. Enter `y` to start the Remote Agent.

6. Press the **Enter** key to close the installation module.

Uninstalling Components from Windows® Systems

1. Click **Start>Settings>Control Panel**.

2. Open **Add/Remove Programs**.

3. Select **HP Power Manager** or **HP Power Manager Remote Agent**, and click **Change/Remove**.

The uninstall wizard launches.

Select **Remove Choice**, and click **Next**.

4. Follow the prompts in the uninstall wizard to uninstall the software.

   NOTE: Some files might remain following the uninstallation and can be removed manually.

Uninstalling Components from Linux Systems

Execute the uninstall script (`Uninstall`).

NOTE: Some files might remain following the uninstallation and can be removed manually.

Uninstalling Components from HP-UX Systems

Execute the uninstall script (`HPPMUninstall`).

NOTE: Some files might remain following the uninstallation and can be removed manually.

Uninstalling Components from NetWare Systems

Navigate to the directory into which the software was installed and load `PMCONFIG.NLM` with the `-u` option.

For example: `SYS:HPPM/PMCONFIG -u`

NOTE: Some files might remain following the uninstallation and can be removed manually.

Access and Navigation

In this section

Accessing the Software 109
Regarding the Browser Security Alert 110
Logging In 113
Navigating 114

Accessing the Software

You can access the software:

- Remotely through a Web browser (on page 109)
- Locally from the system tray icon (on page 110) in Windows®

Web Browser

To access the Management Server software through a Web browser:

1. Launch a supported browser. The browser window appears.
2. In the Address field (Microsoft Internet Explorer) or the Location field (Mozilla), enter an IP address. Use the following examples, where *hostname* is the IP address or the machine name of the computer on which the Management Server software component is installed.
   - If you installed the software to use the default port numbers of 80 (standard HTTP) or 443 (SSL), enter one of the following:

     `http://`*hostname*

     `https://`*hostname*
   - If you installed the software to use a specific port number that is different from the defaults, use the following example with the port number you selected.

     `http://`*hostname:1234/*

`https://`*hostname:1234*`/`

NOTE: If you are using a proxy server, you might need to add the server hosting the software to the No Proxy list of servers in the Internet settings for your browser. Refer to the browser help for more information about changing the configuration.

System Tray Icon

To access the software through the system tray in Windows®:

1. Right-click the software system tray icon on a computer with one of the software components installed to display a context menu.
2. Click **Connect** to access the software.

   NOTE: If the icon appears, the Connect option is unavailable because the service is unavailable.

Icon	Status
	Software service/daemon is running. The agent and Management Server are communicating. UPS status is normal.
	Software service/daemon is not running.
	UPS issues a warning alarm.
	Software is not configured, the UPS is not connected, or the agent and Management Server are not communicating. UPS issues a critical alarm.

Regarding the Browser Security Alert

NOTE: The information in this section is only applicable if SSL is chosen during software configuration.

Secure browsing requires the use of SSL. SSL is a protocol layer that lies between HTTP and TCP that provides secure communication between a server and a client and is designed to provide privacy and message integrity. SSL is commonly used in Web-based transactions to authenticate the Web server, which indisputably identifies the server to the browser. SSL also provides an encrypted channel of communication between the server and the browser. The encrypted channel ensures integrity of the data between the Web server and the browser, so that data can neither be viewed nor modified while in transit. HPPM uses a system generated and unique key.

An integral part of SSL is a security certificate, which identifies the Management Server. If your browser displays a security alert when browsing to the software, it can be for one of several reasons:

- The certificate is untrusted, meaning it was signed by a certifying authority that is unknown to your browser.
- The certificate has expired or is not yet valid. This condition can occur if you issue your own certificate and it has expired.
- The name on the certificate does not match the name of the site in the browser address field.

For more information about security considerations, refer to HP Power Manager Security Considerations Overview (on page 201).

Establishing a Secure Session for Internet Explorer

The first time you browse to the software, the Secure Session screen appears. To ensure a secure connection, verify that you are browsing to the desired Management Server:

1. Click **View Certificate**.
2. Verify that the name in the Issued To field is the name of your Management Server.
3. Perform any other steps necessary to verify the identity of the Management Server.

CAUTION: If you are not sure this is the desired Management Server, do not proceed. Importing a certificate from an unauthorized server relays your login credentials to that unauthorized server. Exit the certificate window and contact the software administrator.

After verifying the Management Server, do one of the following:

- Import the certificate and proceed.
  a. Click **View Certificate**. The certificate appears.
  b. Click **Install Certificate**. The Certificate Import wizard runs.
  c. Click **Next**. The **Certificate Store** screen appears.
  d. Select **Automatically select the certificate store based on the type of certificate**, and click **Next**.
  e. Click **Finish**. A message appears, asking for verification of the root store.
  f. Click **Yes**.

- Proceed without importing the certificate by clicking **Yes** at the Security Alert window. You continue to receive the Security Alert each time you log in until you import the certificate. Your data is still encrypted.
- Exit and import the certificate into your browser from a file provided by the administrator.
  a. Click **No** at the Security Alert window.
  b. Obtain an exported software server certificate file from the administrator.

  NOTE: If using Internet Explorer, you can manually import the file into the browser by clicking **Tools>Internet Options>Content>Certificates>Import**.

Establishing a Secure Session for Mozilla

The first time you browse to the software, the Secure Session screen appears. To ensure a secure connection, verify that you are browsing to the desired Management Server:

1. Click **Examine Certificate**.

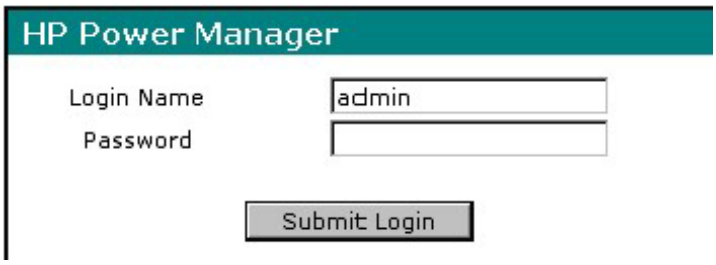
2. Verify that the name in the Issued To field is the name or IP address of your Management Server.
3. Perform any other steps necessary to verify the identity of the Management Server.
4. After verifying the Management Server, do one of the following:
   a. Click either **Accept this certificate permanently** or **Accept this certificate temporally for this session**.
   b. Click **OK**.

      NOTE: If using Mozilla, you can manually import the file into the browser by clicking **File>Preferences>Certificates>Privacy & Security>Manage Certificates>Authorities>Import**.

Logging In

Before using this software, log in with a user name and password. The first time you log in, enter `admin` as the user name, and enter `admin` as the password. Click **Submit Login** to log in. After you are logged in, you can change your password. For more information, refer to "My Account Menu Option (on page 167)."

NOTE: Passwords are case-sensitive.



After a successful login, the Overview screen under the Home tab appears. For more information on the Overview screen, refer to "Overview Menu Option (on page 117)."

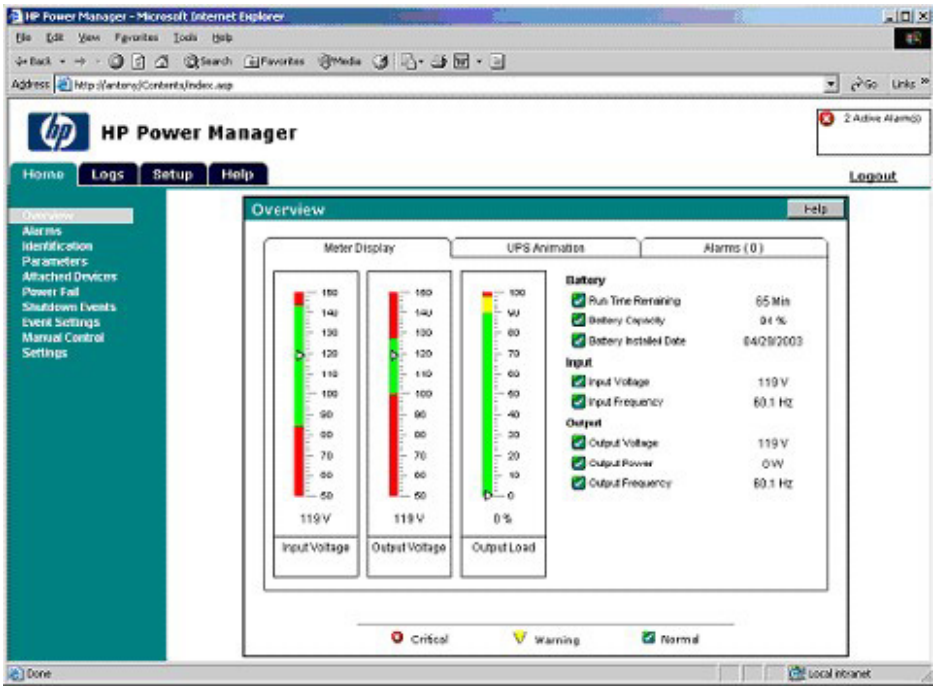
Navigating

The software interface is divided into three frames:

- **Top frame—**Contains the HP logo, Home, Logs, Setup, and Help tabs, as well as a Logout hyperlink.
  - Click the **HP logo** to access the HP website.
  - Click the **Home** tab to see the menu options for configuring and operating the software. For more information, refer to "Home Tab (on page 117)."
  - Click the **Logs** tab to see the menu options for displaying UPS data logs. For more information, refer to "Logs Tab (on page 155)."
  - Click the **Setup** tab to see the menu options for setting up and modifying user accounts. For more information, refer to "Setup Tab (on page 167)."
  - Click the **Help** tab to access the software help section. For more information, refer to "Help Tab (on page 169)."
  - Click the **Logout** hyperlink to log out of the software.

    NOTE: An indicator in the upper right corner of the screen displays information about the UPS, such as the number of active alarms or whether the UPS is connected.
- **Left navigation frame—**Contains a list of menu options on the left side of the screen. The menu is dynamic, and the menu options change depending on the tab selected and your access rights.
- **Main frame—**Contains the various software screens based on the menu option selected.

NOTE: The Overview screen appears in the main frame the first time you log in to the software. The screen might vary, depending on the UPS model connected.



Configuration and Operation

In this section

Home Tab 117

Home Tab

Menu options listed under the Home tab include:

- Overview Menu Option (on page 117)
- Alarms Menu Option (on page 123)
- Identification Menu Option (on page 123)
- Parameters Menu Option (on page 124)
- Attached Devices Menu Option (on page 126)
- Power Fail Menu Option (on page 133)
- Shutdown Events Menu Option (on page 138)
- Scheduled Shutdown Menu Option (on page 140)
- Event Settings Menu Option (on page 143)
- Manual Control Menu Option (on page 150)
- Settings Menu Option (on page 152)

Overview Menu Option

NOTE: Since HP Power Manager uses a flash player, this screen displays differently if you are browsing to the Management Server from an HP-UX client browser. Currently there is not a HP-UX flash player available. If you are browsing from a Windows or Linux client browser, all pages appear with full flash support.

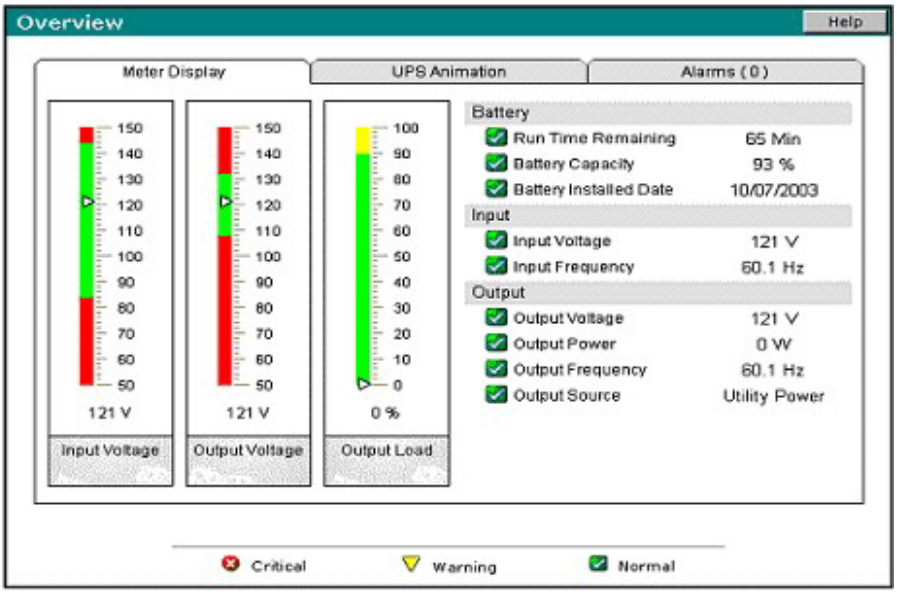
Click **Overview** in the left navigation frame to display the Overview screen. This screen displays overall views of the UPS status and contains the following tabs:

- Meter Display
- UPS Animation
- Alarms (*x*)

NOTE: The variable *x* indicates the number of active alarms. For example, Alarms (2) means that the UPS has two active alarms.

Meter Display Tab

NOTE: Depending on the specific UPS model, this screen might vary. The screen shown is only an example.



Under the Meter Display tab, the status of the UPS is shown in graphical and text format. Input Voltage, Output Voltage, and Output Load information is displayed graphically on the left side of the screen, with the color on the meter representing the current state of the UPS.

Color	Device Status
Green	Normal
Yellow	Warning

Color	Device Status
Red	Critical

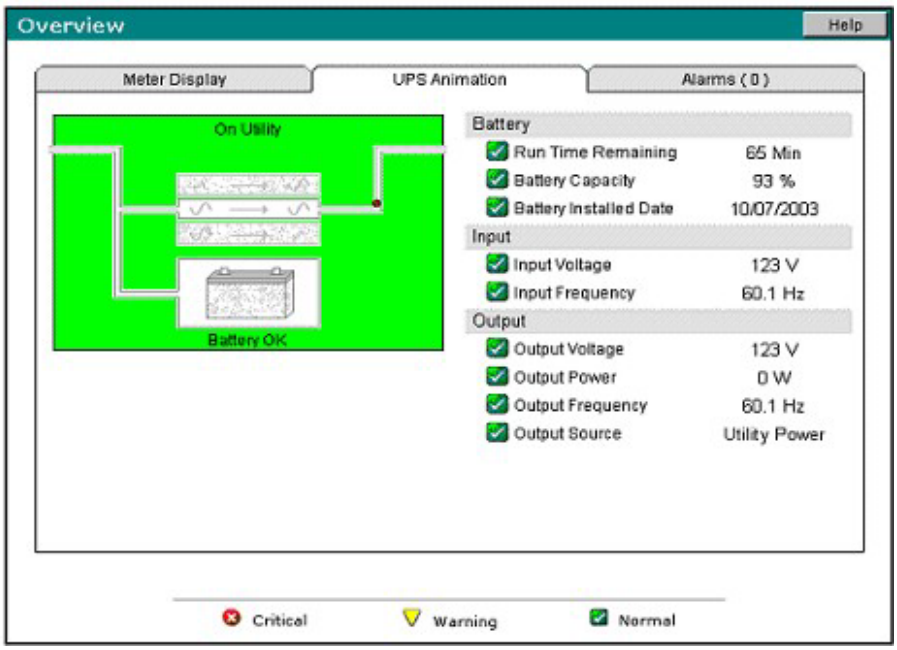
Battery, Input, and Output parameters are listed as text on the right side of the screen. A status icon indicates the current state of each parameter.

Icon	Parameter Status
	Normal
	Warning
	Critical

UPS Animation Tab

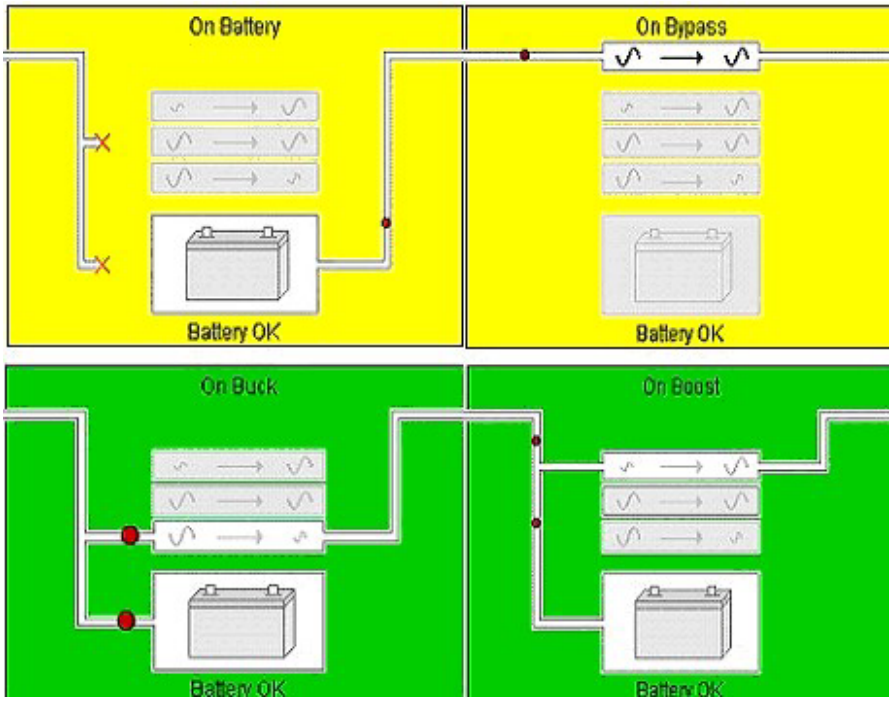
The UPS Animation tab provides an animated view of the flow of power into and out of the UPS. Battery, Input, and Output parameters are listed as text on the right side of the screen. A status icon next to each parameter indicates the current state of the parameter (Normal, Warning, or Critical).

