PowerChute Network Shutdown, v. 2.2.1: Installation Guide (APC Part Number 990-2838A)

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Software and Hardware Requirements

To install PowerChute Network Shutdown (PCNS), you should have the following:

- For an ordinary, non-silent installation:

Operating System	Processor	Memory
Windows®	700 MHz	256 MB
Solaris™	360 MHz	256 MB
Linux®	700 MHz	256 MB

- For a silent installation:

Operating System	Processor	Memory
Windows	700 MHz	512 MB
Solaris	440 MHz	512 MB
All Linux (except those versions mentioned in the following row)	700 MHz	512 MB

Red Hat® Linux® 9, Red Hat® Enterprise Linux® 3, SuSE 8.2	2.4 GHz	512 MB

- An APC UPS which supports the use of an APC Network Management Card (NMC). This currently includes any Smart-UPS UPS with a card slot or an embedded NMC, any Smart-UPS DP UPS, any Matrix-UPS UPS with a firmware revision of Y or later, any Symmetra UPS, and any Silcon Series UPS.

- An APC Network Management Card (APC part number AP9617, AP9618 or AP9619) with a firmware revision of 1.1.0 or later OR an APC Web/SNMP Card (APC part number AP9606). If you are also using an APC Environmental Monitoring Card (APC part number AP9612TH), your Network Management Card must have firmware revision 1.1.5 or greater.

    - You can update your APC NMC firmware from the APC Web site.

    - PowerChute Network Shutdown cannot be used with APC PowerNet SNMP Adapters (cards). If your card has an APC part number of AP9605, AP9205, or AP9603, contact APC support or your APC dealer to upgrade the card.

    - If you are using multiple Smart-UPS devices, multiple Symmetra devices, or have a Parallel Silcon UPS system, you use one NMC in each UPS in the system. If your NMC has firmware revision 1.2.0 or later, be sure that the Synchronization option is disabled.

  Note: AP9606 is only supported with single Smart-UPS, Matrix, Symmetra, or Silcon and Parallel Silcon configurations. It is not supported with either a multiple Smart-UPS or multiple Symmetra configuration.

- A supported operating system as listed on the APC Web site.

- The IP address for each APC Network Management Card.

- A Java Virtual Machine (JVM), version 1.4.2 or later, on your server for all operating systems except NetWare (see two paragraphs down).

  You can download a Java Virtual Machine from http://java.sun.com. PCNS installs JVM 1.4.2 if the most recent version found on your system is less than this (the rpm installer for VMWare is an exception to this, see Bare Metal Installation and Configuration with VMware ESX Server). If a JVM version greater than 1.4.2 is found on your system, PCNS will use the later version.

  On Novell NetWare, both JVM 1.4.1 and 1.4.2 are supported. (NetWare 6 has JVM 1.3.1). Novell JVM 1.4.1 and 1.4.2 are available on Novell's Web site.

- If you are installing PowerChute Network Shutdown on more than 50 computers powered by the same UPS, read the document "PowerChute Network Shutdown with more than 50 computers on one UPS" before continuing the installation. To obtain the document, go to the Software Downloads page on the APC Web site and select PowerChute Network Shutdown.

- If you have a Parallel Silcon UPS, read the document "PowerChute Network Shutdown with a Parallel Silcon UPS System" before continuing the installation. To obtain the document, go to the Software Downloads page on the APC Web site and, select PowerChute Network Shutdown for Windows - Parallel Silcon Configuration Guide.

- If you are installing on a multiple Smart-UPS or multiple Symmetra configuration, see Running a Multiple Configuration (Smart-UPS and Symmetra).
- A monitor with a minimum resolution of 800 x 600; however, 1024 x 768 or greater is recommended.
- If you are using a firewall, the http port used by the Network Management Card (default:80/TCP), and port 3052 (TCP and UDP) must be open for communication with the NMC.
- You must have Administrator privileges on the network.

Installation

To install and operate the PowerChute Network Shutdown software, perform the following steps. (Please refer to Bare Metal Installation and Configuration with VMware ESX Server if necessary.)

1. Install the Network Management Card in your UPS. For installation instructions, see the Management Card Installation and Quick Start Guide that was shipped with your card. If you are using multiple Smart-UPS devices, multiple Symmetra devices or a Parallel Silcon UPS, you will use one Network Management Card in each UPS in the system.

