

# Deploying and Configuring the New HP Rack and Power Manager

Bob Pereira / Ken Baker  
Advanced Technology Manager  
HP ISS Rack & Power



## HP Rack and Power Manager 1.0



### What is HP Rack and Power Manager?

- ❑ HP Rack and Power Manager is a Enterprise class Web-based application that enables administrators to manage large numbers of devices (HP Uninterruptible Power Systems "UPS" and Console Management Controllers "CMC") from a single management console.
  - Tower UPSs—UPS T700, UPS T1000 XR, UPS T1500 XR, UPS T2200 XR
  - Rack UPSs—UPS R1500 XR, UPS R3000 XR, UPS R6000, UPS R12000 XR
  - CMCs—Rack environmental monitoring devices
- ❑ A browser interface provides secure remote access (128-bit SSL encryption) to management agents anywhere on your network
  - Internet Explorer version 6.0 or Netscape Version 6.2 and Later
- ❑ Rack and Power Manager software can be configured to send alert traps to HP Insight Manager or other SNMP-management programs or run as a standalone power management system.



## HP Rack and Power Manager 1.0 Features



### ■ UPS

- Configure redundant UPSs to support servers with multiple power supplies (New Feature)
- Manage a graceful shutdown of attached equipment during utility power failures
- Manage independent UPS load segments to provide separate power control of connected equipment
- Shut down and reboot any UPS and attached equipment based on a user-specified schedule (One Time, Daily & Weekly)
- Shut down and reboot any UPS and attached equipment based on load segment
- Delay restart by load segment after a power outage to sequence the startup of system components
- Display UPS logs for analysis (New feature Graphical Logs)
- Monitor the status of UPSs and perform UPS diagnostics



## HP Rack and Power Manager 1.0 Features



### ■ CMC

- Configure and monitor the CMC sensors and options (air temperature, shock/vibration, humidity, intrusion, smoke detection, and front and back door locks)
- Display CMC logs for analysis (New feature Graphical Logs)
- Remotely or locally monitor and controlling rack environments monitor set thresholds for CMC sensors and to take action when conditions are detected to be outside the threshold.

## HP Rack and Power Manager 1.0 Features



### ☐ Customize alerts

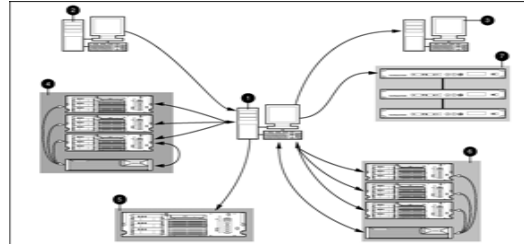
- Send email notification messages
- Send broadcast notification message
- Send SNMP traps
- Issue computer commands
- Perform device actions

### ■ General

- Can be configured to take action on multiple devices based on an event of a single device.
- Rack and Power Manager has the ability to issue commands to servers that the software recognizes.
- Scripted installs for System and Serial Relay Agents.

## Rack & Power Manager Architecture

HP WORLD 2003  
FUTURE OF BUSINESS COMPUTING & POWER



- **Rack and Power Manager leverages a distributed architecture that consists of three major components:**
  - Management Server
  - System Agent
  - Serial Relay Agent

[Rev. # or date]

HP confidential - unrestricted at announcement

page 6

## Management Server



- **The Rack and Power Manager application runs on a single server, which acts as the management console. The Management Server communicates with discovered and managed CMCs and UPSs throughout the network. The Management Server continuously polls devices for status. Once an alert is detected the Management Server acts on configured event policies. Additional features of the Management Server include:**

- Polling the network for supported UPSs, CMCs, and System Agents (automatic discovery)
- Controlling security and authentication
  - Individual logon accounts
  - SSL implemented
- Generating status and configuration pages for authenticated users connecting through a Web browser
- Generating commands to send to the System Agents to prepare for, initiate, and cancel tasks
- Notifying administrators of alerts with email messages, email pages, and pop-up messages
- Sending alert traps to Insight Manager and other manageability software programs that receive SNMP traps
- The Management Server operates on a single server.

