

# **PowerAlert Network Shutdown Agent**

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# PowerAlert Network Shutdown Agent Overview

The PowerAlert software suite provides unattended shutdown solutions for computers protected by a Tripp Lite UPS. The PowerAlert Network Shutdown Agent communicates with your Tripp Lite SNMPWEBCARD to shutdown your computer in response to a power interruption or other monitored event of your choosing.

Users without a Tripp Lite SNMPWEBCARD can instead monitor a remote computer running PowerAlert Local or PowerAlert Network Management System if the remote computer can be connected to the UPS via serial or USB. This configuration is practical for users who have more than one computer connected to the same UPS.

PowerAlert Network Shutdown Agent is intended for use on computers for which it is not possible or not practical to connect the UPS via USB or serial connection. If your computer environment allows a USB or serial connection to the UPS, consider installing PowerAlert Local if you do not have a Tripp Lite SNMPWEBCARD.

## Local PowerAlert Shutdown Agent Requirements

1. A network connection to a local area network with open UDP ports 161, 162, 3664, and 3665. PowerAlert Shutdown Agent only contacts network devices chosen by you, but it will respond to any valid SNMP requests from your network.
2. The PowerAlert Shutdown Agent Console requires Java SE 1.6.0\_17.
3. Windows installations require you to disable the Windows SNMP trap service.

Please see the ReadMe or help files on your PowerAlert disk for more information on your specific platform requirements and installation instructions.

## Remote Requirements for Shutdown Agent Connectivity

1. A Tripp Lite UPS with either SNMPWEBCARD or a USB/serial connection to a computer running PowerAlert Local or PowerAlert Network Management System software.
2. A network connection to a local area network allowing UDP traffic.

If using a Tripp Lite SNMPWEBCARD, the card configuration must have SNMP access enabled and a valid read/write community string. SNMPWEBCARD firmware versions 12.04.0045 and higher are supported.

If your UPS is connected to a remote computer running PowerAlert, the remote computer requires available UDP ports 161, 162, 3664 and 3665.

## PowerAlert Network Shutdown Agent Setup

The PowerAlert Network Shutdown Agent is delivered as two programs, the PowerAlert Network Shutdown Agent Engine and the PowerAlert Network Shutdown Agent Console. The engine runs as a service or daemon and listens for power events. The console provides a Java user interface that allows user configuration of shutdown events.

The PowerAlert Network Shutdown Agent Console can be launched at any time when the PowerAlert Network Shutdown Agent Engine is running. The console will not show a UPS configured the first time you launch.