   Install the Card in your UPS and configure it with an IP address *before* beginning the PowerChute Network Shutdown software installation. If you install PowerChute Network Shutdown first, additional steps will be required when installing the Network Management Card (NMC).

2. Using the Network Management Card user interface, configure the UPS and the Network Management Card. At a minimum, perform these tasks:
   - On the Configuration page, set the Low-Battery Duration to at least five minutes
   - On the User Manager page, set the Administrator User Name, Password and Authentication Phrase. The Administrator User Name and Authentication Phrase authenticate the communication between PowerChute Network Shutdown and the NMC. Because of this you must set the values in PCNS to be the same as those for the NMC.

     Note that it is possible to set a *password* for PCNS that is different from the password for the NMC.

     To ascertain the default values for NMC, please refer to the **Network Management Card Users' Guide**.

3. Remove any existing version of PowerChute Network Shutdown before starting the installation program.

   WARNING: Do not install and use PowerChute Network Shutdown on a computer system that uses PowerChute *plus* or PowerChute Business Edition.

4. The installation program must be run on the server console.

   To start the PowerChute Network Shutdown installation, choose from the sections directly below specifying different OS systems and hardware.

   For installation on a IA-64 processor machine, follow these steps:

i. Manually install J2SDK (Java™ 2 SDK, Standard Edition) 1.4.2_03.

ii. Set the path to the Java file:

- for Windows: `[#JavaHomeDir]/java -cp .;pcns221win64.jar;util.jar load`
- for Linux: `[#JavaHomeDir]/java -cp .:pcns221lnx64.jar:util.jar load`

iii. Use **pcns221win64.jar** on Windows or **pcns221lnx64.jar** on Linux, and **util.jar**, all included in the CD to commence the installation.

For installation on Windows 2000, Windows XP or Windows 2003, you can double-click the installation program icon or execute the file **pcns221win.exe** from a command line. Launch the installation program for Windows. After you complete the installation, you can use the Silent Installation to set up additional computers to have the same PowerChute Network Shutdown configuration.

For installation on Linux and Solaris for SPARC, perform the following steps. After you finish the installation, you can use the Silent Installation to set up additional servers to have the same PowerChute Network Shutdown configuration.

i. Locate the file **pcns221lnx.bin** for Linux or **pcns221sol.bin** for Solaris for SPARC on the APC Web site or on the CD. Then copy the file to a temporary directory on the file server.

ii. Change your working directory to the directory containing the installation file. For the Linux file, change the permissions on the file to make it executable. Then type the following commands:

for Linux	`./pcns221lnx.bin`
for Solaris 8, 9, 10	`./pcns221sol.bin`

For installation on Solaris 10 for x64 / x86, perform the following steps. After you finish the installation, you can use the Silent Installation to set up additional servers to have the same PowerChute Network Shutdown configuration.

i. Locate the file **pcns221solia.tar** on the APC Web site or on the CD. Then copy the file to a temporary directory on the file server.

ii. Change your working directory to the directory containing the installation file. Then type the following commands:

```
tar -xvf pcns221solia.tar
java -cp .:install.jar:util.jar load
```

For installation on NetWare, perform the following steps.

i. If you downloaded the file **pcns221net.exe** from the APC Web site, copy the file to a temporary directory on the SYS: volume of the NetWare file server; then execute the file to extract the installation files.

If the software is on a CD, copy the installation files (**pcns221net.jar** and **util.jar**) from the NetWare directory on the CD to a temporary directory on the SYS: volume of

your NetWare file server.

ii. From the server's System Console command prompt, enter the following command (where tempdirectory represents the location of the installation files).

```
java -cp
SYS:\tempdirectory\pcns221net.jar;SYS:\tempdirectory\util.jar
load
```

5. At the following prompt, type "yes" to continue the installation:

```
You are about to install a new application. Continue?
```

6. In the "About" box, select **Next**.
7. Select **I agree** to accept the terms of the PowerChute Network Shutdown license agreement. If you do not accept the agreement, you must select **Cancel** and cannot install PowerChute Network Shutdown.
8. Select the location where the PowerChute Network Shutdown software will be installed. To choose a location other than the default, type the full path name, including the drive letter or volume name, or use the **Browse** button. Select **Next**.
9. Choose the installation type.
   - Select **Custom Install** a) if you have multiple Smart-UPS or Symmetra devices, or a Parallel Silcon UPS or b) if your server has more than one network interface card (NIC)/ network adaptor (in order to choose the adaptor you want to use for PCNS). Then select the appropriate setting for your UPS system, and select **Next**.
   - Select **Typical Install** if you do not have multiple Smart-UPS or Symmetra devices, or a Parallel Silcon UPS.