The animation graphic changes based on the current UPS status. The following screenshot is an example of the UPS On Utility power.



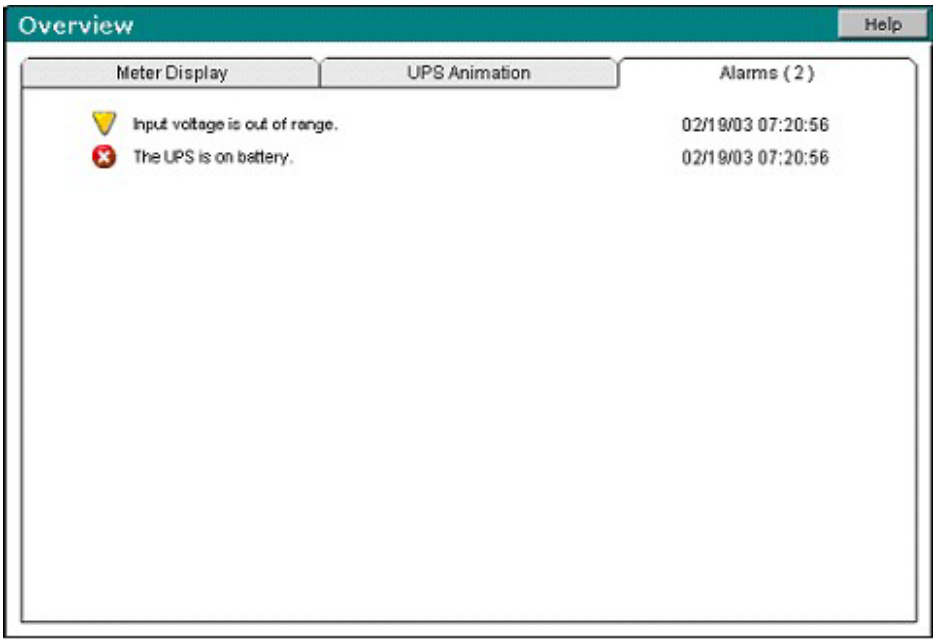
If the UPS goes into Battery, Bypass, Buck, or Boost mode, the graphic on the left side of the screen changes to one of the following animations.

NOTE: Depending on the specific UPS model, some features might not be supported. The screen shown is only an example.



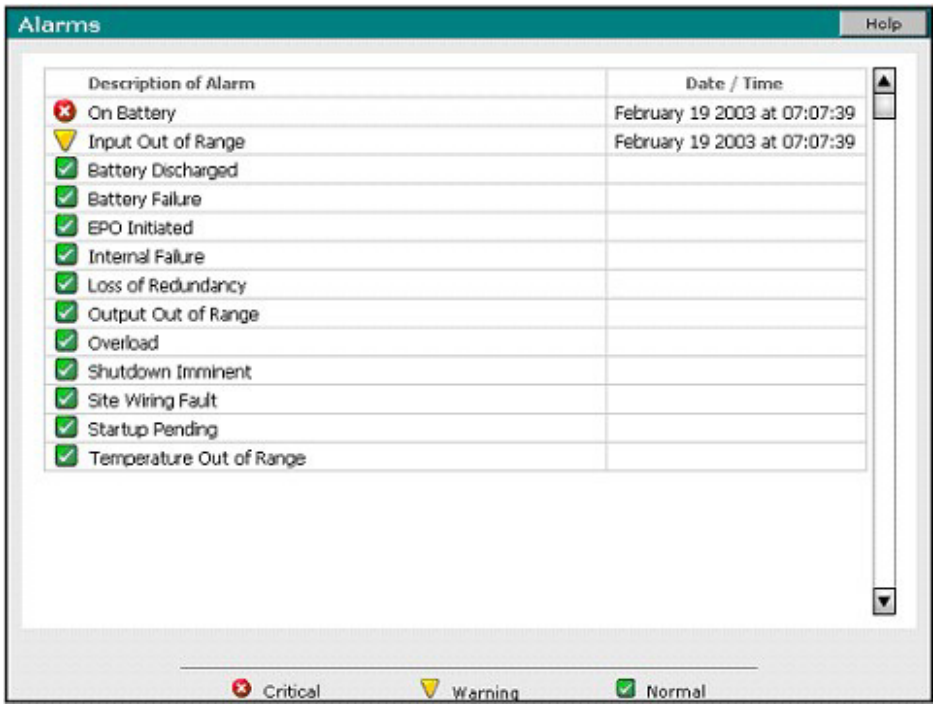
Alarms Tab

The Alarms (*x*) tab displays a list of active alarms for the UPS, where *x* is the current number of active alarms. Click an alarm to see a description of the alarm. If there are no active alarms, the screen indicates No Active Alarms. A status icon next to each alarm indicates the severity of the alarm (Warning or Critical).



Alarms Menu Option

Click **Alarms** in the left navigation frame to display the Alarms screen. This screen lists all possible alarms (active and normal) specific for each UPS model. The active alarms are listed at the top of the screen with the date and time at which the alarm most recently occurred. Click an active alarm to see a description of the alarm. A status icon next to each alarm indicates the current state of the alarm (Normal, Warning, or Critical).

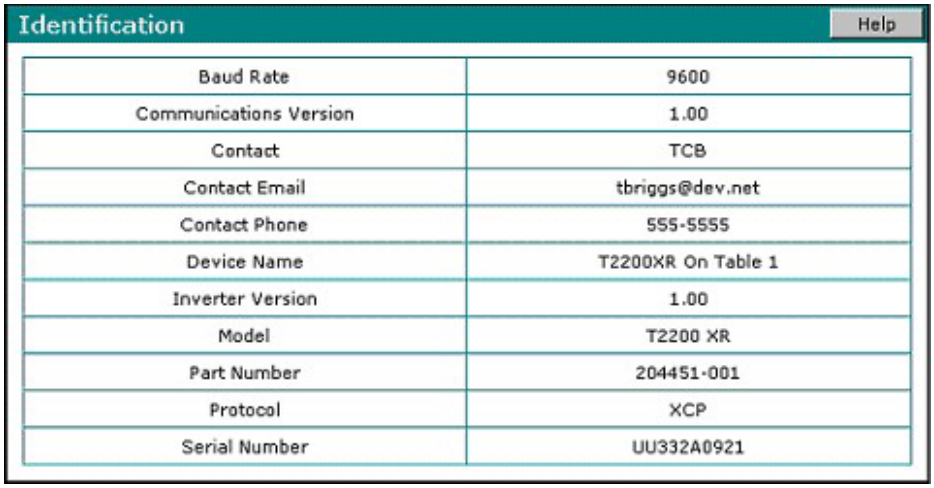


Identification Menu Option

Click **Identification** in the left navigation frame to display the Identification screen. This screen displays specific device and contact information.

> **NOTE:** Depending on the specific UPS model, this screen might vary. The screen shown is only an example.

You can enter or change the contact information and device name on the Settings screen. For more information, refer to "Settings Menu Option (on page 152)." Only users with administrator rights can enter this information.

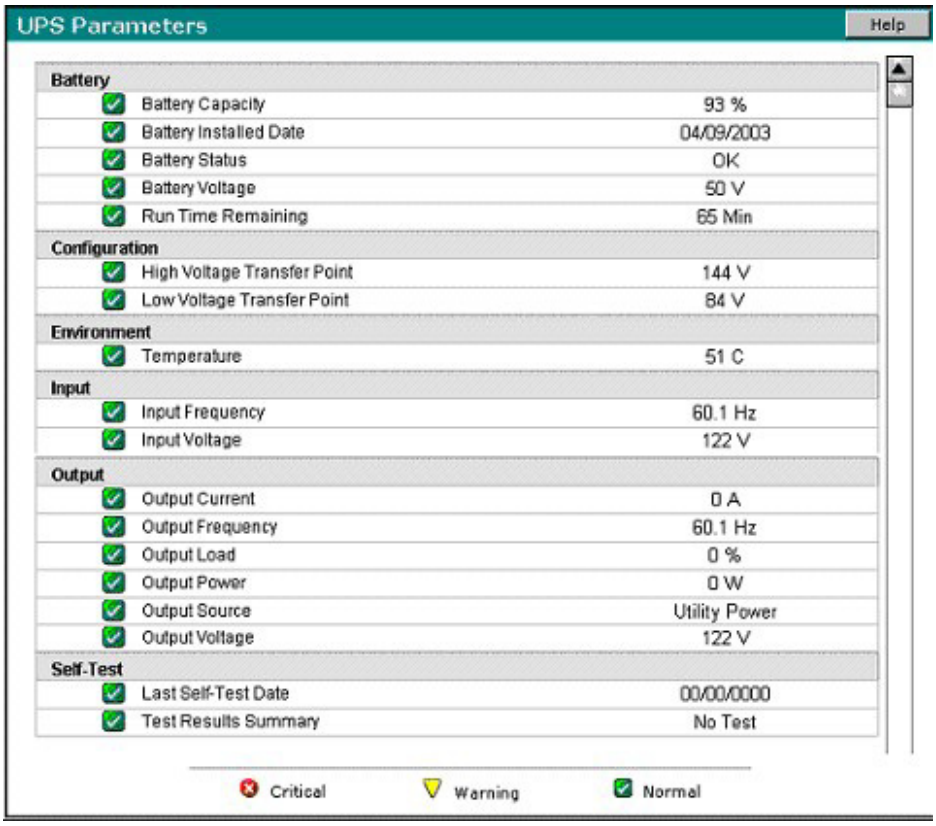


Baud Rate	9600
Communications Version	1.00
Contact	TCB
Contact Email	tbriggs@dev.net
Contact Phone	555-5555
Device Name	T2200XR On Table 1
Inverter Version	1.00
Model	T2200 XR
Part Number	204451-001
Protocol	XCP
Serial Number	UU332A0921

Parameters Menu Option

Click **Parameters** in the left navigation frame to display the UPS Parameters screen. This screen displays the available UPS parameter values. A status icon next to each parameter indicates the current state of the parameter (Normal, Warning, or Critical).

NOTE: Depending on the specific UPS model, this screen might vary. The screen shown is only an example.



Battery Self-Test Results Summary

- **In Progress**—The battery self-test is in progress.
- **Passed**—The battery self-test has completed successfully.
- **Test Aborted**—The battery self-test was not performed at this time because of one of the following:
  - The UPS is already On Battery.
  - The battery is not presently charged.

  - In some implementations, the battery self-test is scheduled and begins when the batteries are fully charged.

- **Test Failed**—A bad battery is detected, or the battery self-test failed.
- **Test Scheduled**—The battery self-test was not performed at this time but will be performed when the system has the proper conditions.
- **Battery Disconnect**—All batteries have been disconnected.
- **Battery Not Installed**—No batteries were connected to the system at last power up.
- **Unknown**—Unable to determine the status of the last test.

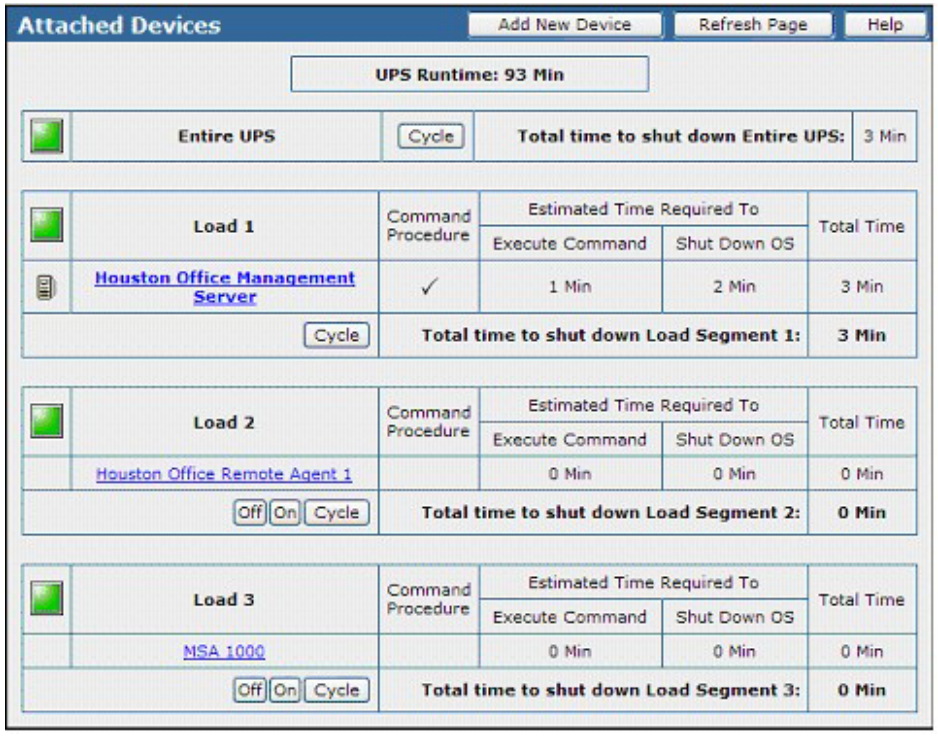
NOTE: Battery self-test results are cleared after the UPS is reset.

Attached Devices Menu Option

NOTE: The link to this screen does not appear if you do not have administrative rights.

Click **Attached Devices** in the left navigation frame to display the Attached Devices screen.

NOTE: Depending on the specific UPS model, some features might not be supported. The screen shown is only an example.



Icon	Status
	Agent is communicating with the Management Server, and the versions are compatible.
	Agent version is not compatible. Upgrade agent.
	Agent is not communicating with the Management Server. For more information, refer to "Red Status Icon Displays."

This screen enables you to:

- View attached devices and load segment power status
- Control load segments ("Controlling a Load Segment" on page 128) (turn off, on, or cycle power)

- Add ("Adding an Attached Device" on page 128) or delete attached devices ("Editing or Deleting an Attached Device" on page 131)
- Edit an attached device ("Editing or Deleting an Attached Device" on page 131)

The estimated UPS runtime appears at the top of the screen. The total time required to shut down the entire UPS is recalculated when attached devices are added, deleted, or modified. This time is determined by totaling the time required to shut down each device on the UPS.

Controlling a Load Segment

To control a load segment, perform one of the following:

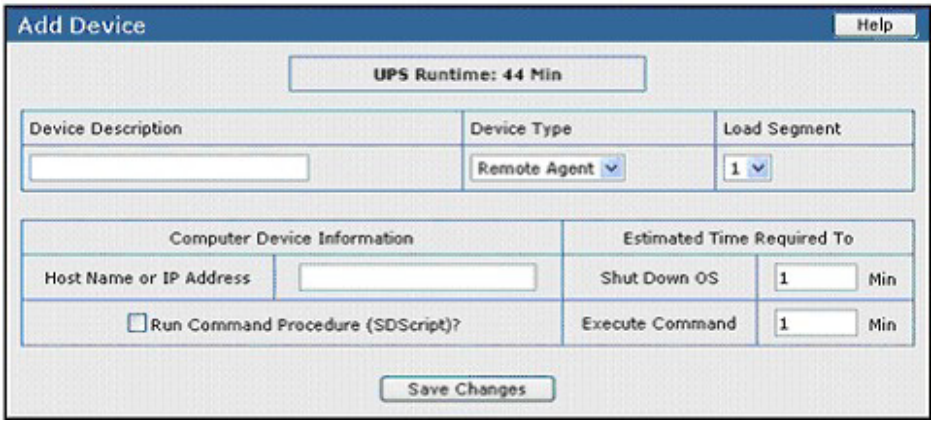
- Click **Off** to shut down a load segment, which allows for the graceful shutdown of attached devices.
- Click **On** to turn on a load segment.
- Click **Cycle** to gracefully shut down and turn on a load segment.

NOTE: Off and On are not available for the load segment to which the Management Server is attached.

Adding an Attached Device

1. Click **Add New Device** on the Attached Devices screen. The Add Device screen appears.

NOTE: Depending on the specific UPS model, some features might not be supported. The screen shown is only an example.



2. Enter the device name or description in the Device Description field.
3. Select the type of device in the Device Type dropdown box:
   - Remote Agent—Select **Remote Agent** when attaching a HPPM Remote Agent to a UPS load segment.
   - Storage Device—Select **Storage Device** when attaching a shared hard disk storage device to a UPS load segment. Storage devices have the longest runtime so servers accessing this device can save data before shutting down.
   - Other Device—Select **Other Device** for any unmanaged device, such as a router or hub. Unmanaged devices are either on or off and are not shut down gracefully.
4. If output power is supplied by controllable load segments, select the load segments to which the device is attached in the Load Segment dropdown box.
5. If the device type is Remote Agent, enter the host name or IP address in the Host Name or IP Address field.
6. Enter the estimated time required to shut down the server in the Shut Down OS field.
7. To configure the command procedure SDScript to run at shut down:
   a. Select **Run Command Procedure (SDScript)?** at shutdown.

b. Edit the SDScript file or create a new SDScript file. A sample SDScript file is landed in the root folder for every Management Server and Remote Agent. The name of the SDScript file must be `SDScript.CMD`, and this file must remain in the root folder.