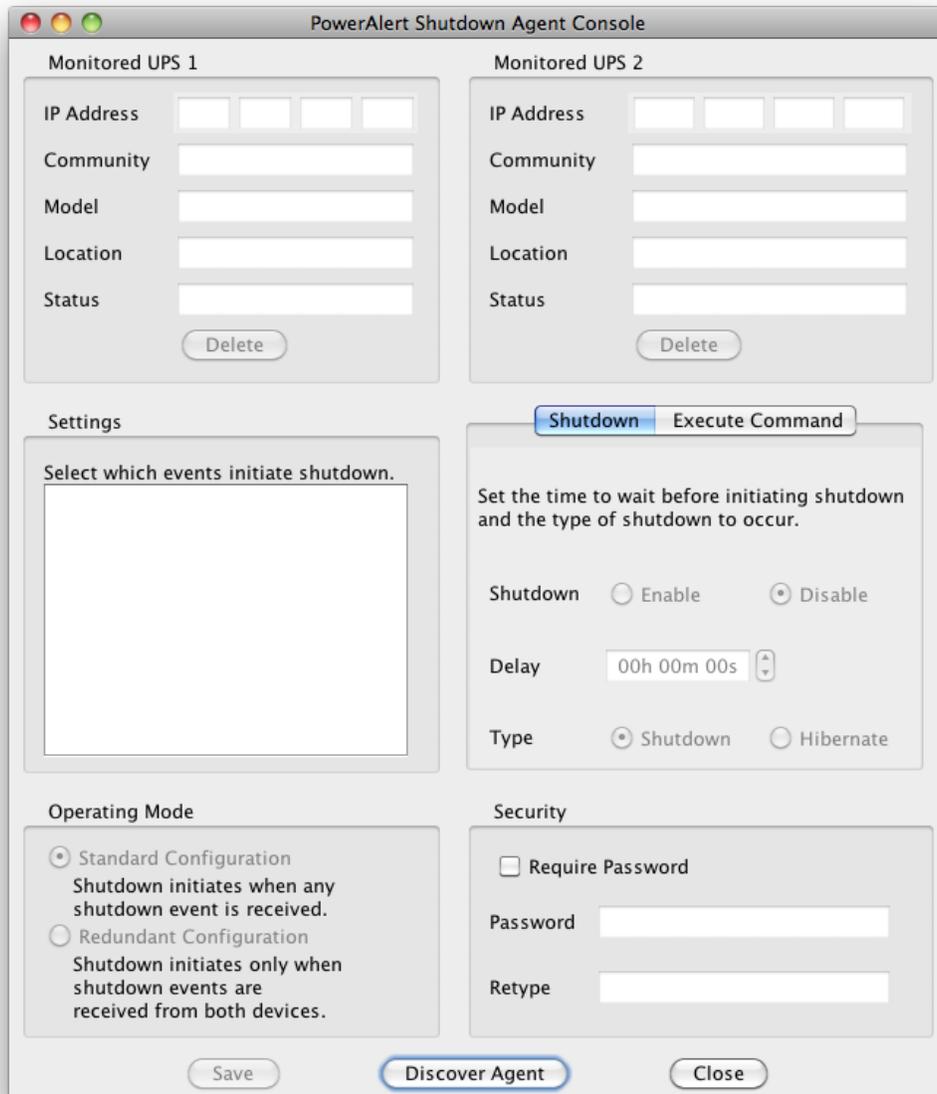
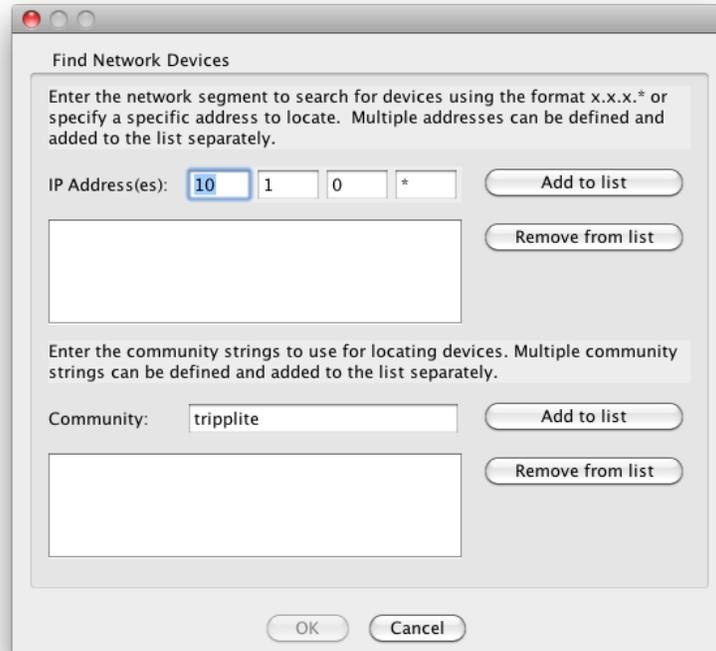


Illustration 1: PowerAlert Network Shutdown Agent Console on MacOS X

## Remote Agent Discovery

To discover and begin monitoring a SNMPWEBCARD or other PowerAlert software, use the 'Discover Agent' button at the bottom of the console. The network search parameter window should appear.



*Illustration 2: Network Search Parameters on MacOS X*

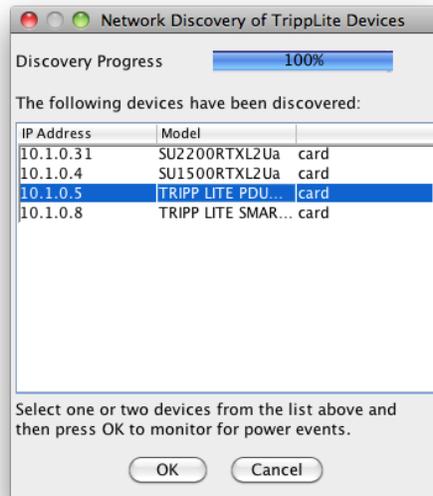
Take the following steps to specify network search parameters.