   Different VA models are supported if they are in the same UPS device family. The Symmetra Tower and the Symmetra RM are considered a family. The Symmetra PX is not however in the same family and can't be used in combination with them.

   The IP address of the PowerChute Network Shutdown computer is registered with the Network Management Card if a UPS fails to register. You should manually remove it in this circumstance: **Registering an IP Address with the Network Management Card**.

10. Enter the initial configuration information:
    - Management Card IP: This is the network address of the Network Management Card attached to your UPS.

      If you are using multiple Smart-UPS devices, multiple Symmetra devices or a Parallel Silcon UPS, enter the IP address of the NMC in the first UPS device, select **Add**, and then continue adding IP addresses for all of the cards in this UPS system. (Up to 3 IP addresses for multiple Smart-UPS devices and multiple Symmetra devices, and up to 9 IP addresses for a Parallel Silcon UPS.)

    - The http port being used by the NMC. The default is 80. Do not change this number unless you changed the http port being used by your Management Card. For multiple Smart-UPS devices, multiple Symmetra devices or a Parallel Silcon UPS system, all of the Network Management Cards must use the SAME http port.

    Click **Next** to continue.

11. Enter the security configuration information:

The default settings for User Name, Authentication Phrase and Password are the same for both PowerChute Network Shutdown and the NMC. If you have not changed the default settings in the NMC, click **Next**; otherwise, enter the same values used by the NMC and click **Next**.

The User Name and Authentication Phrase authenticate the communication between PowerChute Network Shutdown and the Network Management Card. You use the same User Name and Password to log on to the user interface of PowerChute Network Shutdown and the Network Management Card.

If you are using multiple Smart-UPS devices, multiple Symmetra devices or a Parallel Silcon UPS system, all of the Network Management Cards in the UPS system must use the same Administrator User Name and Authentication Phrase.

Note: Any Java exceptions displayed during the installation will not affect the successful completion of the installation or operation of PowerChute Network Shutdown.

12. Complete the software installation:

    PowerChute Network Shutdown registers with the Network Management Card automatically so that they can communicate.

    If PowerChute Network Shutdown cannot register with the Management Card, you receive an error message. You may continue the installation, but you must enter the server IP address manually at the Network Management Card.

    On **NetWare**, a pop-up message asks whether changes to the **autoexec.ncf** file can be made. You should select Yes (otherwise the service won't start when the OS starts).

    Notes

    - If you select **Cancel** to stop the installation, the **jvm** directory remains under C:\Program Files\jvm (in Windows), and the /usr/local/bin/jvm (in Linux). The directory must be deleted manually before attempting another installation. You should also delete the PowerChute directory.
    - The Temp directory might have some sub-directories remaining after the installation. You can remove these manually, but they won't affect your computer system or PowerChute Network Shutdown.

13. Start the PowerChute Network Shutdown process:

    The PowerChute Network Shutdown service (on Windows 2000, Windows XP and Windows 2003), the daemon (on Linux and Solaris), or the process (on NetWare) starts automatically when the installation is completed. You can then delete the installation files.

    Note: After installation, set access on the PowerChute directory so that only authorized users can access, execute, or remove the software.

14. Open the PowerChute Network Shutdown user interface:

    Using a Web browser, enter either of the following URLs:

```
http://servername:3052
http://serverIPaddress:3052
```

For example, if your server is named COMP1 and has an IP address of 117.14.53.59, use one the following URLs:

```
http://COMP1:3052
http://117.14.53.59:3052
```

If you are using a browser version other than Microsoft Internet Explorer version 5.5 or 6.0, some functions may not be available.

Silent Installation

You can perform a silent installation on systems with **a single UPS only**. You must perform a normal installation on multiple Smart-UPS devices, multiple Symmetra devices or Parallel Silcon UPS systems.