IMPORTANT: SDScript command execution can be a very powerful tool and should be tested thoroughly before being used for the first time in response to a power event. Not all programs and applications are suitable to be executed as a process, especially programs that do not create their own environments. Command execution behavior varies by operating system, and, in general, commands to be executed should be put into a batch file or shell script depending on the operating system that will be executing the commands. Using an SDScript gives you more control over the circumstances in which commands are executed and allows the commands to run in a copy of the environment.

When selecting commands to be executed in the SDScript file, choose programs and processes that do not require user input or interaction. Since the commands can be executed at any time, it is difficult to predict if a user will be available to interact with any programs that are launched. Verify that specified drive mappings, user specific directories, and programs that require special rights are accessible by the SDScript file.

Most operating systems have a method for spawning new processes. In Windows operating systems, commands can be preceded with `START`, and in most Linux/Unix systems, `sh` can be used. When designing your SDScript file, determine which commands require a separate process and which commands can be run one after another in the same process. Refer to the documentation that came with your operating system for more information on batch files or script files.

NOTE: HP Power Manager cannot run an SDScript on a server unless the server has a Remote Agent installed. The SDScript file that will be run must reside on the server on which the command will be executed.

NOTE: HP Power Manager shuts down the operating system gracefully. Use the SDScript file for other tasks, such as backing up files to tape or shutting down a database.

c. Enter the estimated time required to complete the procedure in the Execute Command field.

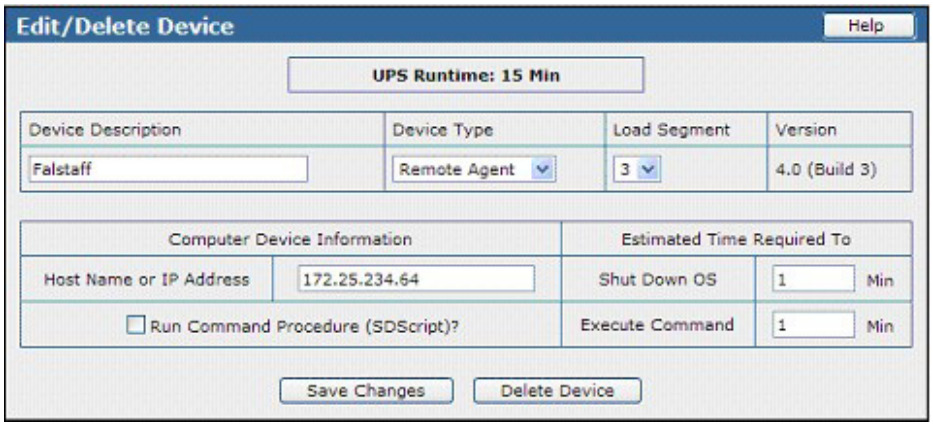
8. Click **Save Changes** to save the information.

The newly added device displays under the specific load segment. The status icon in front of the device link indicates the attached device agent is communicating with the Management Server, and the versions are compatible. For a detailed description of the agent status, refer to "System Tray Icon (on page 110)."

Editing or Deleting an Attached Device

1. Click the link for the device you want to edit or delete on the Attached Devices screen.

   The **Edit/Delete Device** screen appears.



2. Edit the device name or description in the Device Description field.
3. If the device is not a Management Server, select the type of device in the Device Type dropdown box:
   - Remote Agent—Select **Remote Agent** when attaching a HPPM Remote Agent to a UPS load segment.
   - Storage Device—Select **Storage Device** when attaching a shared hard disk storage device to a UPS load segment. Storage devices have the longest runtime so servers accessing this device can save data before shutting down.
   - Other Device—Select **Other Device** for any unmanaged device, such as a router or hub. Unmanaged devices are either on or off and are not shut down gracefully.

4. If output power is supplied by controllable load segments, select the load segment to which the device is attached in the Load Segment dropdown box.
5. If the device type is Remote Agent, enter the host name or IP address in the Host Name or IP Address field.
6. If the device type is Remote Agent or Management Server, enter the estimated time required to shut down the server in the Shut Down OS field.
7. To configure the command procedure SDScript to run at shut down:
   a. Select **Run Command Procedure (SDScript)?** at shutdown.
   b. Edit the SDScript file or create a new SDScript file. A sample SDScript file is landed in the root folder for every Management Server and Remote Agent. The name of the SDScript file must be SDScript.CMD, and this file must remain in the root folder.

      IMPORTANT: SDScript command execution can be a very powerful tool and should be tested thoroughly before being used for the first time in response to a power event. Not all programs and applications are suitable to be executed as a process, especially programs that do not create their own environments. Command execution behavior varies by operating system, and, in general, commands to be executed should be put into a batch file or shell script depending on the operating system that will be executing the commands. Using an SDScript gives you more control over the circumstances in which commands are executed and allows the commands to run in a copy of the environment.

      When selecting commands to be executed in the SDScript file, choose programs and processes that do not require user input or interaction. Since the commands can be executed at any time, it is difficult to predict if a user will be available to interact with any programs that are launched. Verify that specified drive mappings, user specific directories, and programs that require special rights are accessible by the SDScript file.

      Most operating systems have a method for spawning new processes. In Windows operating systems, commands can be preceded with `START`, and in most Linux/Unix systems, `sh` can be used. When designing your SDScript file, determine which commands require a separate process and which commands can be run one after another in the same process. Refer to the documentation that came with your operating system for more information on batch files or script files.

      NOTE: HP Power Manager cannot run an SDScript on a server unless the server has a Remote Agent installed. The SDScript file that will be run must reside on the server on which the command will be executed.

NOTE: HP Power Manager shuts down the operating system gracefully. Use the SDScript file for other tasks, such as backing up files to tape or shutting down a database.

c. Enter the estimated time required to complete the procedure in the Execute Command field.

8. Click **Save Changes** to save the information, or click **Delete Device** to delete the device.

   The device displays under the specific load segment, and any changes that have been made are reflected on the Attached Devices screen. The status icon in front of the device link indicates the attached device agent is communicating with the Management Server, and the versions are compatible. For detailed descriptions of the agent status, refer to "System Tray Icon (on page 110)."

   NOTE: The Delete Device button only displays for devices other than the Management Server.

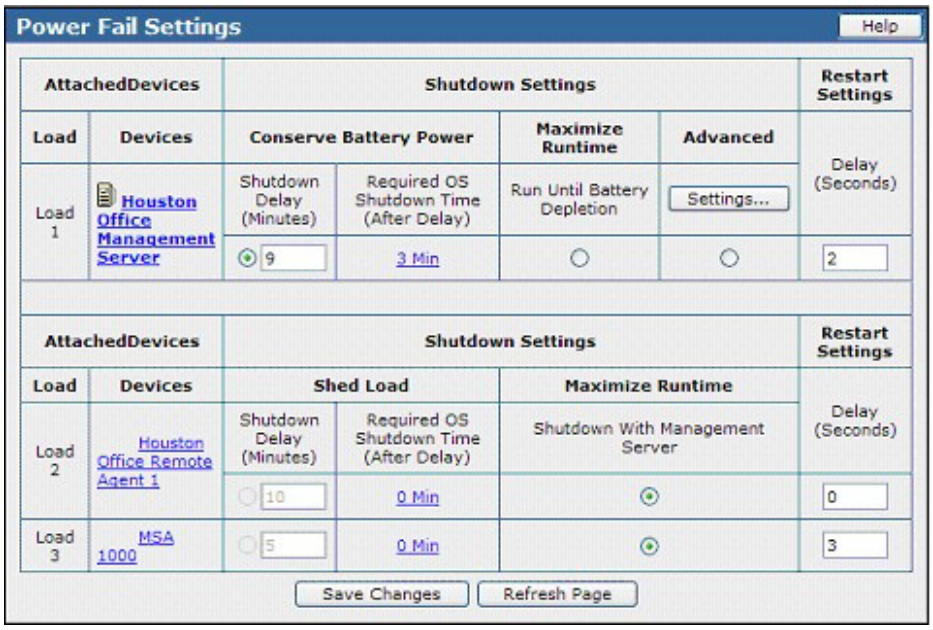
   NOTE: Depending on the specific UPS model, some features might not be supported. The screen shown is only an example.

Power Fail Menu Option

NOTE: The link to this screen does not appear if you do not have administrative rights.

Click **Power Fail** in the left navigation frame to display the Power Fail Settings screen. This screen enables you to configure how the Management Server should shut down attached devices in the event of a power failure.

NOTE: Depending on the specific UPS model, some features might not be supported. The screen shown is only an example.



Configuring the Shutdown Delay for the Management Server Load Segment

1. Click the Management Server link in the Attached Devices column to edit the Management Server information on the Edit/Delete Device screen ("Editing or Deleting an Attached Device" on page 131).

   IMPORTANT: The Management Server is defaulted to load segment 1. Verify the Management Server load segment, and edit the device if necessary.

2. Configure the shutdown settings for the Management Server using one of the three options in the Shutdown Settings column.

– Conserve Battery Power—Select the radio button in the Shutdown Delay column, and enter the number of minutes after power fails that HPPM should wait before starting to shut down the Management Server load segment. The total time needed to gracefully shut down the Management Server is equal to the shutdown delay plus the number of minutes required to shutdown the Management Server operating system. The number of minutes required to shutdown the Management Server can be updated on the Edit/Delete Device screen ("Editing or Deleting an Attached Device" on page 131) by clicking the Required OS Shutdown Time (After Delay) link.

NOTE: The shutdown delay for the Management Server load segment must be as long as or longer than the shutdown delay for all other load segments.

– Maximize Runtime—Select the radio button in the Run Until Battery Depletion column to maximize UPS runtime. HPPM initiates load segment shutdown when the UPS issues a low battery alarm.

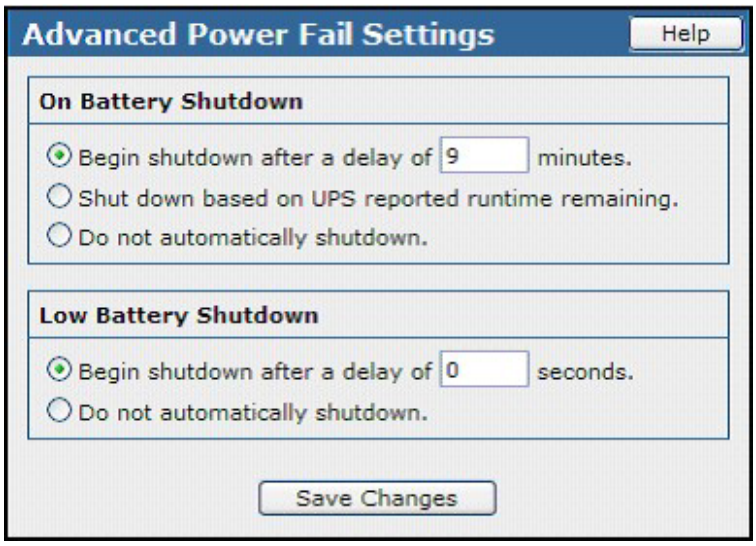
CAUTION: Selecting this option might result in an ungraceful shutdown. The amount of remaining runtime cannot be accurately predicted after a low battery warning is issued.

– Advanced—Select the radio button in the Advanced column, and click the Settings button to configure advanced power fail settings ("Configuring Advanced Power Fail Settings" on page 136).

3. Enter the amount of time HPPM should wait before restarting the Management Server in the Restart Settings column. This option allows utility power to stabilize and disks in shared storage configurations to spin up before the server restarts.
4. Click **Refresh Page** to cancel changes and restore the page settings to the last saved configuration.
5. Click **Save Changes** to save the information.
6. Click **Power Fail** in the left navigation frame to view saved settings.

Configuring Advanced Power Fail Settings

1. Click the **Settings** button in the Advanced section of the Power Fail Settings screen ("Power Fail Menu Option" on page 133) to display the Advanced Power Fail Settings screen.



2. Select one radio button in the On Battery Shutdown field and one radio button in the Low Battery Shutdown field. The following matrix describes the possible combinations.

	Low Battery Shutdown Begin shutdown after a delay selected	**Low Battery Shutdown** Do not automatically shutdown selected

	Low Battery Shutdown Begin shutdown after a delay selected	**Low Battery Shutdown** Do not automatically shutdown selected
On Battery Shutdown Begin shutdown after a delay selected	HPPM initiates system shutdowns after the specified delay when the UPS begins to operate on battery power, unless the UPS issues a low battery alarm before the shutdowns are initiated. If a low battery alarm occurs during the delay countdown, HPPM ignores the on battery settings and observes the low battery shutdown delay setting.	HPPM initiates system shutdowns after the specified delay when the UPS begins to operate on battery power. If a low battery alarm occurs during the delay countdown, HPPM ignores the low battery alarm and continues to observe the on battery shutdown delay setting.[1]
On Battery Shutdown Shutdown based on UPS reported runtime remaining selected	HPPM initiates system shutdowns when the UPS runtime reaches zero, unless the UPS issues a low battery alarm before the shutdowns are initiated. If a low battery alarm occurs during the runtime countdown, HPPM ignores the runtime remaining and observes the low battery shutdown delay setting.	HPPM initiates system shutdowns when the UPS runtime reaches zero. If a low battery alarm occurs during the runtime countdown, HPPM ignores the low battery alarm and continues to observe the runtime countdown.[1]
On Battery Shutdown Do not automatically shutdown selected	HPPM initiates system shutdowns when the UPS issues a low battery alarm. HPPM observes the low battery shutdown delay setting.	HPPM does not initiate any type of system shutdown. Power is maintained until the battery is depleted.[2]

[1] **CAUTION:** Selecting this option might result in an ungraceful shutdown. The amount of remaining runtime cannot be accurately predicted after a low battery warning is issued.

[2] **CAUTION:** Running batteries to depletion can cause an ungraceful shutdown if a second power failure occurs before the batteries have fully charged.

3. Click **Save Changes** to save the advanced settings. The Power Fail Settings screen displays.
4. Click **Save Changes** on the Power Fail Settings screen to apply the saved advanced settings.

Configuring Shutdown for All Other Load Segments

1. Click the device link in the Attached Devices column to edit the device information on the Edit/Delete Device screen ("Editing or Deleting an Attached Device" on page 131).
2. Configure the Shutdown Settings for each device using one of the two options in the Shutdown Settings column.
   - Shed Load—Use the Shed Load option to prioritize load segment shutdown. Select the radio button in the Shutdown Delay column, and enter the number of minutes after power fails that HPPM should wait before starting to shut down the load segment. Enter a shorter delay for load segments that power less critical equipment to preserve UPS battery power for other load segments. The total time needed to gracefully shut down the load segment is equal to the shutdown delay plus the number of minutes required to shut down the operating system. The number of minutes required to shut down the operating system can be updated on the Edit/Delete Device screen ("Editing or Deleting an Attached Device" on page 131) by clicking the Required OS Shutdown Time (After Delay) link.

     NOTE: A load segment that has a storage device attached shuts down with the Management Server. The Shed Load option is not available for this load segment.

   - Maximize Runtime—Select the radio button in the Shutdown With Management Server column to maximize UPS runtime. HPPM initiates load segment shutdown at the time the Management Server shuts down.
3. Enter the amount of time to wait before restarting the attached device in the Restart Settings column. This option allows utility power to stabilize and disks in shared storage configurations to spin up before the server restarts.
4. Click **Refresh Page** to cancel changes and restore the page settings to the last saved configuration.
5. Click **Save Changes** to save the information.
6. Click **Power Fail** in the left navigation frame to view saved settings.

Shutdown Events Menu Option

NOTE: The link to this screen does not appear if you do not have administrative rights.

Click **Shutdown Events** in the left navigation frame to display the Shutdown Events screen. In addition to the typical events (such as power fail events) causing shutdowns, this screen enables you to configure other events for shutdown.

When a shutdown event occurs, HPPM gracefully shuts down all attached devices and UPS load segments.

To specify an event for shutdown:

1. Select **Shutdown?** for the event.
2. Enter the number of minutes to wait between the time the event occurs and the time the device shuts down in the Delay (Minutes) field.
3. Click **Save Changes** to save the information.

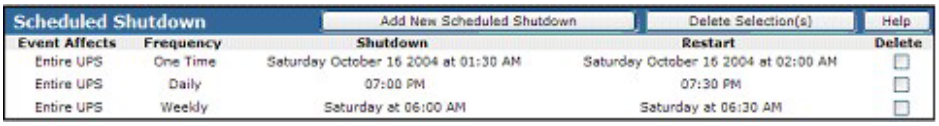
NOTE: Depending on the specific UPS model, this screen might vary. The screen shown is only an example.

NOTE: If the event clears before the delay time has expired, the shutdown is not executed.

Scheduled Shutdown Menu Option

NOTE: The link to this screen does not appear if you do not have administrative rights.

Click **Scheduled Shutdown** in the left navigation frame to display the Scheduled Shutdown screen.



This screen enables you to:

- View a summary of the set times at which the entire UPS shuts down and restarts
- Schedule a one-time shutdown ("Configuring a One-Time Scheduled Shutdown Event" on page 141)
- Schedule a daily shutdown ("Configuring a Daily Scheduled Shutdown Event" on page 142)
- Schedule a weekly shutdown ("Configuring a Weekly Scheduled Shutdown Event" on page 142)
- Delete a scheduled shutdown ("Deleting a Scheduled Shutdown Event" on page 143)

Configuring a One-Time Scheduled Shutdown Event

1. Click **Add New Scheduled Shutdown** on the Scheduled Shutdown screen.

   The Scheduled Shutdown screen appears.

