

PowerChute network shutdown with a Parallel Silcon UPS System

You can expand the Silcon Series UPS from APC to provide more power protection or redundancy by connecting as many as 9 units in parallel. In this configuration, each UPS in the system has its own Web/SNMP Management Card (AP9606), but PowerChute network shutdown recognizes the entire system as a single UPS.

In this document, "Parallel Silcon UPS" refers to the entire parallel Silcon UPS system, and "UPS module" refers to a UPS that is a component of that system.

Requirements

To support a Parallel Silcon UPS, you must have PowerChute network shutdown version 2.1.0 or newer.

Note: At this time, version 2.1.0 is available only for Windows NT and Windows 2000.

Before you install PowerChute network shutdown, make sure the Management Card in each UPS Module of your Parallel Silcon UPS is configured as follows:

- Each Management Card must have the same Administrator User Name and Authentication Phrase.
- Each Management Card must use the same http port. By default, a Management Card uses port 80, but the port setting may have been reconfigured to use another port.

Installation

If you have more than 50 servers connected to your Parallel Silcon UPS, see the document "PowerChute network shutdown with a UPS powering more than 50 computers" before you begin the installation. To obtain the document, go to APC's Web site (<http://www.apcc.com>), then to the Software Downloads page, and then to the page for PowerChute network shutdown for your operating system.

To perform any PowerChute network shutdown installation, always see the installation guide for detailed instructions.

As you perform the installation, be sure to do the following:

- When the installation program asks if you are using a Parallel Silcon UPS, **do not** accept the default setting. Change the setting to "Install for a Parallel APC Silcon UPS System," which will enable you to enter multiple Management Card IP addresses.
- When prompted to enter the IP addresses of each of the Management Cards in your UPS, enter up to nine IP addresses in any order. (Nine is the maximum number of Silcon UPSs that you can connect in parallel.) The IP addresses **must** be for Management Cards in UPS Modules that are part of the same Parallel Silcon UPS.

Upgrading from a Previous Version

You can install PowerChute network shutdown version 2.1.0 or later (required for a Parallel Silcon UPS system) without first removing any previous version of PowerChute network shutdown. After you install the new version, you must configure the PowerChute events again.

Operation

With a Parallel Silcon UPS, PowerChute network shutdown always recognizes and reports these events:

- Any UPS module switching to battery operation.
- Lost communication with any of the Management Cards
- Any event generated by an Environmental Monitoring Card

PowerChute Network Shutdown recognizes and reports other events only if they affect the servers connected to the Parallel Silcon UPS.

UPS On Battery (Always Reported)

If any UPS module in a Parallel Silcon UPS switches to battery operation, PowerChute network shutdown reports the *UPS On Battery* event. Then one of the following occurs:

- If the remaining UPS modules can support the load, the UPS module that is on battery goes into standby mode, and PowerChute network shutdown reports that the system has returned to on-line operation.
- If the remaining UPS modules cannot support the load, the **UPS On Battery** event continues until utility power is restored to the UPS module that is running on battery.

If all of the modules in the Parallel Silcon UPS switches to battery, then the event is reported and continues until utility power is restored to the UPS module that is running on battery.

Lost Communication (Always Reported)

If PowerChute network shutdown does not receive messages from one or more of the Management Cards, it records the following in its Event Log:

- For each Management Card with which there is no communication, a line of text identifying the name or IP address of the card.
- One line of text indicating that the event **Communication: PowerChute cannot communicate with the Management Card** has occurred.

When communication has been established with all of the Management Cards, the **Communication: Established** event occurs.

Environmental Monitoring Card events (Always Reported)

You can use only one APC Environmental Monitoring Card, regardless of the number of UPS modules in your Parallel Silcon UPS. PowerChute network shutdown can recognize events from only one Environmental Monitoring Card, and always reports them.

All Other Events (Recorded Only If They Affect the Servers)

Except for lost communication or environmental monitoring events, PowerChute network shutdown recognizes and reports a UPS event only if it affects the servers that are connected to a Parallel Silcon UPS.

- If a problem occurs on one UPS module of the Parallel Silcon UPS, but the remaining UPS modules can support the load, PowerChute network shutdown does not recognize or report the event.
- If a problem occurs on one UPS module of the Parallel Silcon UPS, and the remaining modules cannot support the load, or if a problem affects all of the UPS modules, PowerChute network shutdown recognizes and reports the event.

For example, consider a Parallel Silcon UPS composed of three UPS modules loaded to 40% of capacity.

- The **UPS: Battery Replacement Needed** event occurs on a UPS module. Because the remaining two modules can support the load, PowerChute network shutdown does not report the event.
- While one UPS Module still needs a battery replacement, the **UPS: Overloaded** event occurs on one of the other UPS modules. Because the one remaining UPS module cannot support the load, PowerChute network shutdown reports the **UPS: Overloaded** event and initiates actions configured for that event.