On Windows 2000, Windows XP, Windows 2003, Linux and Solaris systems, you can install PowerChute Network Shutdown from a command line, which allows you to set up many servers that run the same operating system and that have the same PowerChute Network Shutdown configuration. To install PowerChute Network Shutdown silently, perform the following steps:

1. Complete a normal installation on one server.
2. Configure PowerChute Network Shutdown to have all of the settings that you want.
3. Copy the **m11.cfg** and **silentInstall.ini** files from the PowerChute directory.
4. Edit the **silentInstall.ini** file to have new parameters, if required. Precede each path separator ('\' for Windows and '/' for Linux and Solaris) with an escape character ('\').

    - Edit the `applicationDirectory` parameter to specify the directory in which to install PowerChute Network Shutdown.
    - Set the `RegisterWithAdapter` parameter in the **silentInstall.ini** file to "yes" or "no" to indicate whether the installation should register this host's IP address with the Network Management Card.

      Note: This parameter is applicable only if you are installing PowerChute Network Shutdown on more than 50 computers for one Network Management Card. See the document "PowerChute Network Shutdown with more than 50 computers on One UPS," available from the download page for PowerChute Network Shutdown for your operating system on the APC Web site.

5. If you are installing PowerChute Network Shutdown for a UPS with a different IP address, uncomment and edit the `adapterIPAddress` parameter in the **silentInstall.ini** file. Enter the IP address of the Network Management Card that is in the UPS.
6. Put the **m11.cfg** file, the **silentInstall.ini** file, and the PowerChute Network Shutdown installation files in a temporary directory on the new server.
7. Use the commands specified below on the relevant system (where *tempdir* signifies your temporary directory).
   For all systems, if there are spaces in the path to the temporary directory, enclose the path in quotation marks. For example:
   ```
   C:\pcinstall\pcns221win.exe -q "C:\Program Files\InstallDir\silentInstall.ini"
   C:\pcinstall\pcns221win.exe -q C:\InstallDir\silentInstall.ini
   ```
    - For an installation on an **IA-64** processor machine:

on a Windows machine running Windows Server 2003, Enterprise Edition:
`[#JavaHomeDir]/java -cp .;pcns221win64.jar;util.jar load -q C:\tempdir\pcns22\silentInstall.ini`

on a Linux machine running Red Hat Enterprise Linux AS:
`[#JavaHomeDir]/java -cp .:pcns221lnx64.jar:util.jar load -q /tempdir/pcns22/silentInstall.ini`

- For an installation on **Windows 2000, Windows XP and Windows 2003**, navigate to the temporary directory on the new server, and type the following command on one line:

  `C:\tempdir\pcns221win.exe -q C:\tempdir\silentInstall.ini`
  where *tempdir* is the location of the installation program and of the valid `m11.cfg` and `silentInstall.ini` files.

- For an installation on **Linux or Solaris for SPARC**, navigate to the temporary directory on the new server and use the following command:

  For Linux: `./pcns221lnx.bin -q /tempdir/silentInstall.ini`

  For Solaris: `./pcns221sol.bin -q /tempdir/silentInstall.ini`

- For an installation on **Solaris for x64 / x86**, navigate to the temporary directory on the new server and use the following command:

  `java -cp .:install.jar:util.jar load -q /tempdir/pcns22/silentInstall.ini`

After you complete the installation, check the `install.log` and `errors.log` files for error conditions.

Registering an IP Address with the Management Card

If the installation program cannot communicate with the Network Management Card, you must manually register the IP address of the computer on which PowerChute Network Shutdown is installed. In some cases, the installation program registers the IP address, but is unable to confirm that it is registered; in such cases, you must check to ensure that the IP address is registered.

1. Access the Network Management Card's user interface by using the Network Management Card IP address as the URL.
2. Click on the UPS model name displayed on the menu.
3. Select the **PowerChute** menu option to display a list of the IP addresses which are registered with this Network Management Card.
4. To add a new IP address, type the IP address of the server on which PowerChute Network Shutdown is installed in the **Add Client IP Address** field, and click **Add**.

   To remove existing IP addresses, select each address from the Configured Client IP Addresses list, and click **Remove**.

Using the PowerChute Network Shutdown Configuration Utility

The stand-alone PowerChute Network Shutdown Configuration Utility allows you to change the following PowerChute Network Shutdown settings:

- IP address of the Network Management Card to monitor (not applicable for a Multiple Smart-UPS, Multiple Symmetra, or a Parallel Silcon UPS configuration)
- Port number of the Network Management Card to monitor
- PowerChute Network Shutdown port number. PowerChute Network Shutdown communicates on port 3052 only. Do not change the default port in this field.
- Administrator User Account
- Administrator Password
- Security Phrase

To run the Configuration Utility, type the relevant commands listed in the sections below for your operating system.