2. In the Frequency field, select the **One Time** radio button to schedule a single shutdown event.
3. Enter the shutdown date and time in the Shutdown field.
4. Enter the restart date and time in the Restart field.

5. Click **Add**.

Configuring a Daily Scheduled Shutdown Event

1. Click **Add New Scheduled Shutdown** on the Scheduled Shutdown screen.

   The Scheduled Shutdown screen appears.

2. In the Frequency field, select the **Daily** radio button to schedule a daily shutdown event.
3. Enter the shutdown time in the Shutdown field.
4. Enter the restart day and time in the Restart field.
5. Click **Add**.

Configuring a Weekly Scheduled Shutdown Event

1. Click **Add New Scheduled Shutdown** on the Scheduled Shutdown screen.

   The Scheduled Shutdown screen appears.

2. In the Frequency field, select the **Weekly** radio button to schedule a weekly shutdown event.
3. Enter the shutdown day and time in the Shutdown field.
4. Enter the restart day and time in the Restart field.

5. Click **Add**.

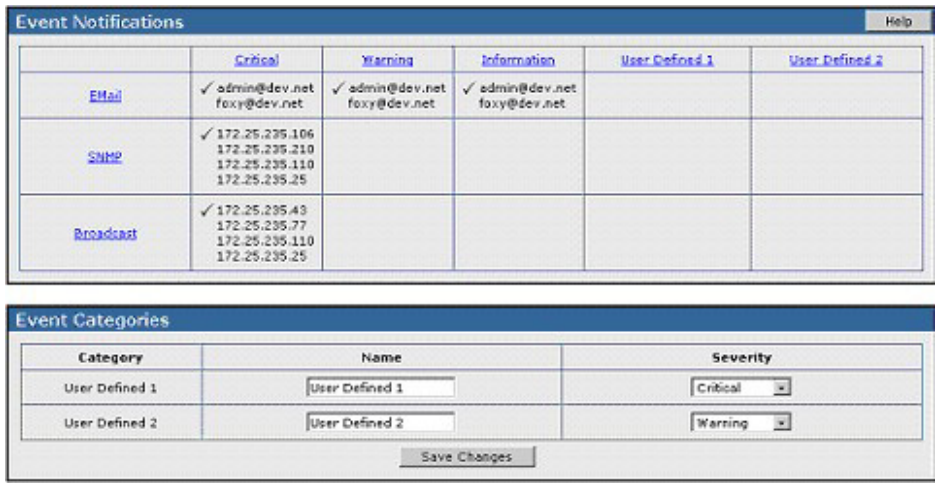
Deleting a Scheduled Shutdown Event

1. Select the checkbox in the Delete column of the Scheduled Shutdown screen for the shutdown event you want to delete.
2. Click **Delete Selection(s)**.

Event Settings Menu Option

NOTE: The link to this screen does not appear if you do not have administrative rights.

Click **Event Settings** in the left navigation frame. The screen that appears contains the Event Notifications and Event Categories tables.



The Event Notifications table enables you to define the event notifications (EMail, SNMP, or Broadcast) the software takes for each event by category (Critical, Warning, Information, User Defined 1, or User Defined 2).

> **NOTE:** You must define the severity of each event according to your environment.

The Event Categories table enables you to create up to two additional event categories, which can be used to define the event notifications. The added categories are displayed as column headings on the Event Notifications table and event Severities screen.

Creating User-Defined Event Categories

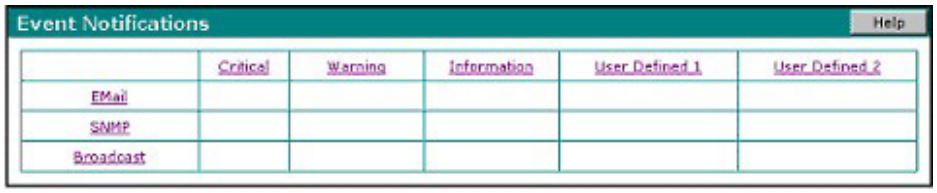
Creating user-defined categories enables you to categorize alarms so that specific alerts are sent to certain groups of people. To create a user-defined event category:

1. In the Event Categories table on the main screen, enter the name of the new category in the Name field.
2. Select the SNMP severity level of the new category in the Severity dropdown box.
3. Click **Save Changes** to save the added information. The added category appears as a column heading on the Event Notification table and Event Severities screen.

Categorizing Individual Events by Severity

To designate a category for an event:

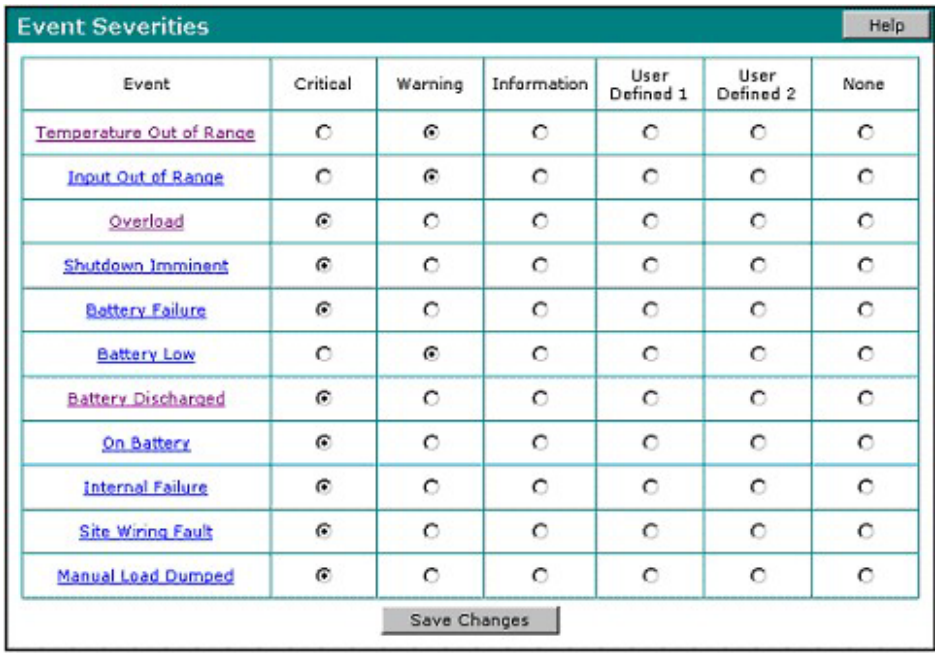
1. In the Event Notification table on the main screen, click any of the category column heading links (Critical, Warning, Information, User Defined 1, or User Defined 2).



   The **Event Severities** screen appears with the events listed in the Event column.

2. Select the radio button for the category into which each event should be placed.

3. Click **Save Changes** to save the information.



Selecting Notification Actions for Events by Category

You can specify an event notification by clicking one of the event notification links (EMail, SNMP, or Broadcast) on the left side of the Event Notifications table on the main screen.

Setting Up E-Mail Notifications

1. Click the **EMail** link on the Event Notifications table in the main screen.

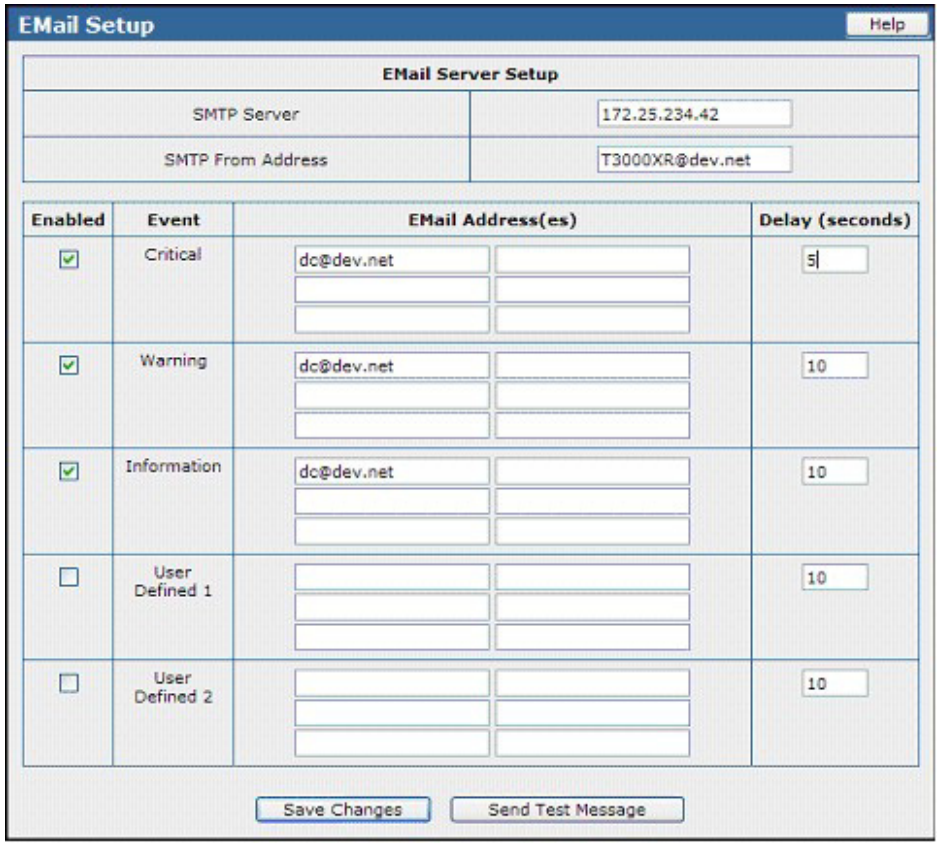
   The **EMail Setup** screen appears.

2. Enter the mail server IP address or host name in the SMTP Server field.
3. Enter the e-mail address that HPPM marks messages as being sent from in the SMTP From Address field.
4. Select the **Enabled** checkbox to indicate that e-mail notifications are sent for events in each category (Critical, Warning, Information, User Defined 1, and User Defined 2).
5. Enter up to six e-mail addresses in the EMail Address(es) field for the persons who should receive e-mail notifications of events that occur in each category.
6. Enter the amount of time to delay before the e-mail is sent in the Delay (seconds) field.

   NOTE: If the event clears before the delay time has expired, then the event notification is not sent.

7. Click **Save Changes** to save the information.

8. Click **Send Test Message** to send a test e-mail.



Setting Up SNMP Trap Notifications

1. Click the **SNMP** link on the Event Notifications table in the main screen.

   The **SNMP Setup** screen appears.

2. Enter the SNMP trap community string in the Trap Community String field (`public` is the default string).

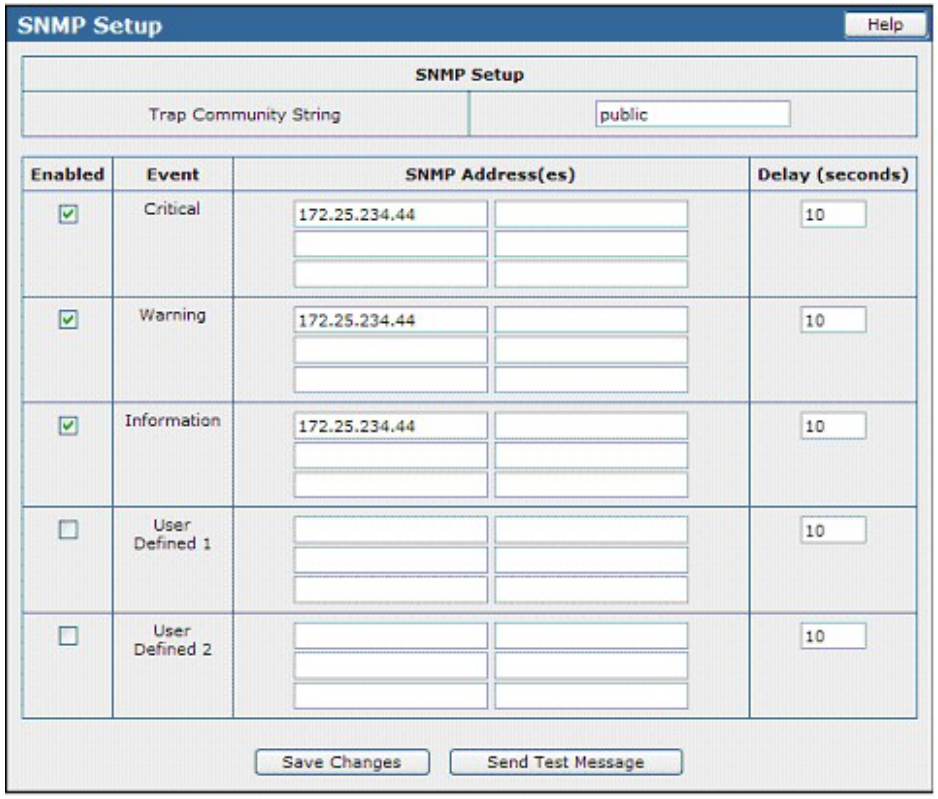
3. Select the **Enabled** checkbox to indicate that SNMP trap notifications are sent for events in each category (Critical, Warning, Information, User Defined 1, and User Defined 2).

4. Enter up to six trap recipients in the SNMP Address(es) field for the computers that receive SNMP trap notifications of events that occur in each category.
5. Enter the amount of time to delay before the trap is sent in the Delay (seconds) field.

   NOTE: If the event clears before the delay time has expired, then the event notification is not sent.

6. Click **Save Changes** to save the information.
7. Click **Send Test Message** to send a test SNMP trap.

For more information on using SNMP to send traps to Insight Manager 7 SP2, refer to "Configuring HPPM with Insight Manager 7 SP2 (on page 193)."



Setting Up Broadcasts

1. Click the **Broadcast** link on the Event Notifications table in the main screen.

   The Broadcast Setup screen appears.

2. Select the **Enabled** checkbox to indicate that broadcast notifications are sent for events in each category (Critical, Warning, Information, User Defined 1, and User Defined 2).

3. Enter up to six broadcast recipients in the Broadcast Address(es) field for the persons who should receive broadcast notifications of events that occur in each category. The broadcast recipient can be an IP address, user name, computer name, or messaging name.

   NOTE: If the recipient is a computer name that contains spaces, the name must be enclosed in quotation marks.

4. Enter the amount of time to delay before the broadcast is sent in the Delay (seconds) field.

   NOTE: If the event clears before the delay time has expired, then the event notification is not sent.

5. Click **Save Changes** to save the information.

6. Click **Send Test Message** to send a test broadcast.

   IMPORTANT: Any computer running Windows® and sending or receiving broadcasts must have the Messenger service enabled. The Messenger service can be accessed from the Services option in the Administrative Tools section of the Control Panel. The Messenger service is turned off by default in Windows® Server 2003.

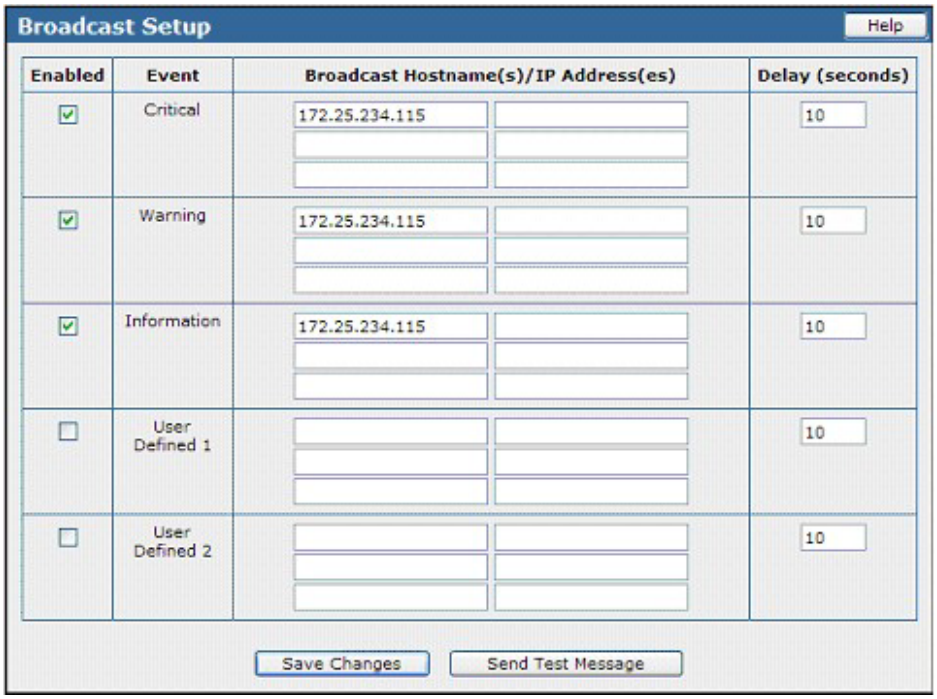
   IMPORTANT: Any computer running Linux that is sending or receiving broadcasts must have the Samba packages installed, configured, and running. If the computer running Linux is to receive broadcasts, Samba must be set to display the received message by adding a message command statement to the Global Settings section of the SMB.CONF file, such as the following:

   ```
   message command = /bin/csh -c 'cat %s | wall; rm %s'
   &
   ```

This statement sets Samba to route the broadcast message to the `wall` command, which displays the message on the system (either in a terminal window, at the console, or in a pop-up message, depending on the display environment), then deletes the message. The Samba processes must be restarted after editing the SMB.CONF file to enable the changes. For more information, refer to the Samba documentation on the Samba website (http://www.samba.org).

