

APC Integration with HP Insight Manager

Abstract

This application note documents APC's Uninterruptible Power Supply (UPS) integration with HP's Systems Insight Manager, which was developed by HP and is tested and certified by APC.

Business Partner



Introduction

As a member of the HP Developer and Solution Partner Program (DSPP), APC has the opportunity to work closely with HP, and to develop solutions that integrate with various HP products. This application note documents APC's Uninterruptible Power Supply (UPS) integration with HP Systems Insight Manager, which was developed by HP and is tested and certified by APC.

The Importance of a UPS

AC power quality is a critical element in achieving server reliability, availability and up-time. Every HP server requires clean, consistent power to communicate process and display information, while poor power can cause problems ranging from hard disk corruption, system downtime, and even equipment damage. A UPS can protect your HP system from damaging power problems and can improve server availability and productivity by allowing users to continue working during a short power outage. In addition, communication between the operating system and the UPS is necessary to ensure a graceful, unattended shutdown of the operating system in the event of an extended power outage.

"HP recommends that you install an inline uninterruptible power supply (UPS) as part of your site preparation. In addition to power supply conditioning, a UPS ensures high availability and the ability to perform an orderly system shutdown (and subsequent fast recovery) in the event of a prolonged power outage."

Source: HP Cluster Platform Site Preparation Guide, June 2006

For more information on the potential effects of power problems on your computer equipment, see APC White Paper #10, "Preventing Data Corruption in the Event of an Extended Power Outage".

HP supports APC UPSs "out of the box" with HP Systems Insight Manager

HP Systems Insight Manager (SIM) is a unified server and storage management platform, allowing administrators to manage their complete HP server and storage environment from a single management console. HP Systems Insight Manager can also manage non-HP devices in some cases, and in particular, ships with support for monitoring APC SNMP-enabled UPSs:

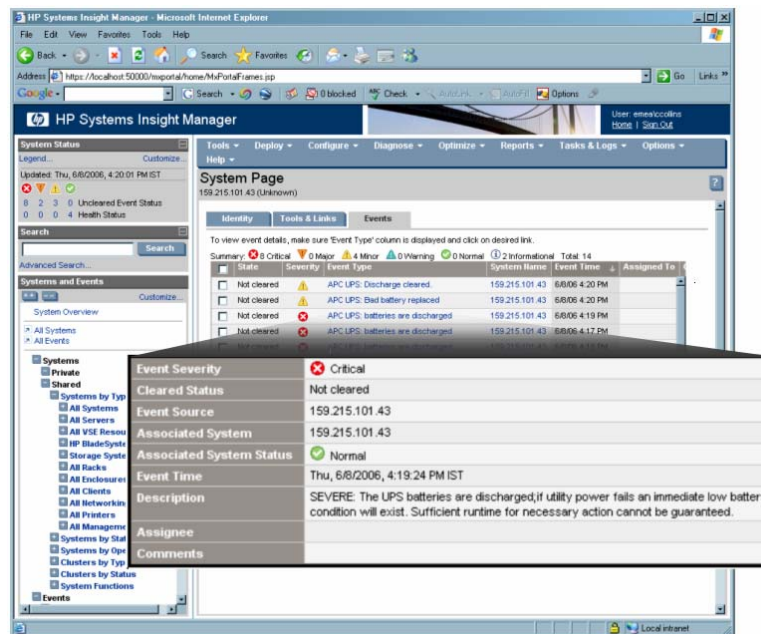


Figure 1 – APC UPS event received by HP Systems Insight Manager

Enabling the APC UPS support in HP Systems Insight Manager

SNMP (Simple Network Management Protocol) is supported by APC UPSs in two ways; via APC's Network Management Card (typically purchased either separately from the UPS, or bundled with larger UPSs), or via APC's PowerChute® Business Edition software for Windows® 2000 and 2003 (which ships with most APC Smart-UPS® products).

An SNMP MIB (“Management Information Base”) is a data repository file that contains status and event information about a particular device, and HP SIM provides tools to integrate third party MIBs into SIM. This feature allows SIM to interpret and communicate information about those third-party devices.

The APC MIB, referred to in HP’s documentation as “PowerNet”, is already pre-compiled by HP into the necessary “cfg” format, and is stored in the MIB directory. To enable it, it must be compiled using the “mxcompile” command, and then registered with HP SIM using the “mxmib” command (see HP’s “Compiling and customizing SNMP MIBs with HP Systems Insight Manager” at:

<http://h10018.www1.hp.com/wwsolutions/misc/hpsim-helpfiles/simsnmp.pdf>

Once the MIB is registered, HP SIM will be able to receive and display any traps that are generated by an SNMP-enabled APC UPS, as shown in **Figure 1**.

The following are a list of key APC UPS events which will be forwarded and recognized by HP Insight Manager:

Trap Type	Description
APC UPS: Communication lost	Communication to the UPS has been lost; steps to reestablish communication are in progress.
APC UPS: Overload	The UPS has sensed a load greater than 100% of its rated capacity.
APC UPS: Failed self-test	The UPS failed its internal diagnostic self-test (battery test).
APC UPS: Batteries are discharged	The UPS batteries are discharged; if power fails, an immediate low battery condition will exist.
APC UPS: On battery	The UPS has switched to battery backup power.
APC UPS: Low battery	The UPS system’s batteries are low and will soon be exhausted.
APC UPS: Communication established	Communication with the UPS has been established
APC UPS: Power restored	Returned from battery backup power; utility power has been restored.
APC UPS: Passed self-test	The UPS passed its internal self-test (battery test).

Conclusion

APC’s industry leading management and UPS products, in combination with HP Systems Insight Manager, represent a comprehensive approach to power protection for APC and HP mutual customers. HP SIM’s “out of the box” support for APC UPSs ensures simple configuration while allowing our mutual customers the ability to monitor all of their equipment from a single preferred interface.