Note: The following instructions assume that you installed PowerChute Network Shutdown to the default directory.

Running the Configuration Utility on Windows 2000, Windows XP, and Windows 2003

Copy the **m11.cfg** file to the **PowerChute\lib** directory. The default installation directory is C:\Program Files\PowerChute.

- If you have java in the system path, from the **PowerChute\lib** directory, type this command on one line:

```
java -cp m11.jar;confutil.jar;..\comp\Notifier.jar;..\comp\
CommandFileRunner.jar PCNSUtilApp
```

- If java is not in the system path, from the **PowerChute\lib** directory, type this command on one line:

```
Java home dir\bin\java -cp
m11.jar;confutil.jar;..\comp\Notifier.jar;..\comp\
CommandFileRunner.jar PCNSUtilApp
```

Note: If there are spaces in the path to the java directory, enclose the path in quotation marks.

Enter the IP address of the Network Management Card you wish to monitor, and click **Save**. Your configuration settings have been saved. Click **OK**. On the following screen, click **Exit**.

In the Windows Control Panel, stop the PowerChute Network Shutdown service. Delete the **m11.cfg** file from the PowerChute directory. Move the modified **m11.cfg** file from the **PowerChute/lib** directory to the PowerChute directory. Start the PowerChute Network Shutdown service.

Running the Configuration Utility on Linux or Solaris

Copy the **m11.cfg** file to the **PowerChute/lib** directory. The default installation directory is /usr/local/bin/PowerChute.

- If java is in the path statement, from the **PowerChute/lib** directory, type this command on one line:

```
java -cp m11.jar:confutil.jar:../comp/Notifier.jar:..comp/
CommandFileRunner.jar PCNSUtilApp
```

- If java is not in the path statement, type this command on one line:

```
Java home dir\bin\java -cp
m11.jar:confutil.jar:../comp/Notifier.jar:../comp/
CommandFileRunner.jar PCNSUtilApp
```

Enter the IP address of the Network Management Card you wish to monitor, and click **Save**. Your configuration settings have been saved. Click **OK**. On the following screen, click **Exit**.

Stop the PowerChute Network Shutdown service.

- In Linux, use the command `/etc/rc.d/init.d/PowerChute stop`.
- In Solaris, use the command `/etc/rc2.d/S99PowerChute stop`.

Delete the **m11.cfg** file from the PowerChute directory. Move the modified **m11.cfg** file from the **PowerChute/lib** directory to the PowerChute directory.

Start the PowerChute Network Shutdown service.

- In Linux, use the command `/etc/rc.d/init.d/PowerChute start`.
- In Solaris, use the command `/etc/rc2.d/S99PowerChute start`.

You can use the Configuration Utility to set up **m11.cfg** files to monitor several Network Management Cards by using the same PowerChute Network Shutdown configuration that you used for silent installations.

1. Perform a complete installation.
2. Copy the **m11.cfg** file to **\lib** directory.
3. Run the Configuration Utility.
4. Use the Configuration Utility to change the Network Management Card IP address.
5. Use the modified **m11.cfg** file to perform a command line installation. (See Silent Installation, step #4.)

Running the Configuration Utility on NetWare

1. While the PowerChute NetWare Shutdown daemon is running, copy `m11.cfg` to the **lib** directory under the PowerChute installation directory.
2. On the System Console, type the following command on one line:

```
java -cp SYS:\<install directory>\lib\m11.jar;SYS:\<install
directory>\lib\confutil.jar;SYS:\<install
directory>\comp\Notifier.jar;SYS:\<install
directory>\comp\CommandFileRunner.jar PCNSUtilApp
```

3. Change the settings and save them.
4. Exit from the wizard.
5. Restart the daemon.

Running on Windows® 2000, Windows® XP, or Windows® 2003

You must have Windows 2000, Windows XP, or Windows 2003 to use PowerChute Network Shutdown. Always use the latest available Service Pack.

The PowerChute directory includes DLL files to shut down some common applications. See the Run Command File section in the **Help.html** file for information on which applications and how to shut them down.

To remove PowerChute Network Shutdown, uninstall the program from the Control Panel. If you do not intend to reinstall the software, remove the server IP address from the Network Management Card by using the **PowerChute** option on the Network Management Card's Web interface menu.