In addition, for a Linux Management Server to send broadcast to either Windows® or Linux systems (or both), entries must be added to the /etc/hosts file on the Management Server for each host name to which it broadcasts.

For example, to broadcast from a Linux Management Server to a Windows® workstation named "george" at IP address 143.85.41.121, add the following to the hosts file: `143.85.41.121  george`

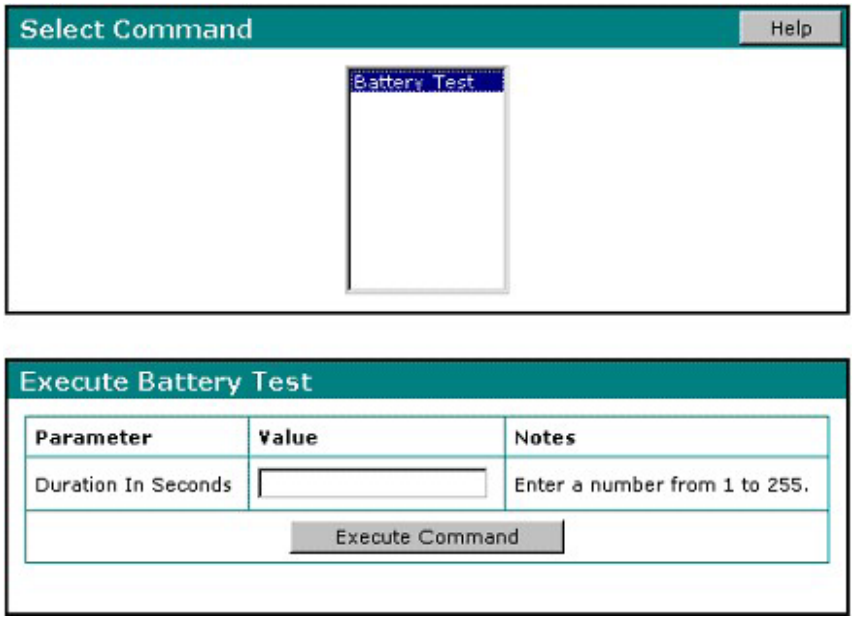


Manual Control Menu Option

NOTE: The link to this screen does not appear if you do not have administrative rights.

Click **Manual Control** in the left navigation frame. The screen that displays contains the Select Command and Execute Command boxes. These boxes enable you to select and execute UPS commands manually.

NOTE: Depending on the specific UPS model, some features might not be supported. The screen shown is only an example.



Executing the Battery Test Command

1. Select **Battery Test** in the Select Command box.

   The Execute Battery Test box appears.

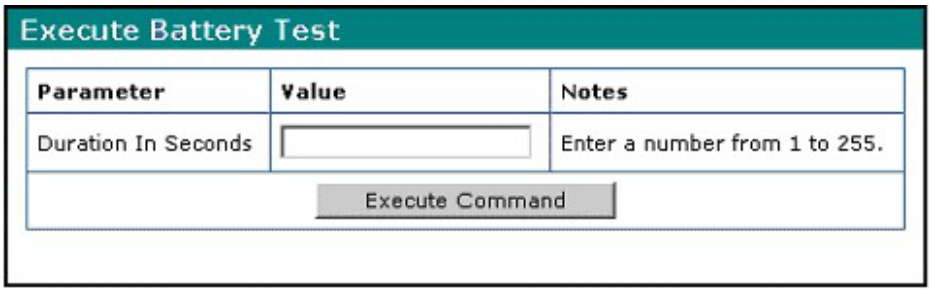
2. Enter the amount of time that the device runs on battery while running the test in the Duration In Seconds field. HP recommends that you do not set this to exceed 30 seconds.

   CAUTION: Selecting this option might result in an ungraceful shutdown.

3. Click **Execute Command** to execute the control command and start the test. The results of the test display on the UPS Parameters screen in the Test Results Summary field, and a log entry is created in the Applications Log. For more information on this screen, refer to "Parameters Menu Option (on page 124)."

   IMPORTANT: Do not run a battery test while the UPS is On Battery.

   NOTE: Depending on the specific UPS model, some features might not be supported. The screen shown is only an example.



Settings Menu Option

NOTE: The link to this screen does not appear if you do not have administrative rights.

Click the **Settings** menu option in the left navigation frame to display the Settings screen. This screen enables you to enter contact information (such as name, e-mail, and phone number) and values for settable UPS parameters. The information entered on this screen appears on the Identifications and UPS Parameters screens. For more information, refer to "Identification Menu Option (on page 123)" and "Parameters Menu Option (on page 124)."

To enter contact information and UPS settings:

1. Enter or select the date on which the battery was installed in the Battery Installed Date field.
2. Enter the name of the contact person in the Contact field.
3. Enter the e-mail address of the contact person in the Contact Email field.
4. Enter the phone number of the contact person in the Contact Phone field.
5. Enter the name of the UPS in the Device Name field.

6. Click **Save Changes** to save the information.

Data Logs

In this section

Logs Tab 155

Logs Tab

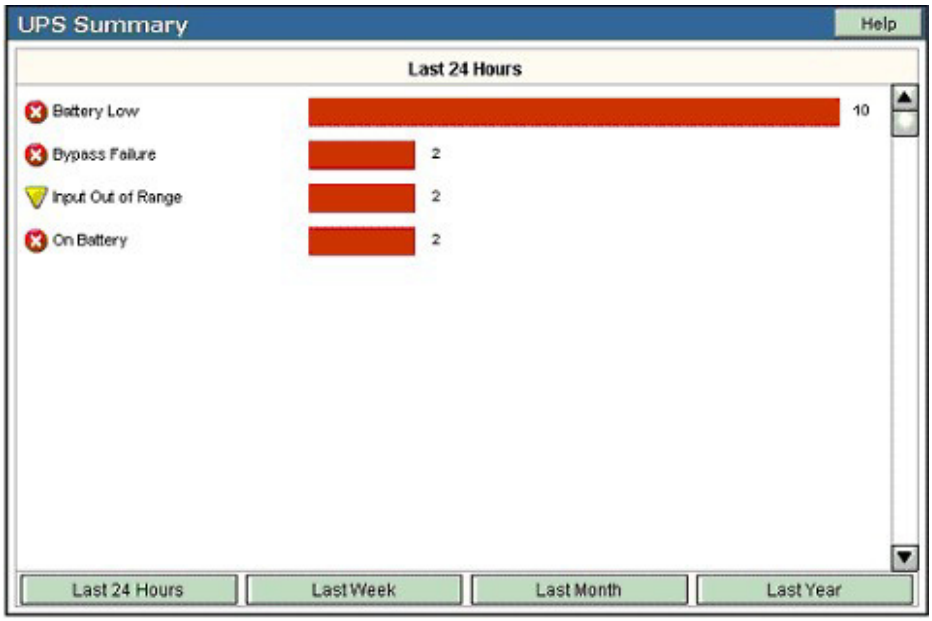
Menu options listed under the Logs tab include:

- UPS Summary Menu Option (on page 155)
- UPS Detailed Menu Option (on page 157)
- UPS Data Menu Option (on page 159)
- UPS Data Graph Menu Option (on page 162)
- Application Menu Option (on page 163)

UPS Summary Menu Option

NOTE: Since HP Power Manager uses a flash player, this screen displays differently if you are browsing to the Management Server from an HP-UX client browser. Currently there is not a HP-UX flash player available. If you are browsing from a Windows or Linux client browser, all pages appear with full flash support.

Click **UPS Summary** in the left navigation frame to display the UPS Summary screen. This screen displays a graphical view of the events that have occurred on the UPS for a selected period. A status icon on the left side of the each event indicates the current state of the event (Warning or Critical). The number on the right side indicates the number of times the alarm has been reported during the period (for example, the Battery Low alarm has occurred 10 times in the last 24 hours).



To change the period displayed, click one of the following buttons:

- Last 24 Hours
- Last Week
- Last Month
- Last Year

NOTE: The period ends the moment you click the button. For example, if you click **Last 24 Hours**, the software counts back 24 hours from the time you clicked the button and displays the events that occurred during that time period.

Click an event name to display more information about the selected event and recommended actions to take.

UPS Detailed Menu Option

Click **UPS Detailed** in the left navigation frame to display the UPS Detailed screen. This screen displays a log of the events that have occurred on the UPS, such as the UPS switching to battery power. The following information is displayed for each event:

- **Severity—**An icon indicating the severity or status of the alarm (Critical, Warning, Information, or Cleared)
- **Description—**The name of the event (click the event name to display more information, such as a detailed description and recommended actions to take)
- **Date—**The date at which the event occurred
- **Time—**The time at which the event occurred

NOTE: The log can be sorted by clicking any of the column headings.

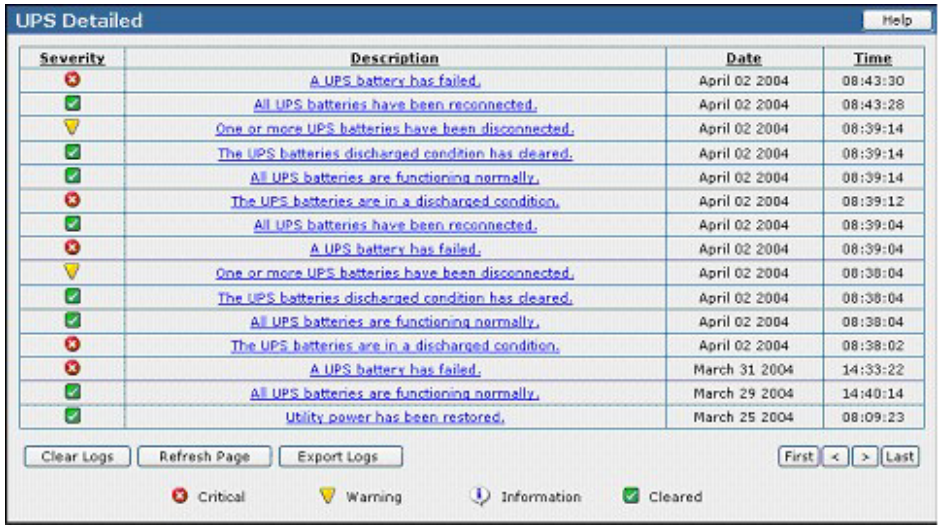
On the UPS Detailed screen:

- Click **Clear Logs** to clear the log files.
- Click **Refresh Page** to update the screen with current log information.
- Click **Export Logs** to export the event log ("Exporting a UPS Event Log" on page 158).

To navigate through the log entries:

- Click **First** to go to the first entry in the log.
- Click **<<** to scroll to the previous page in the log.
- Click **<** to scroll to the previous entry in the log.
- Click **>** to scroll to the next entry in the log.
- Click **>>** to scroll to the next page in the log.

- Click **Last** to go to the last entry in the log.



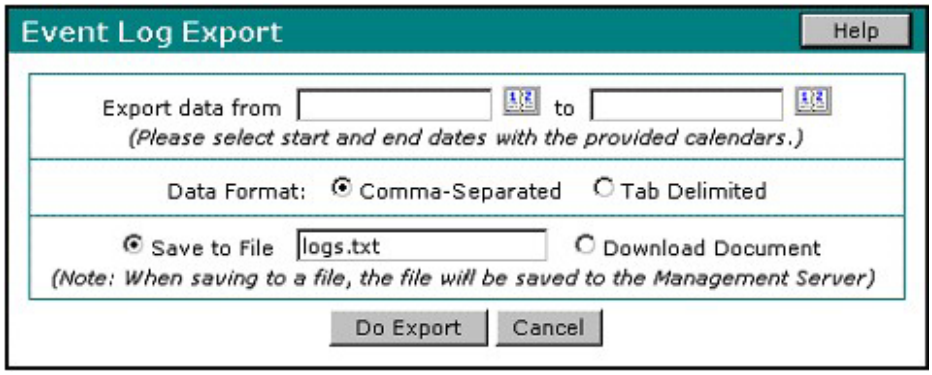
Exporting a UPS Event Log

1. Click **Export Logs** at the bottom of the UPS Detailed screen.

   The Event Log Export screen appears.

2. Enter the date range of the data in the Export data from and to fields.
3. Select **Comma-Separated** or **Tab Delimited**.
4. Do one of the following:
   - To save the file to the Management Server, select **Save to File,** and enter the name of the file. The file is saved in the HPPM Install folder. This file is overwritten every time a log file is saved with the same name. To save multiple log files, use a different name for each file.
   - To download the document to a specified location, select **Download Document**.

5. Click **Do Export** to export the file, or click **Cancel** to cancel the operation.



HPPM exports Japanese logs into two different file types. Refer to the following table to determine the file type for your operating system.

Operating System	Saved File Type	Downloaded File Type
Red Hat Linux	EUC-JP	UTF-8
SUSE Linux	EUC-JP	UTF-8
HP-UX	EUC-JP	UTF-8
Windows	UTF-8	UTF-8

UPS Data Menu Option

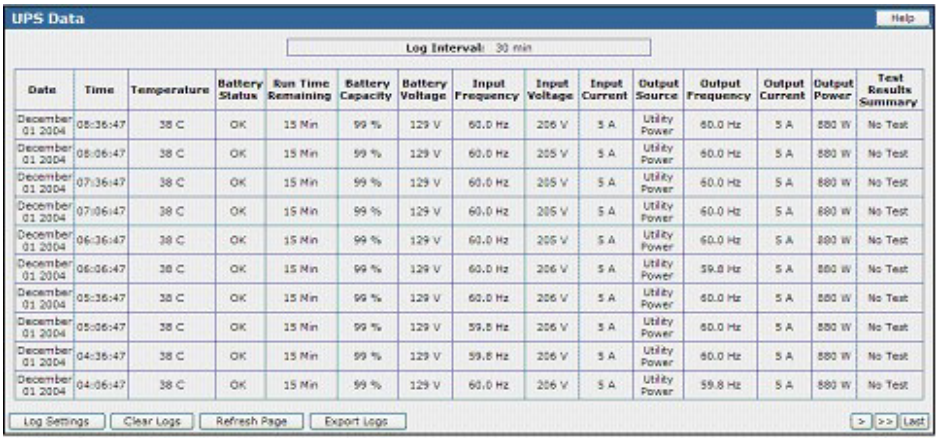
Click **UPS Data** in the left navigation frame to display the UPS Data screen. This screen displays a log of all UPS data that has been recorded, such as Input Voltage, Temperature, and Battery Capacity.

- Click **Log Settings** to change the logging interval.
- Click **Clear Logs** to clear the log files.
- Click **Refresh Page** to update the screen with current log information.
- Click **Export Logs** to export the data log ("Exporting a UPS Data Log" on page 161).

To navigate through the log entries:

- Click **First** to go to the first entry in the log.
- Click **<<** to scroll to the previous page in the log.
- Click **<** to scroll to the previous entry in the log.
- Click **>** to scroll to the next entry in the log.
- Click **>>** to scroll to the next page in the log.
- Click **Last** to go to the last entry in the log.

NOTE: Depending on the specific UPS model, some features might not be supported. The screen shown is only an example.



Changing UPS Data Log Settings

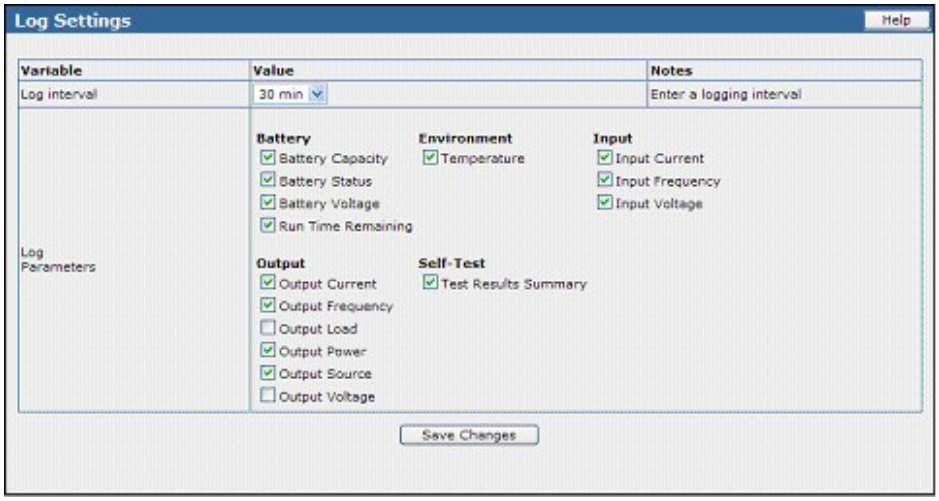
1. Click **Log Setting** at the bottom of the UPS Data screen.

   The Log Settings screen appears.

   NOTE: Only users with administrative rights can edit the information on this screen.

2. Select the log interval in minutes using the dropdown box in the Log interval row. The lower the log interval, the more frequently disk space is used.
3. Select the checkbox for each parameter you want to display in the log.