### HP Rack and Power Manager 1.0

## HP Rack and Power Manager 1.0 Agents



### System Agent

- **The System Agent is the software component that runs on a server and allows Rack and Power Manager to gracefully shut down the operating system of that server or to take another pre-configured action in case of a specific event.**

- Install the System Agent on any server that is attached to a UPS and on any server that Rack and Power Manager uses to initiate a command.
- A server that has a System Agent installed is discovered and recognized by Rack and Power Manager as an Agent.

### Serial Relay Agent

- **The Serial Relay Agent is the software component that runs on a server and allows Rack and Power Manager to communicate with a UPS that is serially attached to a network-connected server.**

- Install the Serial Relay Agent on any server that is serially attached to a UPS

## Supported Operating Systems



### Management Server

- Microsoft Windows NT 4.0 Server with Service Pack 6
- Microsoft Windows NT 4.0 Server Enterprise Edition with Service Pack 6
- Microsoft Windows 2000 Server with Service Pack 2
- Microsoft Windows 2000 Advanced Server with Service Pack 2
- RedHat Linux 7.2, 7.3 Server

## Supported Operating Systems



### System & Serial Relay Agents

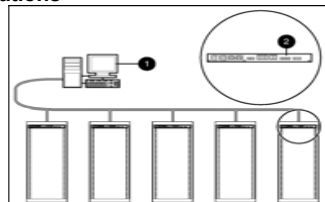
- Microsoft Windows NT 4.0 Server with Service Pack 6
- Microsoft Windows NT 4.0 Server Enterprise Edition with Service Pack 6
- Microsoft Windows 2000 Server with Service Pack 2
- Microsoft Windows 2000 Advanced Server with Service Pack 2
- Novell Netware 5.1 with Support Pack 5
- Novell Netware 6.0 with Support Pack 2
- RedHat Linux 7.2, 7.3 Server



## HP Rack and Power Manager 1.0



### ■ Supported Hardware Configurations



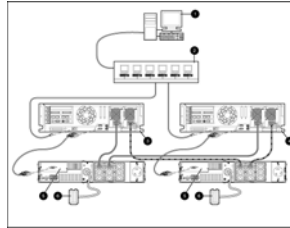
Network Connected CMC



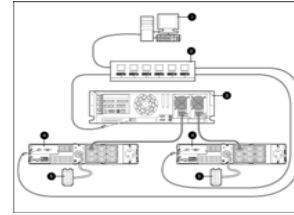
## HP Rack and Power Manager 1.0



### Supported Hardware Configurations



■ Redundant UPS's Serial Connected



■ Redundant UPS's Network  
Connected

[Rev. # or date]

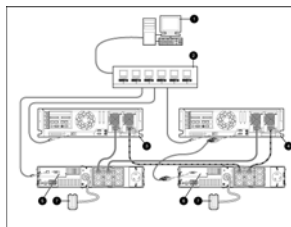
HP confidential - unrestricted at announcement

page 13

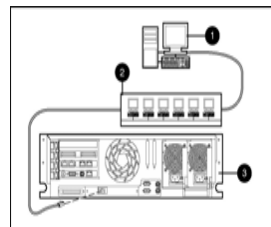
## HP Rack and Power Manager 1.0



### *Supported Hardware Configurations*



- Redundant UPS's Serial / Network Connected



- System Receiving Commands from HP Rack and Power Manager

[Rev. # or date]

HP confidential - unrestricted at announcement

page 14

## HP Rack & Power Manager 1.0



### ■ Open Source Software used in Rack and Power Manager 1.0

#### ■ Open Source Software used in Rack and Power Manager 1.0

■	Software	Version	Function
■	Install Anywhere	4.5 Enterprise Edition	(Application installer)
■	Open SSL	0.9.6g	(Security Application)
■	Interbase	1.0.0 Build 768	(Database)
■	GoAhead	2.1	(Web Server)
■	Java (JRE)	1.3.1_06	Windows (IE & Netscape)
■		1.4.1_01	Linux (Netscape)

## HP Rack & Power Manager1.0



- Rack and Power Manager 1.0 Release version:
  - Production release version, RC4 = 1.0.1 (Build3)
- How is Rack and Power Manager 1.0 going to be distributed?
  - Software download via the WEB [www.hp.com/products/ups](http://www.hp.com/products/ups)
  - CD (Rack and Power Manager 2.0) shipped with UPS and CMC