The PowerChute directory sometimes remains after an uninstall. You can remove this manually, but it won't affect your computer system or PowerChute Network Shutdown.

For information on using the Configuration Utility, see Running the Configuration Utility on Windows 2000, Windows XP, and Windows 2003.

Running on Solaris™

You must have Solaris version 8, 9, or 10 (SPARC) to use PowerChute Network Shutdown. XWindows is required to install PowerChute Network Shutdown.

PowerChute Network Shutdown requires Java Virtual Machine (JVM), version 1.4.2 or later, on your server. Obtain this JVM from the Sun Microsystems Web site, or contact your Sun Microsystems service provider. PCNS installs JVM 1.4.2 if the most recent version found on your system is less than this. If a JVM version greater than 1.4.2 is found on your system, PCNS will use the later version. It is recommended that the location of the JVM executable (java.exe) be in the PATH environment variable prior to installing PowerChute Network Shutdown. The JRE install path on Solaris is /usr/bin/jvm.

When the daemon starts, the script adds 256 file handles; delete `ulimit -n 256` from the PowerChute Network Shutdown startup script if you do not need them.

To stop PowerChute Network Shutdown, type the following at the command line:

```
/etc/rc2.d/S99PowerChute stop
```

To start PowerChute Network Shutdown manually, type the following at the command line:

```
/etc/rc2.d/S99PowerChute start
```

To remove PowerChute Network Shutdown, run the uninstall script. If you do not intend to reinstall the software, remove the server IP address from the Network Management Card by using the **PowerChute** option on the Network Management Card's Web interface menu.

The PowerChute directory sometimes remains after an uninstall. You can remove this manually, but

it won't affect your computer system or PowerChute Network Shutdown.

For information on using the Configuration Utility, see Running the Configuration Utility on Linux or Solaris.

Running on Linux®

XWindows is required to install PowerChute Network Shutdown.

To run PowerChute Network Shutdown on Red Hat Linux, you must use version 8.0 or greater.

PowerChute Network Shutdown requires Java Virtual Machine (JVM), version 1.4.2 or later, on your server. Obtain this JVM from http://java.sun.com, or contact your Linux vendor or service provider. PCNS installs JVM 1.4.2 if the most recent version found on your system is less than this. If a JVM version greater than 1.4.2 is found on your system, PCNS will use the later version. It is recommended that the location of the JVM executable (java.exe) be in the PATH environment variable prior to installing PowerChute Network Shutdown. The JRE install path on Linux is /usr/local/bin/jvm.

Notes for the SuSE operating system:

- On SuSE, the service is installed in `/etc/init.d/PowerChute`. The default for all other Linux platforms is `/etc/rc.d/init.d/PowerChute`.
- The installation dialog box first displays on the right of the screen on SuSE: it has to be moved to the center to proceed.

To **stop** PowerChute Network Shutdown, type the following at the command line (see the note above for SuSE):

```
/etc/rc.d/init.d/PowerChute stop
```

To **start** PowerChute Network Shutdown manually, type the following at the command line (see the note above for SuSE):

```
/etc/rc.d/init.d/PowerChute start
```

To remove PowerChute Network Shutdown, run the uninstall script. If you do not intend to reinstall the software, remove the server IP address from the Network Management Card by using the **PowerChute** option on the Network Management Card's Web interface menu.

The PowerChute directory sometimes remains after an uninstall. You can remove this manually, but it won't affect your computer system or PowerChute Network Shutdown.

For information on using the Configuration Utility, see Running the Configuration Utility on Linux or Solaris.

Running on Novell® NetWare®

To **uninstall** PowerChute Network Shutdown on NetWare, follow these steps:

1. Confirm the process ID for Java with this command:

```
java -show
```

2. Kill the Java process:

```
java -killxxx (where xxx is a process ID)
```

3. Delete the line for PCNS in autoexec.NCF (#START PowerChute ,,,,,,)

```
nwconfig
```

4. Delete the [SYS:Pwrchute] directory

<To restart the PowerChute Network Shutdown **daemon**, follow these steps:

1. Confirm the process ID for Java with this command

```
java -show
```

2. Kill the Java process

```
java -killxxx (xxx is a process ID)
```

3. Run APCpcns.ncf in the PowerChute directory.

For information on using the Configuration Utility, see Running the Configuration Utility on NetWare.