4. Click **Save Changes** to save the changes.



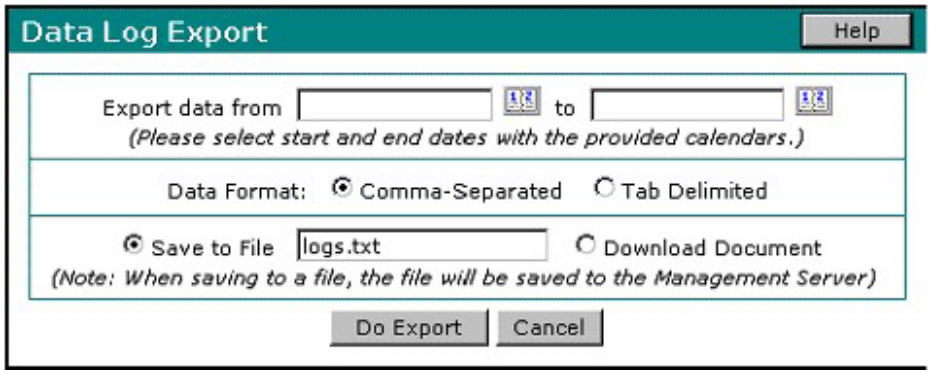
Exporting a UPS Data Log

1. Click **Export Logs** at the top of the UPS Logs screen.

   The Data Log Export screen appears.

2. Enter the date range of the data in the Export data from and to fields.
3. Select **Comma-Separated** or **Tab Delimited**.
4. Do one of the following:
   - To save the file to the Management Server, select **Save to File,** and enter the name of the file. The file is saved in the HPPM Install folder. This file is overwritten every time a log file is saved with the same name. To save multiple log files, use a different name for each file.
   - To download the document to a specified location, select **Download Document**.

5. Click **Do Export** to export the file, or click **Cancel** to cancel the operation.



HPPM exports Japanese logs into two different file types. Refer to the following table to determine the file type for your operating system.

Operating System	Saved File Type	Downloaded File Type
Red Hat Linux	EUC-JP	UTF-8
SUSE Linux	EUC-JP	UTF-8
HP-UX	EUC-JP	UTF-8
Windows	UTF-8	UTF-8

UPS Data Graph Menu Option

NOTE: Since HP Power Manager uses a flash player, this screen displays differently if you are browsing to the Management Server from an HP-UX client browser. Currently there is not a HP-UX flash player available. If you are browsing from a Windows or Linux client browser, all pages appear with full flash support.

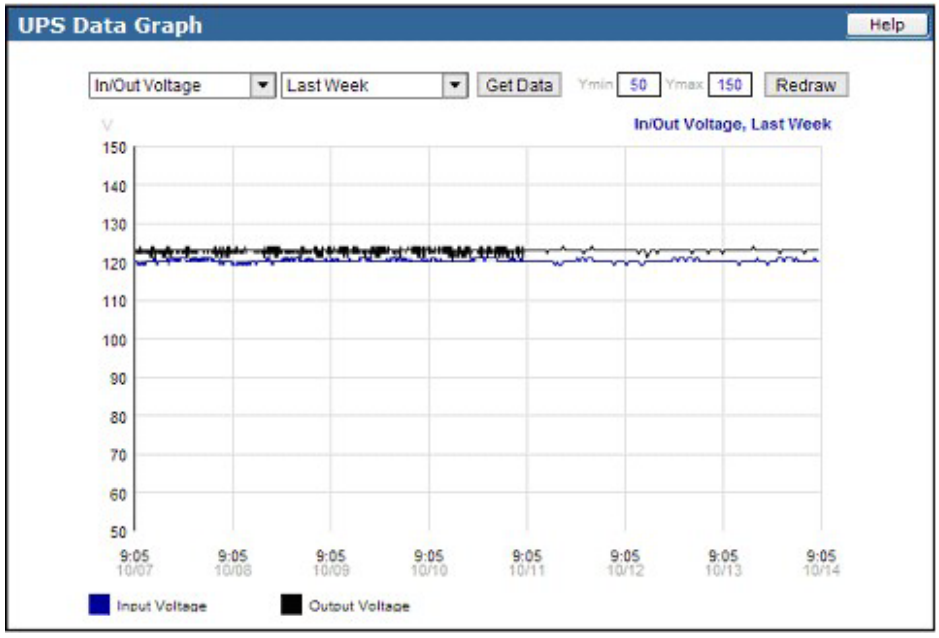
Click **UPS Data Graph** in the left navigation frame to display the UPS Data Graph screen. This screen enables you to create line graphs of logged numerical UPS data. To create a graph:

1. Select the parameter you want to graph in the first dropdown box.
2. Select the amount of data you want to graph in the second dropdown box, starting with the present and going back in time.

3. Click **Get Data**. The graph appears.

To adjust the Y axis of the graph:

1. Enter the appropriate values in the Ymin and Ymax fields.
2. Click **Redraw**.



Application Menu Option

NOTE: The link to this screen does not appear if you do not have administrative rights.

Click **Application** in the left navigation frame to display the Application Logs screen. This screen displays a log of all application events that have occurred, such as a user logging in. The following information is displayed for each application event:

- **User—**The login name of the user who performed the action
- **Description—**A description of the application event

- **Date—**The date at which the event occurred
- **Time—**The time at which the event occurred

NOTE: The log can be sorted by clicking any of the column headings.

On the Application Logs screen:

- Click **Clear Logs** to clear the log files.
- Click **Refresh Page** to update the screen with current log information.
- Click **Export Logs** to export the application log ("Exporting an Application Log" on page 165).

To navigate through the log entries:

- Click **First** to go to the first entry in the log.
- Click **<<** to scroll to the previous page in the log.
- Click **<** to scroll to the previous entry in the log.
- Click **>** to scroll to the next entry in the log.
- Click **>>** to scroll to the next page in the log.
- Click **Last** to go to the last entry in the log.

Exporting an Application Log

1. Click **Export Logs** at the bottom of the Application Logs screen.

   The Application Log Export screen appears.

2. Enter the date range of the data in the Export data from and to fields.
3. Select **Comma-Separated** or **Tab Delimited**.
4. Do one of the following:
   - To save the file to the Management Server, select **Save to File,** and enter the name of the file. The file is saved in the HPPM Install folder. This file is overwritten every time a log file is saved with the same name. To save multiple log files, use a different name for each file.
   - To download the document to a specified location, select **Download Document**.
5. Click **Do Export** to export the file, or click **Cancel** to cancel the operation.

HPPM exports Japanese logs into two different file types. Refer to the following table to determine the file type for your operating system.

Operating System	Saved File Type	Downloaded File Type
Red Hat Linux	EUC-JP	UTF-8
SUSE Linux	EUC-JP	UTF-8
HP-UX	EUC-JP	UTF-8

Operating System	Saved File Type	Downloaded File Type
Windows	UTF-8	UTF-8

Account Setup and Help

In this section

Setup Tab 167
Help Tab 169

Setup Tab

Menu options listed under the Setup tab include:

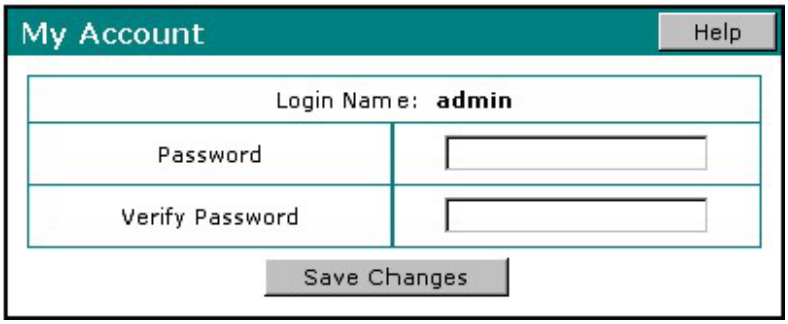
- My Account Menu Option (on page 167)
- User Accounts Menu Option (on page 168)

My Account Menu Option

Click **My Account** in the left navigation frame to display the My Account screen. This screen enables you to change your login password.

To change your password:

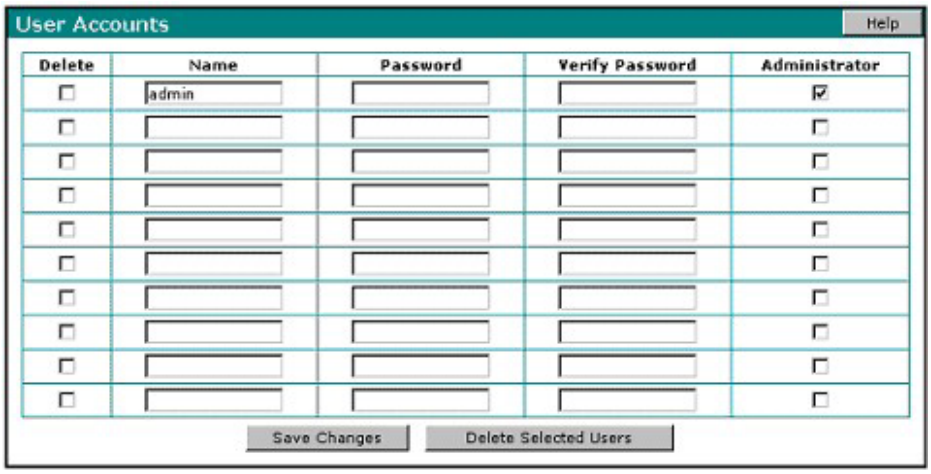
1. Enter the new password in the Password field.
2. Enter the new password again in the Verify Password field.
3. Click **Save Changes** to save the new password.



User Accounts Menu Option

NOTE: The link to this screen does not appear if you do not have administrative rights.

Click **User Accounts** in the left navigation frame to access the User Accounts screen. This screen enables administrators to manage user accounts.



Adding a User Account

1. Enter the user's login name in the Name field.
2. Enter the user's password in the Password field.
3. Enter the user's password again in the Verify Password field.
4. If the new user is given administrator rights, select the **Administrator** checkbox.
5. Click **Save Changes** to save the new user account information.

Modifying a User Account

If you have administrator rights, you can change a user's login name or password. You can also add or remove administrator rights to the user's account.

Changing a User Login Name

1. Enter the changed name in the Name field.
2. Enter the user's password in the Password field.
3. Enter the password again in the Verify Password field.
4. If the user has administrator rights added or removed, select or deselect the **Administrator** checkbox.
5. Click **Save Changes** to save the updated user account information.

Changing a User Password

1. Enter the user's login name in the Name field.
2. Change the password:
   a. Enter the new password in the Password field.
   b. Enter the new password again in the Verify Password field.
3. If the user has administrator rights added or removed, select or deselect the **Administrator** checkbox.
4. Click **Save Changes** to save the updated user account information.

Deleting a User Account

1. Select the **Delete** checkbox for the user account that is to be removed.
2. Click **Delete Selected Users** to delete the user account. The account is removed and no longer appears on the User Accounts screen.

Help Tab

Menu options listed under the Help tab include:

- About Menu Option (on page 170)
- Contents Menu Option (on page 171)
- Info & Updates Menu Option (on page 173)

About Menu Option

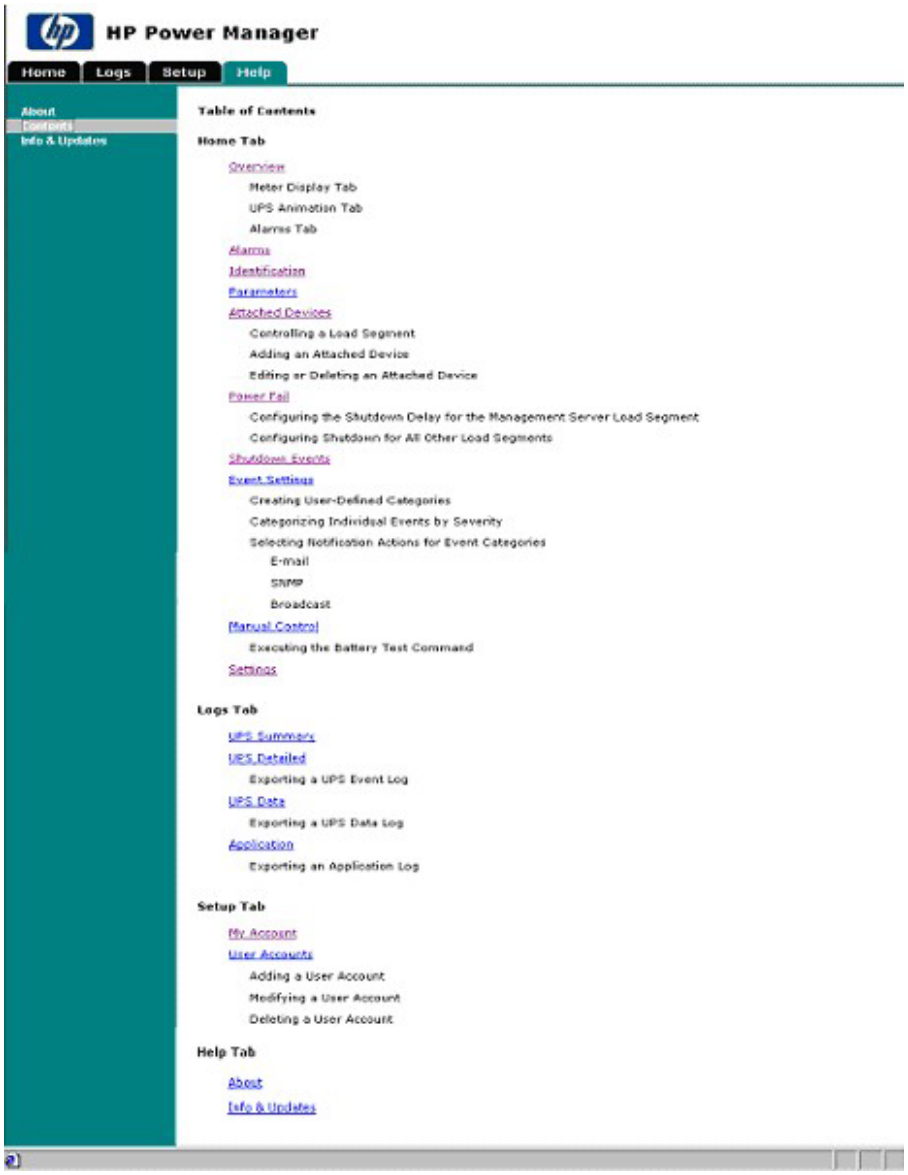
Click **About** in the left navigation frame to display the About HP Power Manager screen. This screen displays information about the company and product.

The screen contains a link to the HP Power Products page (http://www.hp.com/products/ups), as well as the following hyperlinked logos:

- HP Invent (http://www.hp.com)
- Macromedia Shockwave/Flash (http://www.macromedia.com)
- GoAhead (http://www.goahead.com)

Contents Menu Option

Click **Contents** in the left navigation frame to display the Contents screen. This screen provides a list of the links to help topics.


HP Power Manager
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Logs
Setup
Help
About
Contents
Info & Updates
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Meter Display Tab
UPS Animation Tab
Alarms Tab
Alarms
Identification
Parameters
Attached Devices
Controlling a Load Segment
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Power Fail
Configuring the Shutdown Delay for the Management Server Load Segment
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Exporting a UPS Data Log
Application
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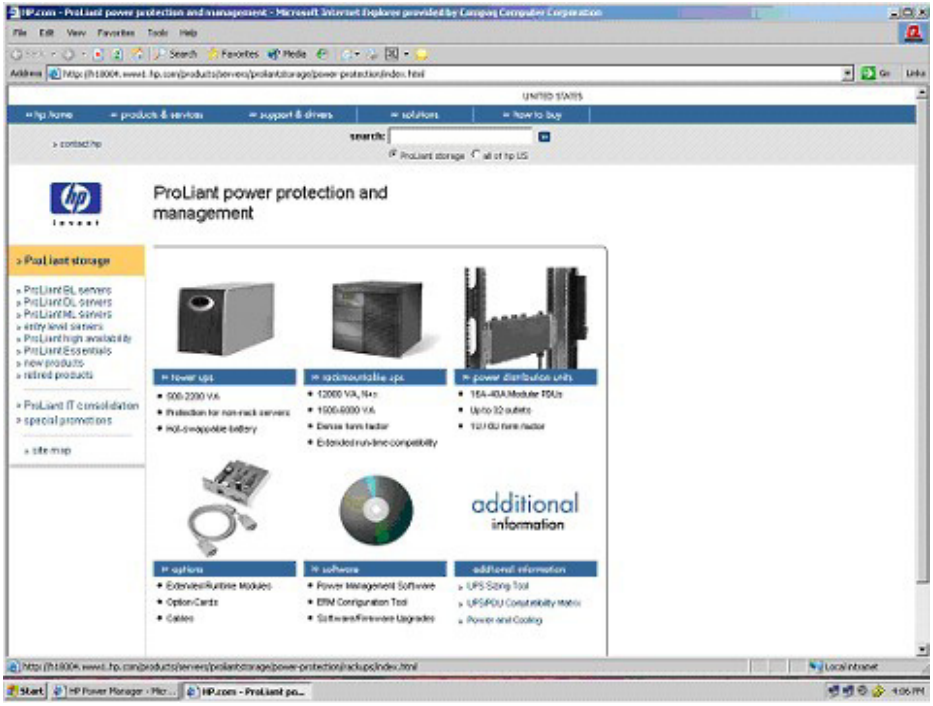
User Accounts
Adding a User Account
Modifying a User Account
Deleting a User Account
Help Tab
About
Info & Updates

Info & Updates Menu Option

Click **Info & Updates** in the left navigation frame to access the Info & Updates screen. This screen displays UPS information, online registration, and links to HP.



Troubleshooting

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Attached Device Did Not Shut Down Gracefully

Action: Be sure the shutdown settings do not exceed the UPS runtime.

Battery Test Complete Not Displayed

Action: View the results of the battery test on the Logs and Reports screen.

Battery Test Did Not Run

Possible Cause: The UPS is On Battery.