1. Add the IP addresses of interest to the list. To search a subnet, enter an asterisk (\*) in the last IP address field.
2. Add the SNMP community names to the community list. A community name is required, and the default community name 'tripplite' will be satisfactory in most cases. Community names are case sensitive.

Note: You should check your SNMPWEBCARD or remote PowerAlert configuration to determine if any user has changed the community name.

3. After defining the IP addresses and community names to search, click the 'OK' button to view the discovery progress window.

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*Illustration 3: Network Discovery on MacOS X*

Select your SNMPWEBCARD or remote PowerAlert computer. PowerAlert Network Shutdown Agent allows you to select one UPS for a standard configuration or two UPS for a redundant configuration.

Although you can create a redundant configuration at any time using any remote SNMPWEBCARD or PowerAlert software, you should make sure the configuration has meaning in your environment. In a redundant configuration, PowerAlert Network Shutdown Agent will shutdown your computer if both remote UPS experience any of your selected power events. PowerAlert Network Shutdown Agent can only accomplish this if your computer is actually protected through the battery backup outlets on all UPS being monitored. A redundant configuration is typically meaningful for computers or servers with multiple power supplies, both of which are connected to an independent UPS.

After making your selection, click the 'OK' button to close out of the discovery process. You'll return to the main console window, where it usually takes several seconds for the PowerAlert Network Shutdown Agent to register with the selected SNMPWEBCARD or remote PowerAlert software. When registration is complete, you can continue your configuration.

## Shutdown Setup

### Shutdown Tab

- ✓ Shutdown Radio – Select the Enable radio button.
- ✓ Shutdown Delay – Choose your delay time to shutdown.
- ✓ Shutdown Type – Choose shutdown or hibernate.

Enabling the Shutdown Radio is required before PowerAlert Network Shutdown Agent will shutdown in response to a power event. It is also required to enable script execution.

When choosing your delay time, make sure your UPS will have enough battery power to supply power until your computer can complete its shutdown process. With that in mind, consider how much time you want to allow computer users to respond to the shutdown notification. Anyone using the machine at the moment the shutdown notification appears will appreciate an extra minute or two to save their work. In special situations, administrative users of Unix-based systems might even prefer to cancel the shutdown procedure by killing the shutdown process.

Shutdown type 'Shutdown' will shutdown the operating system and power off the computer. Shutdown type 'Hibernate' will save the state of the computer to hard disk and put the computer in a low power state. Hibernate needs to be enabled on the computer for the feature to be active. (The Hibernate feature is not yet available on Mac OS, even if the system sleep setting enables hibernate.)

### **Execute Command Tab**

- ✓ Execute Delay – Choose the delay time for script execution
- ✓ Alarm Script – Type the fully-qualified path to an executable script file
- ✓ Clear Script – Type the fully-qualified path to an executable script file

You can define a script to run when a shutdown event occurs (called an “Alarm”) and a script to run when the alarm clears. You can define either one, both, or neither. The alarm script is run as soon as the delay period expires after having received a shutdown event. The clear script is run immediately if the alarm clears.

Shutdown needs to be enabled on the Shutdown tab in order for the scripts to run. You should always make sure your Shutdown delay is larger than your Execute Delay and includes enough time for your Alarm Script to finish running before your computer shuts down.

If you want to implement a custom shutdown script, you can do so by setting the shutdown delay on the Shutdown Tab to a very long time and then creating an execution script that will complete before the standard shutdown is effected.

**Security Warning:** Both the Alarm Script and the Clear Script are run by PowerAlert as the root user. Any local or remote user can potentially use a PowerAlert Shutdown Agent Console to configure the execution scripts. If you want to enhance your protection from unauthorized use, you should enable the password requirement in the Security tab and consider changing the default community name on your remote agent.

