ESX HowTF

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Based on forum posts by Steve Beaver
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Configuring PowerChute Network Shutdown in ESX

Basically because ESX service console has no GUI, and because PowerChute has a Java GUI Installer, the only way to install PowerChute APC PowerChute Network Shutdown for Linux is to use a Helper Red Hat Linux Virtual Machine to install PCNS into, and tar up the resulting binaries and transport them into ESX.

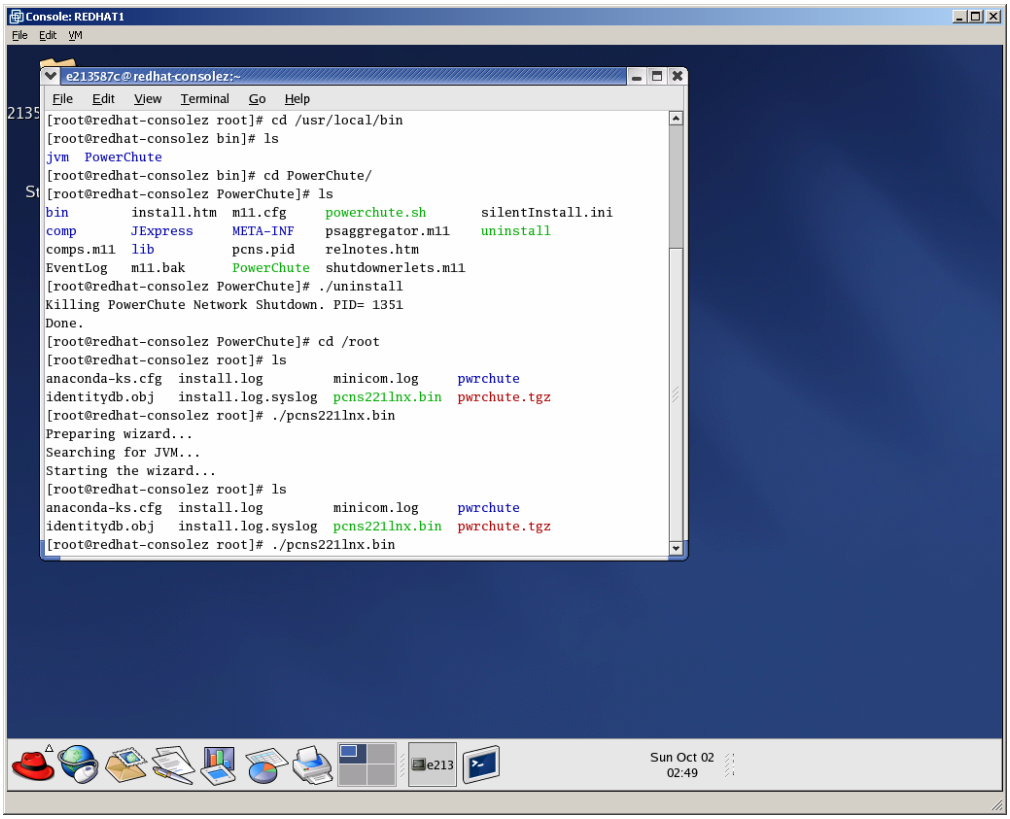
This solution has been tested on ESX 2.5.0, 2.5.1, 2.5.2, and is theoretically okay on all ESX 2.x versions.

CREATING THE POWERCHUTE PACKAGE

1. Create a Red Hat Linux 7.3 Virtual machine, or use an existing Red Hat workstation if you have access to one. (Red hat Linux 9.0 was tested and worked okay also).