Action: The UPS must be in a certain state before the battery test runs. For more information, refer to the section, "Parameters Menu Option (on page 124)."

Broadcast Messages Are Not Displaying

Possible Cause:

- The broadcast setup under HPPM is incorrect.
- The Messenger service is not enabled.

Action:

- For broadcast messages from Linux to Windows®, the Netbios name of the recipient must be used. Also, refer to "Setting Up Broadcasts (on page 149)."
- Enable the Messenger service. The messenger service is accessed from the Services option in the Administrative Tools section of the Control Panel.

Cannot Access HPPM After Installation

Possible Cause:

- The Management Server software might not be running.
- An HTTP port number other than the default (80) was selected during installation.
- Other Web servers or Web-based applications are running on the same port.
- You chose SSL during installation.
- Clicking **Exit** from the system tray menu only removes the HPPM icon from the system tray.

Action:

- To start the Management Server:

  For Windows®, right-click the icon in the system tray, and select **Start Service**, or from the Start Menu, select **Programs>HP Power Manager>HP Power Manager Status.**

  For Linux, run `/etc/rc.d/init.d/DevMan start.`

  For HP-UX, run `/sbin/init.d/DevMan start.`

- Be sure to include this port number when browsing to HPPM. For example, if you chose port `1234` during installation, enter the following in your browser for HPPM access:

  http://hostname:1234

  where *hostname* is either a machine name or an IP address.

- Do one of the following:
  - Be sure that no other Web servers or Web-based applications are running on the same port.
  - Try using another port during installation or reconfiguration.
- Be sure to use HTTPS instead of HTTP in your browser to access HPPM. For example, https://hostname:1234 would establish an SSL link to HPPM running on port 1234.

- Restart the system tray icon by selecting **Programs>HP Power Manager>HP Power Manager Status** from the Start Menu. Right-click the system tray icon, and select **Stop Service** form the context menu.

DevManRA.nlm Does Not Load Correctly

Possible Cause: Install is unable to retrieve the hostname.

Action: Verify the host file and ensure no leading zeros are in the IP address (for example 172.025.240.230), which can cause failure to obtain the hostname.

E-Mail Notifications Are Not Received from an HP-UX Management Server

Action: Add the IP address and host name of the e-mail server to the host file of the computer running the HPPM Management Server software.

Event Notification Messages Do Not Appear on Console Screen

Action: If you are using SLES 9, upgrade the KDE or use a different desktop, such as GNOME.

Input Frequency Shows Zero

Symptom: During a battery test the input frequency shows zero, but the input frequency shows a regular line voltage.

Possible Cause: When executing a battery test, the parameters might show incorrect information.

Action: Verify the parameters after the battery test is complete.

Invalid IP Address

Possible Cause: IP addresses are not checked for validity.

Action: Verify that the IP address entered is valid.

Linux Shows Garbage Characters and Cannot Install the Flash Player Utility

Possible Cause: This is a function of the browser.

Action: Save the Flash Player setup file to the local drive and run it from there.

Low Battery Warning Is Displayed

Action: Plug the UPS into an AC grounded outlet for at least 24 hours to charge the batteries, and then test the batteries. Replace the batteries if necessary.

Management Server Shows No Device or UPS Not Connected

Symptom: After changing the UPS hardware, the Management Server shows `No Device` or `UPS Not Connected`.

Possible Cause: The Management Server cannot communicate with the UPS because of the change.

Action:

- Reconfigure the UPS with new settings:
  - For Windows, right-click the icon in the system tray, and select **Configure.**
  - For Linux, run `/etc/rc.d/init.d/DevMan setup`.

  - For HP-UX, run `/sbin/init.d/DevMan setup`.
- Verify the connection is the same as previously installed.

Manual Load Dumped Alarm Not Working

Symptom: For the R3000 XR, turning off the UPS from the front panel does not result in a "Manual Load Dumped" alarm.

Possible Cause: The "Manual Load Dumped" alarm is not supported on this model.

Action: No action is required.

Network Attached UPS Not Discovered

Action:

1. Be sure the network cable is properly connected.
2. Verify the password that is configured in the network option card installed in the UPS. The default password is `MustB6`. The password is case sensitive.
3. Verify that the IP address entered is the same as the IP address configured in the card.
4. Verify that the network settings are correct.

No Power

Action: Verify that the UPS is connected to a working outlet and that the UPS is powered up.

No Shutdown Warning Messages on the NetWare 6 System Console

Action: View the Power Manager Remote Agent screen for broadcast messages.

On Battery Alarm

Action: The UPS continues to run on battery power until the battery is completely discharged (or until utility power is restored), unless the shutdown parameters specify to turn off both the system and the UPS.

On Boost Alarm

Possible Cause: The input voltage is too low for the UPS. The UPS boosts the voltage up to acceptable limits.

Action: For information on Boost mode, refer to the UPS documentation.

On Buck Alarm

Possible Cause: The input voltage is too high for the UPS. The UPS bucks the voltage down to acceptable limits.

Action: For information on Buck mode, refer to the UPS documentation.

Overload Alarm

Possible Cause: The device load has exceeded the UPS power rating.

Action: Verify all equipment is drawing within the rated requirements. If necessary, reduce the equipment connected to the UPS. The UPS might need to be reset.

Receiving a Security Error

Symptom: Security error: Domain Name mismatch message when trying to browse with SSL.

Possible Cause: The IP address or server name has changed.

Action: Stop the service, delete the certificate file, and restart the service.

Red Status Icon Displays

Symptom: After adding a Remote Agent on the Attached Devices screen, a red status icon continues to display for that Remote Agent.

Possible Cause:

- The Remote Agent software might not be running.
- The Remote Agent might not be configured to allow management from the address of the Management Server.

Action:

- Start the Remote Agent software:
  - For Windows, right-click the icon in the system tray, and select **Start Service.**
  - For Linux, run `/etc/rc.d/init.d/DevMan start.`
  - For HP-UX, run `/sbin/init.d/DevMan start.`
  - For Netware, load the agent from the directory to which it was installed, such as SYS:HPPM/DEVMANRA.NLM, using the forward slashes to separate directories.
- Configure the Remote Agent to allow management by the Management Server:
  - For Windows, right-click the icon in the system tray, and select **Configure**, or select **Programs>HP Power Manager>Configure HP Power Manager** from the Start Menu.
  - For Linux, run `/etc/rc.d/init.d/DevMan setup.`
  - For HP-UX, run `/sbin/init.DevMan setup.`
  - For NetWare, uninstall and reinstall the Remote Agent according to the instructions in "Installing Components on NetWare Operating Systems (on page 104)."

Save Button Does Not Appear on Advanced Power Fail Settings Screen

Action: Be sure that the screen resolution is not set above 1024 x 768. If necessary, reduce the resolution to 1027 x 768.

Serial Attached UPS Not Discovered by a ProLiant DL145 Management Server

Possible Cause: The serial port on the ProLiant DL145 has two functions. The serial port acts like a standard serial port and serves as an interface to the management processor within the server. The constant switching of the serial port between these two functions does not permit reliable serial communication between the Management Server and the UPS.

Action: Connect the UPS to the server using a USB cable or a network cable.

Servers Running Windows® Server 2003 Do Not Restart

Symptom: Servers running Windows® Server 2003 do not restart upon power restoration following a power fail shutdown.

Possible Cause: This is a known Windows® Server 2003 behavior on some servers.

Action: Refer to the Microsoft® Knowledge Base article 819760.

Shows Shutdown Events Succeeding Messages

Symptom: HPPM shows shutdown events succeeded message when entering a valid or an invalid entry for delay without selecting the **Shutdown** checkbox.

Possible Cause: Delay in application.

Action: Delay can be saved before the selecting the **Shutdown** checkbox.

Silent Install Did Not Execute Successfully

Action:

- Verify the command line parameters are correct.
- Verify the configuration .ini file is valid.
- Verify the Setup.iss destination path is correct.
- Refer to the InstallShield Knowledge Base article 101901 for the setup.log result code.

Task Bar Menu Does Not Clear

Symptom: The task bar menu does not clear when clicking off the menu onto the Windows® desktop.

Possible Cause: This is a known Windows® behavior.

Action: Start another application or open a new window, and the issue disappears.

Unable to Browse into HPPM

Possible Cause: The Mozilla default settings are incorrect.

Action: Open the all.js file in the mozilla/defaults/pref folder, and change the lines as indicated in the section, "Mozilla Settings (on page 29)."

Unable to Discover a UPS

Action:

- Verify that the UPS is connected to the correct communications port (COM1, COM2, and so on).
- Verify that no other software or processes are accessing the communications port to which the UPS is attached.
- Verify that you are using the communications cable that came with the UPS.
- Verify that resources for the selected communications port (such as I/O port or IRQ) are not shared with other devices.
- Try a different communications port.

Unable to Discover the HP UPS R6000

Action:

1. Verify that the baud rate for the serial com ports on the UPS R6000 are configured to at least 9600 baud.
2. Verify that the correct serial cable is used to connect the UPS to the computer.

Unable to Locate the .INI Files for a Silent Install

Possible Cause: The DevManRA.ini and DevManBE.ini files are automatically created in the top-level program directory.

Action:

- For Windows®, if installed to the default location, the files are located at /Program Files/HP/Power Manager on the Management Server, and at /Program Files/HP/Power Manager Remote Agent on the Remote Agent.
- For Linux, both files can be found at /usr/local/DevMan.
- For HP-UX, both files can be found at `/opt/DevMan`.

Unable to Reboot the Machine

Possible Cause: If the system hangs when the InstallShield wizard for the Remote Agent is left open and minimized during the attempted reboot.

Action: Manually power off the machine.

Unable to Start the HPPM Service for Linux

Symptom: You cannot start the service for Linux, or the error message `Segmentation fault /usr/local/DevMan` displays.

Possible Cause:

- The server name and IP address are incorrect.
- Files are missing

Action:

- Update the server name and IP address on /etc/hosts.
- Install the file compat-libstdc++7.3-2.96.110.i386.rpm, which is required by the HPPM Linux package (PowerManager-4.0-10i586.rpm).

Unable to Uninstall Macromedia Flash Plug-in on Microsoft Windows Operating Systems

Action: Download the uninstaller provided on the Macromedia website (http://www.macromedia.com).

Alert Messages

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HPPM Alert Messages

This software enables you to execute a command and send an e-mail, broadcast notification, and SNMP traps to specified recipients if a certain alert situation prevails.

The following table lists all message texts and a description of each alarm.

Alarm Text	Description
Battery Discharged	• The battery is not fully charged. • The battery has been discharged to its maximum discharged state. • The UPS was on battery for long enough to exhaust the battery capacity and has shut down.
Batteries Disconnected	The UPS detects that at least one of the batteries is not connected. Backup power is either gone or considerably reduced.
Battery Failure	• The battery contactor/breaker is open. • The battery voltage has exceeded a predetermined limit. Operating with this alarm set can cause permanent battery or system damage. • A battery problem has been detected. • A battery test has been executed, and the battery failed the test. • The charger circuit has detected possible bad batteries or an open circuit in connections to the batteries.
Battery Low	The battery voltage level has dropped below the predetermined "low battery warning" level.
Bypass Failure	The bypass input voltage is not available for transfer. This condition might be caused by over or under voltage, over or under frequency, out of phase lock, or other reasons.

Alarm Text	Description
Bypass ON Auto	The UPS is on bypass, and the critical load does not have power protection.
Bypass ON Manual	A user has flipped a switch (for example, Maintenance Bypass) that bypasses the UPS.
Check Breaker	• The inverter output contactor/breaker is open. • The rectifier/charger input breaker is open.
Electronics Module Failure	For an "n+1" parallel system, one of the power modules has failed.
EPO Initiated	The UPS has shut down because of the activation of the remote EPO signal.
Input Out of Range	• Input (Utility) fault: Measured input voltage has exceeded the upper voltage limit specification for normal operation. • Input (Utility) fault: Measured input voltage is less than the lower voltage limit specification for normal operation. • Input (Utility) fault: Measured input frequency is outside the upper or lower frequency limit specification for normal operation. • Rectifier fault: Measured rectifier input current exceeds the upper current limit specification for normal operation. • The utility input power is not within predetermined limits. This is possibly caused by over voltage, under voltage, over frequency, under frequency, or over current. • The utility input is not present, and detected voltage is zero.

Alarm Text	Description
Internal Failure	• An attempt to automatically recalibrate the UPS has failed. • Charger fault: The battery charger has failed. • DC Link fault: Measured DC link voltage has exceeded the upper voltage limit specification for normal operation. • At least one fan in the UPS has failed. • At least one fuse in the UPS has failed and must be replaced. • Inverter fault: Measured inverter output voltage has exceeded the upper voltage limit specification for normal operation. • Inverter fault: Measured inverter output voltage is less than the lower voltage limit specification for normal operation. • The inverter module has failed its power up self-test or its continuous self-test. • Inverter fault: The inverter has failed. • The inverter output has failed and cannot support the load. The reasons for this alarm are, for example, inverter over or under voltage, over or under frequency, distorted waveform, and output out-of window. • Inverter fault: The measured inverter output current exceeds the upper current limit specification for normal operation. • The inverter output voltage sensor has not been calibrated. • For a parallel system, this module has detected that the sync bus is not active. • A test of the device EEPROM has detected a checksum failure. The device either has not been programmed or contains suspicious data. • A test of the device ROM has detected a checksum or CRC error. The device's operating code is suspicious and should be replaced or reflashed. • In a multi-module system or internally to a UPS with multiple controllers, the firmware versions in place are not compatible with each other.
Manual Load Dumped	The load power is off. This alarm is used to record the date and time of an EPO event.
On Battery	The UPS is using the battery to power the load.
On Boost	The UPS detected a low input condition and is increasing input voltage to a nominal level.

Alarm Text	Description
On Buck	The UPS detected a high input condition and is reducing input voltage to a nominal level.
Output Out of Range	• Measured output voltage has exceeded the upper voltage limit specification for normal operation. • Measured output voltage is less than the lower voltage limit specification for normal operation. • Measured output frequency is outside the upper or lower frequency limit specification for normal operation.
Overload	• Overload alarms are sent based on the individual UPS model overload protection specifications that are available in the UPS documentation. • The load on the UPS output phase exceeds its rated current or power by more than a small margin over 100%. The inverter can only sustain this overload for a short time without shutting down because of overheating.
Remote Agent Not Connected	A Remote Agent is not communicating with the Management Server to which it is associated.
Shutdown Imminent	The UPS has entered a state where it might abruptly shut down without further notice. It might continue to operate indefinitely, even with this alarm being issued.
Shutdown Pending	A condition in the UPS will lead to the loss of power to the loads in less than the Low Battery Time, unless the condition is cleared or removed.
Site Wiring Fault	There is a fault in the input wiring, other than Phase Rotation (for example, Ground/Neutral reversed).
Temperature Out of Range	• An ambient temperature probe has detected that the temperature is above its upper limit. • A heatsink at an unspecified location in the UPS has failed. • An input or output transformer used by the UPS has exceeded its upper temperature limit.
UPS Not Connected	The Management Server is unable to communicate with the UPS.
UPS Started On Battery	The UPS has been started on battery when AC input power is not present. This alarm is used to record the date and time of this event.

Using HPPM with Insight Manager 7 SP2

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Insight Manager 7 SP2 Overview

HPPM can be configured to send alert traps to Insight Manager 7 SP2, as well as other SNMP management applications. To send event alert traps to Insight Manager 7 SP2:

1. Configure Insight Manager 7 SP2 to receive a trap from HPPM.
2. Configure the software to send the appropriate event alert traps.

If the software is installed using the default HTTP on port 80, a link to the software appears on the device home page in Insight Manager 7 SP2 for the computer with HPPM.

If the defaults are not used, a new entry can be made to the additionalwsdisc.props file, located in the CONFIG directory in the Insight Manager 7 SP2 install directory, to correctly discover and identify HPPM running on any computer. Beginning with the SP2 release, Insight Manager 7 SP2 is installed in the C:\Program Files\HP\Insight Manager 7 SP2 directory by default. For more information on editing the additionalwsdisc.props file, refer to the additionalwsdisc.txt file located in the same directory.

Example B-1: ADDITIONALWSDISC.PROPS file with HPPM Entry

```
# ------------------------------------------------
----------------------

# Additional Web Server Discovery Properties

#
```

```
# ------------------------------------------------------
----------------------

# NOTE: See "additionalWsDisc_README.txt" for a
description of entries in

# this file and how to add or remove additional web
server ports used for

# discovery and identification.

# ------------------------------------------------------
----------------------

#

# ------------------------------------------------------
----------------------

#  The following are actual web server ports enabled
by default.

#  To remove them from the discovery process, comment
out the line with a '#'

#  or remove it. You will need to restart the Insight
Manager 7 service for

#  the changes to take effect. In addition you will
need to run the Device

#  Identification task to find any new ports that were
defined.

# ------------------------------------------------------
----------------------

411=Director Agent, ,true,false, ,http

3201=Compaq TaskSmart, ,true,false, ,https
```

```
8008=Default Home Page, ,true,false, ,http

1311=Server Administrator, ,true,false, ,https

1234=HP Power Manager, ,true,false, ,https
```

The last entry allows Insight Manager 7 SP2 to detect HPPM installations that are running on port 1234 and using HTTPS (Secure Socket Layer protocol).

Configuring Insight Manager 7 SP2

Verify that the HPPM MIB (CPQRPM.MIB) is registered in Insight Manager 7:

1. Upload the HPPM MIB. The HPPM MIB (CPQRPM.MIB) can be found on the HP Rack and Power Management Pack CD and in the install folder of the HPPM Management Server.
2. Register the HPPM MIB.