Bare Metal Installation and Configuration with VMware ESX Server

This section discusses installation and configuration on a VMware® ESX Server v2.5.3 and 3.0.1.

Note: The RPM installer for VMware installs and uses Java Virtual Machine (JVM), version 1.4.2_11 during the installation, regardless of what version of JVM already exists on your server.

To **install**, follow these steps.

1. Locate the file `pcns-2.2.1-100.i386.rpm` on the APC Web site or on the PowerChute Network Shutdown (PCNS) CD and copy it to a temporary directory on the file server.

2. To install to the default directory (/usr/local/bin/PowerChute), type the following command:
   `rpm -ihv pcns-2.2.1-100.i386.rpm`
   OR
   To install to a custom directory, type the following:
   `rpm -ihv --prefix /custom-directory pcns-2.2.1-100.i386.rpm`
   (where "custom-directory" is the directory to install to)

To **uninstall**, type `rpm -e pcns`

To **configure** your setup, follow the steps below.

1. From the PowerChute directory, type the following:
   `./PCNSConfig.sh`

2. The following options display; type the number that corresponds to your setup.

```
[1]: Configure for a single APC UPS device
[2]: Configure for a parallel APC Silcon UPS system
[3]: Configure for multiple APC Smart-UPS devices
[4]: Configure for multiple APC Symmetra devices
```

3. You are then prompted in turn for the relevant parameters, discussed below.

   `Management Card IP`: This is the network address of the Network Management Card (NMC) attached to your UPS.

   `Management Card Port #`: The http port being used by the NMC. The default is 80. Do not change this number unless you changed the http port being used by your NMC. For multiple Smart-UPS devices, multiple Symmetra devices or a Parallel Silcon UPS system, all of the NMCs must use the SAME http port.

   `Administrator User Name, Administrator Password, Authentication Phrase`: The Administrator User Name and Authentication Phrase authenticate the communication between PowerChute Network Shutdown and the NMC. Because of this you must enter the same values in PCNS as those for the NMC.

   Note that it is possible to set a *password* for PCNS that is different from the password for the NMC.

   To ascertain the default values for NMC, please refer to the **Network Management Card Users' Guide**.

   If you are using multiple Smart-UPS devices, multiple Symmetra devices, or a Parallel Silcon UPS system, all of the Network Management Cards in the UPS system must use the same Administrator User Name and Authentication Phrase. Additionally, you must specify all the IP addresses of your Network Management Cards in your multiple device configuration. You will be prompted to type one IP address at a time and you must type at least two IP addresses.

Running a Multiple-UPS Configuration (Smart-UPS and Symmetra)

A multiple-UPS configuration is also know as a "redundant UPS" configuration where one of several UPSs a) only partially shares the load or b) operates as a stand-by to back up a faulty unit. Specifically, PowerChute Network Shutdown can manage up to three Smart-UPS or Symmetra units (of the same model type) providing redundant backup power to a single server. In this configuration, each UPS in the system has its own Network Management Card (AP9617, 18, or 19) with PowerChute Network Shutdown recognizing the entire configuration as a single UPS.

Caution: In a multiple-UPS configuration, each UPS must have enough capacity to carry all the electrical load of the computer system. So, for example, if you had two UPSs in a multiple configuration, and one stops supplying power, the other UPS must have enough capacity to continue supplying power to protect the computer system.

For a multiple-UPS configuration, you must have PowerChute Network Shutdown 2.2 or greater. See also Requirements.

You can't upgrade to a multiple-UPS configuration from a previous version of PowerChute Network Shutdown: you must uninstall, install the new version, and re-configure your options.

With a multiple configuration, PowerChute Network Shutdown always recognizes and logs the events in the groups listed below (see the text on individual events in the List of Events section in **Help.html**):

- Network communication lost events
- UPS communication lost events
- UPS off
- UPS on battery events
- Environmental Monitoring Card events
- Runtime Exceeded

For the Environmental Monitoring Card and Runtime Exceeded events, any actions you configured for the event will be instigated (see the Configuring Events section in **Help.html**).

Notes: With multiple-UPS configurations:

- PCNS always considers either a) a low battery condition or b) a UPS off condition as a critical event.
- Two critical events in succession always cause a shutdown. In addition, with any of these configurations, a critical event will cause an immediate shutdown; no delay time will be counted.

For details on **Advanced Configuration**, see the Advanced Configuration section in the **Help Guide**.

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