### Shutdown Events Tab

- ✓ Select one or more events which initiate shutdown and script execution

You must select at least one event from the list. Some events might seem to need additional configuration. These events have configuration settings on your SNMPWEBCARD or remote PowerAlert software. The 'Battery Capacity Below Warning Level' and 'Battery Age Above Threshold' events are both examples of events that have additional remote configuration values. All of these events will have a default configuration.

The PowerAlert Network Shutdown Agent will take the same action regardless of which event is received. Independent configuration of each event is supported only in PowerAlert Local and PowerAlert Network Management System.

### Security Tab

- ✓ Enable and choose a password if desired.

**Security Warning:** When considering whether or not to add a password, keep in mind that any scripts configured in the Execute Command Tab will be executed as the root user and that anyone on the network with a PowerAlert Shutdown Agent Console can remotely connect to PowerAlert and configure the scripts if the password is not set.

The password adds a new SNMP community name to your local PowerAlert Engine. Consoles requesting to connect with your PowerAlert Engine need to have the password community string to be able to connect. This separate community applies only to PowerAlert Consoles and not MIB browsers; any user on your network who is proficient with a SNMPv2 MIB Browser will be capable of changing PowerAlert's configuration if the name of either the read/write community or the console password community is sniffed from your network traffic.

If you forget your password, you will have to uninstall PowerAlert and reinstall and repeat your setup.

### Operating Mode Tab

- ✓ Mode Radio – Select a standard or redundant configuration

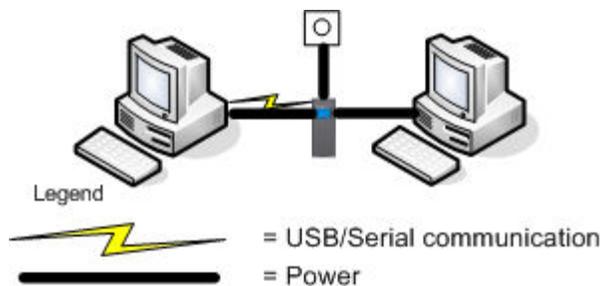
As discussed in the Remote Agent Discovery section, PowerAlert Network Shutdown Agent can only correctly shutdown your computer if the computer's power supplies are connected to the battery backup outlets on the monitored UPS. Make sure your computer is plugged into a UPS outlet which has a label indicating battery backup. The label might be a sentence saying, "Battery, Surge and Noise Protected Outlets," or it might be a tiny picture of a battery next to a lightning bolt. If the outlet has only the lightning bolt next to it, the outlet is not

backed up by battery but does offer surge protection for hardware that does not need backup.

Standard Operating Mode is the most common usage scenario, whereby, a computer is powered by a single UPS.

For example, a UPS might provide power protection to two co-located computers. If the UPS has a Tripp Lite SNMPWEBCARD, both computers can run PowerAlert Network Shutdown Agent to reach a graceful shutdown solution.

If the UPS does not have an SNMPWEBCARD, then one of the computers (Computer A, left) will have a USB or serial connection to the UPS. Computer A will run PowerAlert Local or PowerAlert Network Management System to monitor the UPS. The other computer (Computer B, right) will run PowerAlert Network Shutdown Agent and discover Computer A. Computer A monitors the UPS for power events and notifies Computer B of any events. Both computers then begin their unattended shutdown procedure.



*Illustration 4: PowerAlert Network Shutdown Agent installed on computer shown right*

Redundant Operating Mode is an advanced usage scenario, whereby, a server has two power supplies installed for redundancy purposes. To ensure a fully redundant system each power supply on the server is plugged into a battery backup outlet on a separate UPS. This hardware configuration is designed to protect against a UPS failure.

**Warning:** In a redundant configuration, each UPS must have the enough remaining load capacity to handle the loss of the other UPS.