   NOTE: For additional information on uploading and registering and MIB in Insight Manager 7 SP2, refer to the *HP Insight Manager Technical Reference Guide* located on the HP Management CD.

Configuring HPPM with Insight Manager 7 SP2

To configure the software to send traps to Insight Manager 7 SP2:

1. Add the Insight Manager 7 SP2 server as an SNMP Trap recipient.
2. Configure the software to send alert notifications to Insight Manager 7 SP2 as SNMP traps.

Using HPPM with HP Systems Insight Manager

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HP Systems Insight Manager Overview

HPPM can plug into HP SIM. As a plug-in to HP SIM, you can:

- Discover HPPM Management Servers. As part of the HP SIM discovery process, HP SIM can detect an installed Management Server. It can be launched from the HP SIM Servers Links tab.
- Receive SNMP traps from the HPPM Management Server. This software can send event-based traps to HP SIM that include a URL in the trap. This functionality enables administrators to easily launch HPPM in context. For example, if a UPS goes on battery power, the Management Server can send a trap to HP SIM with an attached hyperlink that routes users directly to the Device Overview page for that UPS.
- Conveniently launch HPPM from within HP SIM.
  - Tools menu—Users can add a link to the Home page on the HP SIM Tools menu using a tools definition file.
  - Servers Links tab—The Home page can be launched from the HP SIM Servers Links tab.
  - Event-based trap—A URL is included in each trap to link directly from HP SIM to the Device Overview page for the specific device for which the trap was sent.

Discovering HP Power Manager

HP SIM automatically detects Management Servers as part of the device discovery process. If detected, an HPPM hyperlink is included on the HP SIM Links page for the system with the Management Server component installed. HPPM services should be installed and running before attempting discovery through HP SIM. If HPPM services are not running, it will not appear on the HP SIM Links tab.

Receiving SNMP Traps

Before HP SIM can receive traps, the correct MIB file (CPQRPM.MIB) must be compiled into HP SIM. By default, CPQRPM.MIB version 1.6 is registered. Unregister the version 1.6 MIB and register the version 1.7 MIB located in the MIB folder of HP Rack and Power Management Pack CD.

To verify, unregister, and register an MIB:

1. From the HP\Systems Insight Manager\mibs folder, note the version of CPQRPM.MIB.
2. If the MIB is not version 1.7, run MXMIB -D CPQRPM.MIB from the HP\Systems Insight Manager folder to unregister the MIB.
3. Verify that the MIB is successfully unregistered by entering `HP\Systems Insight Manager>mxmib` at the command line. Verify that the old MIB is not listed.
4. Delete and replace or copy over CPQRPM.MIB with the correct version.
5. From the HP\Systems Insight Manager\mibs folder, run `mcompile cpqrpm.mib` from the command line to compile the new MIB. A new file named CPQRPM.CFG is created.
6. Register the new MIB by entering `mxmib -a cpqrpm.cfg` from the HP\Systems Insight Manager\mibs command line.
7. Verify that the new MIB is registered by entering `HP\Systems Insight Manager\mibs>mxmib` at the command line.

NOTE: For more information on uploading and registering a MIB in HP SIM, refer to the *HP Systems Insight Manager Technical Reference Guide* located on the HP Management CD.

Launching HPPM from the HP SIM Tools Menu

A launch link for each instance of HPPM can be added to the HP SIM Tools menu. Configure the links using a tool definition file for each instance of the software.

Using the command line interface, perform the following steps to add a tool definition file to HP SIM:

1. Create or copy and edit the tool definition file, and save it with an .xml file name extension. For example, `HPPowerManager.xml`.

   A sample tool definition file named HPPM.XML is landed in the root directory.

   IMPORTANT: The only information that should be edited is shown in bold text.

   Example:

```
<?xml version="1.0" encoding="UTF-8" ?>
<tool-list>
   <web-launch-tool name="HPPM" max-targets="1"
   revision="4.0">
      <category>Local Tools</category>
      <description>HP Power Manager</description>
      <execute-as-user>root</execute-as-user>
      <toolbox-enabled value="true" />
      <web-block accepts-targets="false">
        <main-url>http://172.25.234.206</main-url>
      </web-block>
      <attribute name="menu-path">Tools|Integrated
      Consoles</attribute>
      <attribute name="i18n-
      attrs">TOOL,HPPowerManager</attribute>
      <attribute name="target-frame">RPMFrame</attribute>
   </web-launch-tool>
------
   <web-launch-tool name="HPPM1" max-targets="1"
   revision="4.0">
```

```
        <category>Local Tools</category>
        <description>HP Power Manager</description>
        <execute-as-user>root</execute-as-user>
        <toolbox-enabled value="true" />
        <web-block accepts-targets="false">
          <main-url>http://172.25.234.207</main-url>
        </web-block>
        <attribute name="menu-path">Tools|Integrated
        Consoles</attribute>
        <attribute name="i18n-
        attrs">TOOL,HPPowerManager</attribute>
        <attribute name="target-frame">RPMFrame</attribute>
    </web-launch-tool>
</tool-list>
```

Where:

- **HPPM** and **HPPM1** are the names of each configuration that appears on the Tools menu in HP SIM. The name should be descriptive enough so that it reflects what it is linked to. For example, "HP Rack and Power Management server (Houston)." Because several instances of the software can be added to this menu, HP recommends that this name be unique for every instance.
- **HP Power Manager** is the description name of the application. This name appears only in the list of tool definition files and assists the user in determining which tool definition is for what application.
- **http://172.25.234.206 and http://172.25.234.207** are the IP addresses of the Management Servers.

2. Copy the tool definition file you created in step 1 to the HPSIM program folder. The default folder is HP\Systems Insight Manager.
3. If you are running a Japanese operating system, copy the provided properties file `HPPowerManager_ja.properties` to the HPSIM program folder. The default folder is HP/Systems Insight Manager.
4. From the HPSIM program folder, run `setnimbusenv`.
5. From the HPSIM program folder, run `mxtool -a -f` *<filename.xml>*, where *<filename.xml>* is the name you chose in step 1. For example: `mxtool -a -f HPPowerManager.xml.`
6. Log out of the current browser session, stop and start the HP Systems Insight Manager services, and then log back in before using the new link.

7. Launch HPPM by selecting **Tools>Integrated Consoles>HPPM**.

   NOTE: After a tool is added, you can edit the tool by modifying the XML tool definition file and committing the changes using `mxtool -m` from the command line. For a complete description of mxtool arguments, refer to hpwebadmin\webapps\mxhelp\mxportal\man\mxtool.1m.html in the HPSIM program folder.

HP Power Manager Security Considerations

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Security Considerations Overview

HP Power Manager implements strict security for two important reasons:

- HP Power Manager has managed devices that have the potential to perform operations that are sensitive and destructive.
- The application has browser accessibility.

To better ensure the security of HP Power Manager and the devices it manages, consider the following topics in accordance with your organization's security policies and the environment in which HP Power Manager will operate.

- Access to HP Power Manager requires an account in HP Power Manager. Logging in requires the use of a user name and password, which should be kept properly secured.
- Each account in HP Power Manager can be given different access levels, providing different capabilities. Ensure that the appropriate access level is granted to users of HP Power Manager.
- Browsing to HP Power Manager can be done using SSL, which encrypts the data between the browser and Management Server. The level of encryption supported by HP Power Manager is 128-bit. SSL also provides authentication of the Management Server by means of its digital certificate. Securely importing this certificate must be done to ensure the identification of the Management Server.
- The UPS network adapter requires a password, which should be changed and kept properly secured. The default adapter password is `MustB6`.

IMPORTANT: The password you enter must match the password configured in the UPS network adapter. If you want to change the password, first configure the adapter with the new password, and then enter the new password during the Management Server configuration process. For more information about configuring the adapter, refer to the HP Power Products CD that came with the adapter.

Configuring HP Power Manager with an Enabled Firewall

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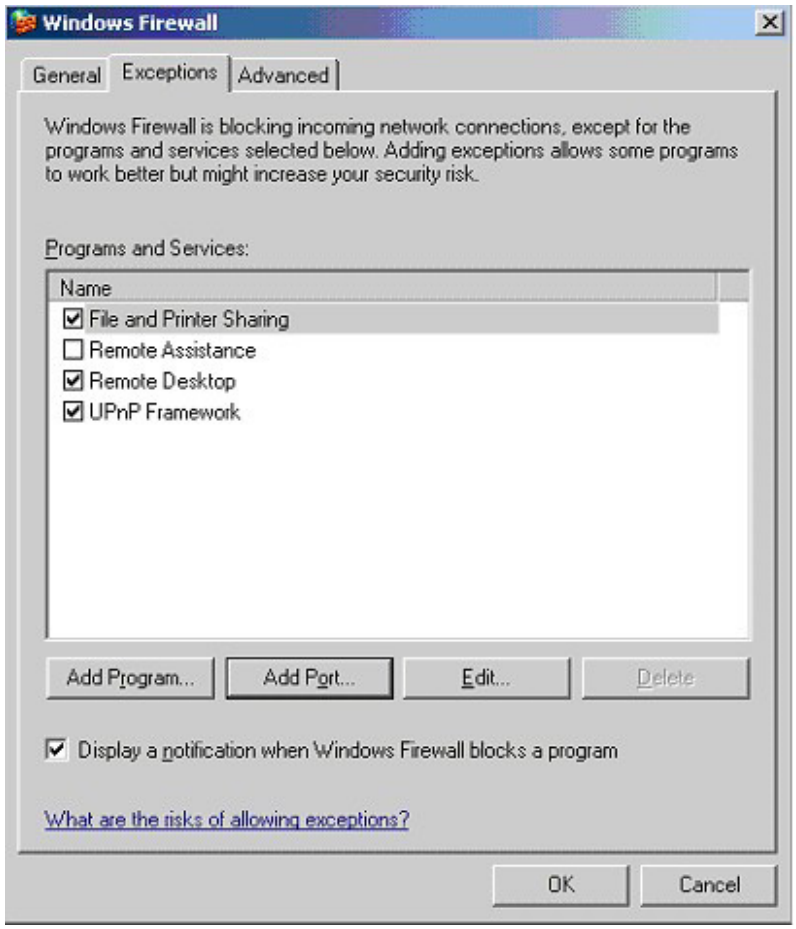
Configuring HP Power Manager with an Enabled Firewall

Enabled firewalls block most communication though unused IP ports. This prevents the Management Server and Remote Agents from using port 3573 to communicate. The following Windows firewall settings are necessary for the proper operation of HP Power Manager through port 3573.

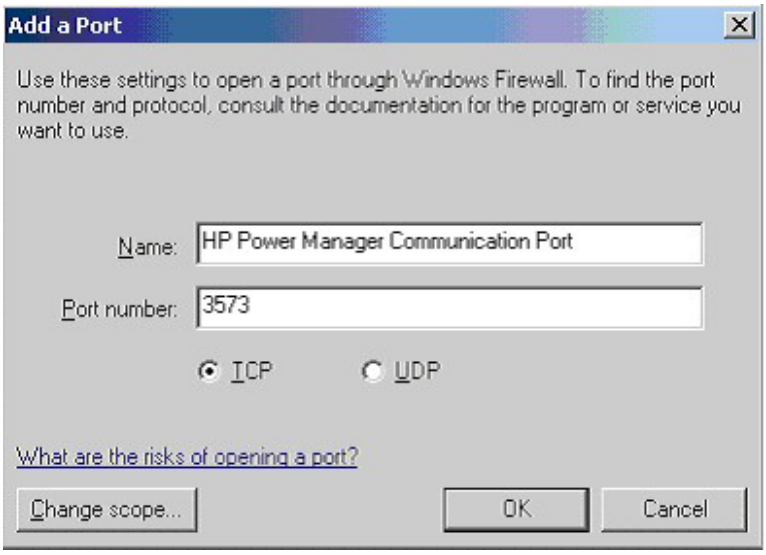
1. Click **Start>Settings>Control Panel.**
2. Open **Network Connections.**
3. Click **Properties.**
4. Click the Advanced tab.
5. Select the **Internet Connections Firewall** checkbox.

The Windows Firewall screen appears.



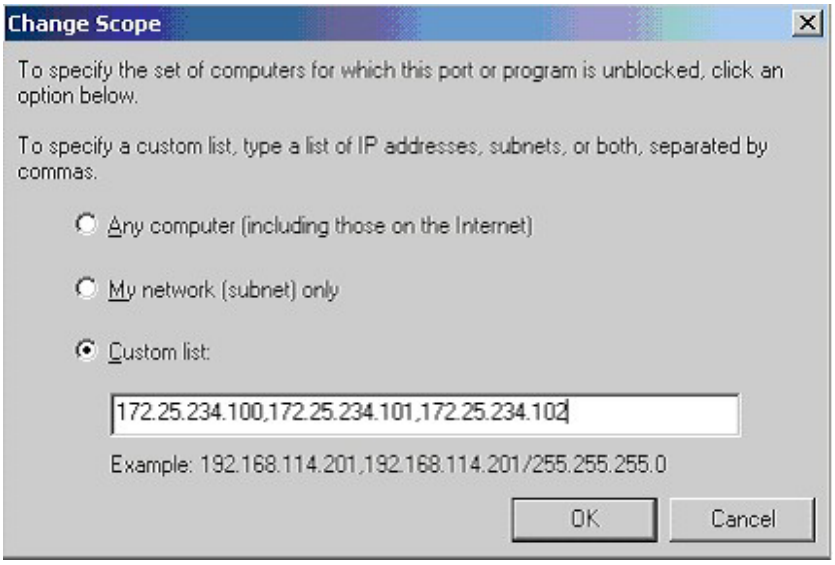
6. Click the Exception tab, and then click **Add Port**.

The Add a Port screen appears



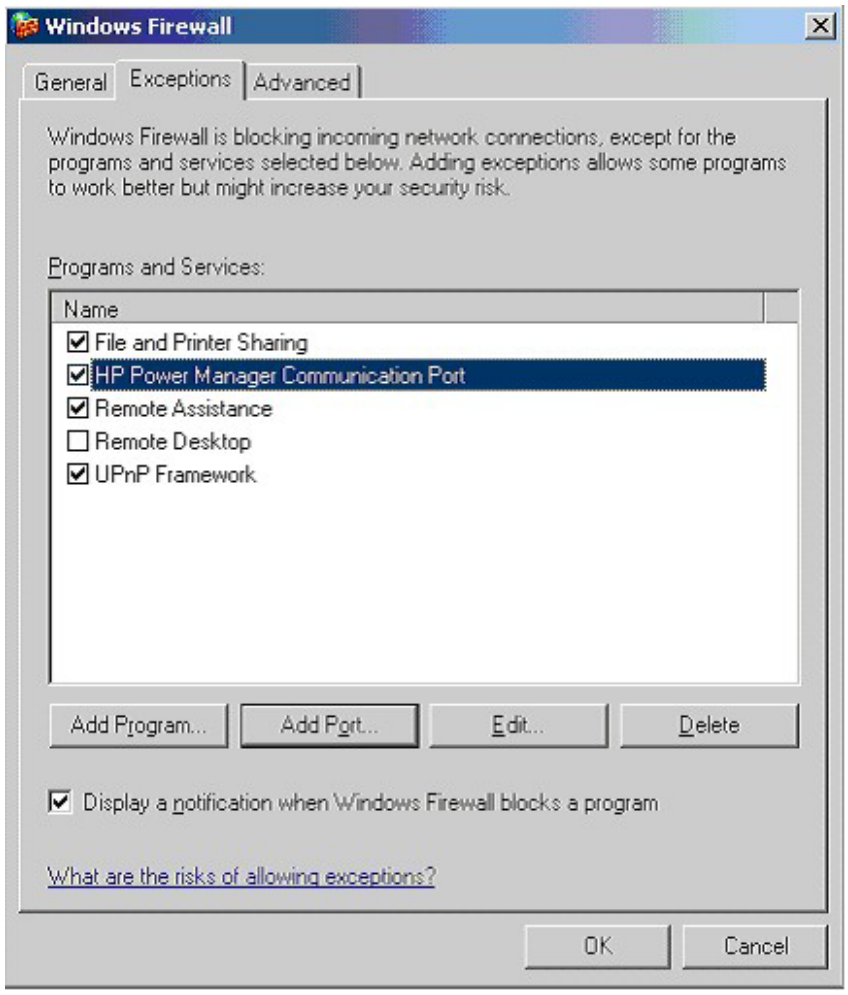
7. Enter the name for the new port in the Name: field.
8. Enter 3573 in the Port number: field.
9. Select the TCP radio button.

10. (optional) Click **Change scope** to add security settings to the port, and then click **OK**.



11. Click **OK** to finish adding the port.

The Windows Firewall screen appears and displays the newly added port.



Acronyms and abbreviations

CRC

cyclic redundant checks

DNS

domain name system

EEPROM

electrical erasable programmable read only memory

EPO

emergency power off

EULA

end user license agreement

GUI

graphical user interface

HPPM

Hewlett-Packard Power Manager

HTTPS

hyper text transfer protocol secure sockets

I/O

input/output

IP

Internet Protocol

IRQ

interrupt request

MIB

management information base

RAM

random access memory

SAM

system administration manager

SIM

Systems Insight Manager

SNMP

Simple Network Management Protocol

SSL

Secure Sockets Layer

TCP

Transmission Control Protocol

UPS

uninterruptible power system

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