HP WORLD 2003  
POWER AND ENERGY MANAGEMENT & LOGS

## Home Page

The screenshot displays the HP Rack and Power Manager Home Page. The page has a dark header with the HP logo and the text 'HP WORLD 2003 POWER AND ENERGY MANAGEMENT & LOGS'. Below the header is a navigation bar with icons for Home, Devices, Overview, and Settings. The main content area is titled 'Home' and contains two sections: 'Device Search' and 'Home Page Settings'. The 'Device Search' section has a text input field for 'Enter the name of the device' and a 'Search' button. The 'Home Page Settings' section has a checkbox labeled 'Show this page when RPH starts' and a 'Save' button. Below these sections is a 'Current Status' table with columns for 'Device Name', 'Device Type', and 'Description'. The table lists several devices, including CMC 205, CMC 81, CMC 119, R3000R, T1000R, UPS 114, UPS 120, and UPS 125, along with their connection status.

Device Name	Device Type	Description
CMC 205	CMC	Device Normal
CMC 81	CMC	Device Normal
CMC 119	CMC	Device Normal
R3000R	UPS	Connection lost to device
T1000R	UPS	Device Normal
UPS 114	UPS	Device Normal
UPS 120	UPS	Connection lost to device
UPS 125	UPS	Connection lost to device

[Rev. # or date] HP confidential - unrestricted at announcement page 17

## Devices Page

HP WORLD 2003  
POWER AND ENVIRONMENTAL MANAGEMENT & LOGS

rack and power manager

Home Devices Queries Settings (Current Query View: All Devices) Logout

▼ CMC overview  
▶ CMC 205  
▶ CMC 91  
▶ CMC 110  
▼ UPS overview  
▶ CCM00005  
▶ CCM00006  
▼ UPS 11000000

Overview  
Logs and Reports  
Affected Agents  
Power Fail Settings  
Scheduled Operations  
Event Response  
Properties  
Diagnose  
Manual Control  
▶ CCM 114  
▶ CCM 120  
▶ CCM 125

Device Overview  
T1000WR-0100w (-172.26.234.210)

Current Status  
Data updated on July 30 2002 at 19:56

Input Voltage 110V  
Output Voltage 110V  
10% Load  
Normal  
Charge Percent OK  
Battery OK  
Autotune Runtime  
All inputs

Active Alarms  
Description  
No Active Alarms

[Rev. # or date] HP confidential - unrestricted at announcement page 18

## Queries Page



[Rev. # or date]

HP confidential - unrestricted at announcement

page 19

# HP Rack and Power Manager 1.0 Features



HP Rack and Power Manager - Microsoft Internet Explorer

rack and power manager

Home Devices Overview Settings (Current Query View - All Devices) Logout

Discovery  
Automatic  
Manual  
Discovery Results

Configuration  
Device Management  
Agent Management  
Accounts  
User Administration  
My Account

Service  
Hardware Recognition  
Session Management  
System Logs  
Database  
Email Server Setup  
Configuration  
About RPM

### Manual Discovery

Discovery Configuration

Select the type of network resources you want to discover:

- ☒ Discover all resources on the network (Recommended)
- ☐ Discover individual network resources
- ☐ Discoverable Power System (UPS) Devices
- ☐ Rack and Power Manager System Agents
- ☐ Console Management Controllers (CMCs)

Select servers to search on the network for resources:

☐ Search at this IP Address:  ☐ Search for Resources using IP ranges selected from the list

Use Community Storage (optional):  (optional)


Use These SNMP Strings for Discovery:  (optional)

IP Address Ranges	Beginning IP	Ending IP	Port	Timeout	Exclude
<input type="checkbox"/> 10.0.0.0/8	10.0.0.0	10.255.255.255	3	10 sec	<input type="checkbox"/>
<input type="checkbox"/> 172.16.0.0/16	172.16.0.0	172.16.255.255	3	10 sec	<input type="checkbox"/>
<input type="checkbox"/> 192.168.0.0/24	192.168.0.0	192.168.255.255	3	10 sec	<input type="checkbox"/>

Exclude Discovery Now | Update Changes | Add New IP Range | Delete Selected IP Range(s)




HP confidential - unrestricted at announcement

page 20



HP WORLD 2003  
Solutions and Technology Conference & Expo

Interex, Encompass and HP bring you a powerful new HP World.

(Rev. # or date) HP confidential -- unrestricted at announcement page 21