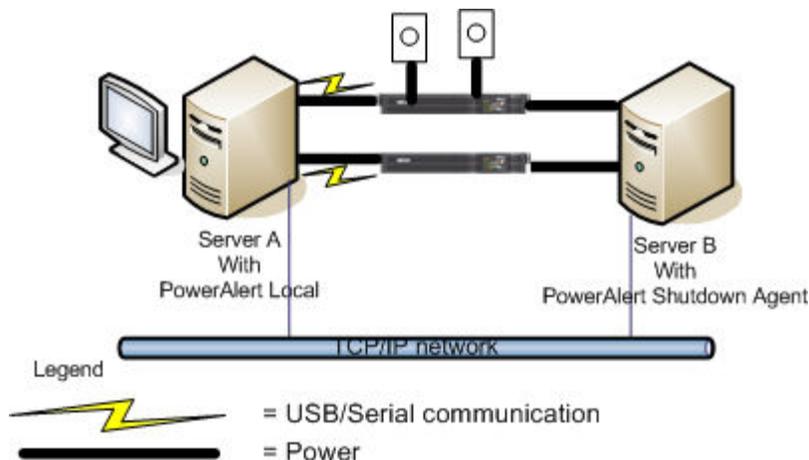
The Redundant Mode feature is supported in PowerAlert Network Shutdown Agent, PowerAlert Local, and PowerAlert Network Management System. The examples describe Redundant Mode for PowerAlert Network Shutdown Agent only.

In this example, the PowerAlert Network Shutdown Agent is installed on a server with redundant power supplies, and each power supply is connected to a battery backup outlet on a separate UPS. Both UPS have a Tripp Lite SNMPWEBCARD

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installed, but a second computer running PowerAlert Local or PowerAlert Network Management System is an option.

The user discovers both SNMPWEBCARDS and selects both from the Discovery list. The PowerAlert Network Shutdown Agent Console will show the addresses of both UPS when registration is complete. The user enables shutdown and selects events normally. Redundant Mode is enabled. When the configuration is saved, PowerAlert Network Shutdown Agent will wait for a shutdown event notification from both UPS before initiating a local shutdown or script execution.



*Illustration 5: PowerAlert Network Shutdown Agent installed on Server B with Redundant Mode*

### Control Buttons

- ✓ Save your configuration when complete.

### Completed Setup

See the next illustration for an example of a completed setup.

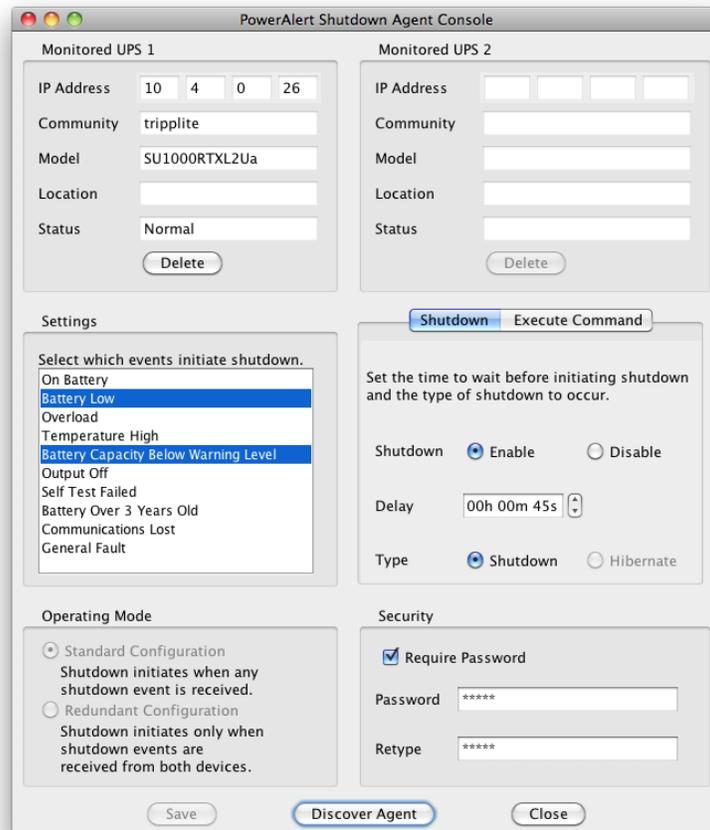


Illustration 6: PowerAlert Network Shutdown Agent Completed Setup on MacOS X

## Technical Support

Should you require any assistance or discover a bug, please submit all domestic and international inquiries to Tripp Lite Technical Support via phone (1+773-869-1234) or email to [techsupport@tripplite.com](mailto:techsupport@tripplite.com). When emailing mention PowerAlert and your operating system platform name in your subject line to facilitate routing to an appropriate technical support specialist.