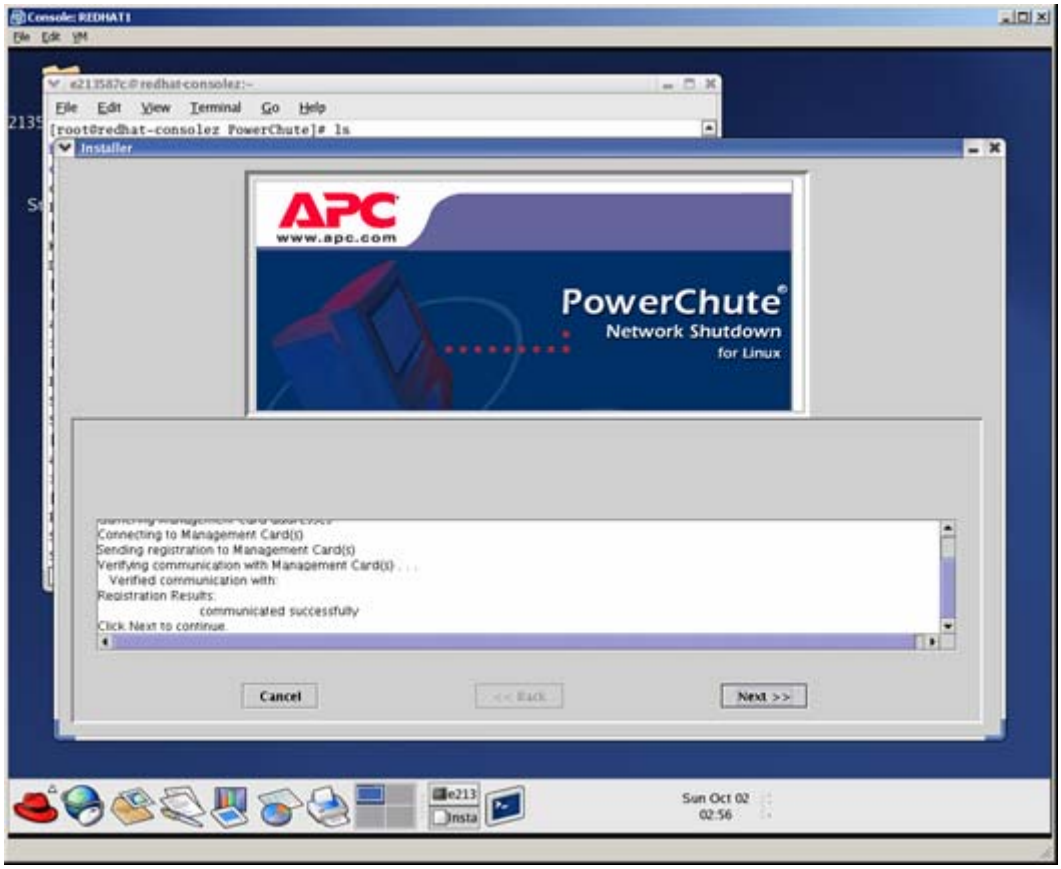
2. Download APC PowerChute Network Shutdown 2.2.1 and place it in your root / directory. You can download this file from www.apc.com, the filename should be **pcns221lnx.bin** This document cannot link directly to the file as registration is required to download.

3. Install PCNS 2.2.1 into the VM by entering **./pcns221lnx.bin** from a terminal window.



4. For the installation, use the default installation location **/usr/local/bin/PowerChute** and **Install to Single UPS Device**.

5. For the management card IP enter the IP address of the UPS that the target ESX server you will eventually be installing PCNS onto. It doesn't matter if the Management Card is not contactable due to firewall restrictions. It's only important to enter these details so the configuration file for PCNS (a file called /usr/local/bin/PowerChute/m11.cfg) file is correct.



6. Tar up the installation from your helper Virtual Machine using the following command from a Terminal window on your Helper VM.

```
tar -pzvcf /root/pwrchute.tar.gz /usr/local/bin/jvm
/usr/local/bin/PowerChute
```

Above command all should be on one single line.

7. Copy the tar ball either directly to your target ESX host or to your software repository location.

```
scp root@helpermachine:/pwrchute.tar.gz c:\pwrchute.tar.gz
```

Note: some of the SCP commands in this document presumes you already have downloaded "PSCP.EXE" for Windows, renamed it to SCP.EXE, and put it in your system path! This is a very handy thing to do for your Windows Workstation when working with ESX and other Unix systems.

8. Also it's wise to copy the **/usr/local/bin.m11.cfg** file from your helper VM and store it somewhere convenient as this (binary and unreadable) file contains the IP address of the UPS. This way you only need to install PCNS into your helper VM once per target UPS, then it's trivial to replace m11.cfg file on each ESX host to connect to the right UPS. You can maintain a

repository of m11.cfg's for each UPS you connect to. If you only have one, or if you have a central management card in an Enterprise UPS (Symmetra), then you don't need to do this.

a. For example, to copy the m11.cfg somewhere on your Windows host.

```
scp root@<IP OF YOUR HELPER VM>:/usr/local/bin/PowerChute/m11.cfg c:\m11.cfg
```

Installing the TAR Package onto YOUR ESX Host

1. **Copy the TAR Ball to the root directory of your ESX Host**

   ```
   scp pwrchute.tar.gz root@your-host.where.com:
   ```

   Make sure **pwrchute.tar.gz** ends up at the root directory on the ESX host, to ensure when you extract that it all goes to the correct locations

2. **Extract it**

   From your ESX Host's console, type

   ```
   cd /
   tar –zxvf pwrchute.tar.gz
   ```

   This will recreate the same directory structure and files when PCNS installed into your helper VM.

3. **Add the Symbolic Links to allow PCNS to startup.***

   ```
   ln -s /etc/rc.d/init.d/PowerChute /etc/rc.d/rc0.d/S99PowerChute
   ln -s /etc/rc.d/init.d/PowerChute /etc/rc.d/rc1.d/S99PowerChute
   ln -s /etc/rc.d/init.d/PowerChute /etc/rc.d/rc2.d/S99PowerChute
   ln -s /etc/rc.d/init.d/PowerChute /etc/rc.d/rc3.d/S99PowerChute
   ln -s /etc/rc.d/init.d/PowerChute /etc/rc.d/rc4.d/S99PowerChute
   ln -s /etc/rc.d/init.d/PowerChute /etc/rc.d/rc5.d/S99PowerChute
   cp /usr/local/bin/PowerChute/PowerChute /etc/init.d/PowerChute
   ```

   *** These Commands make an ideal Shell Script!**

4. **Copy M11.CFG If necessary to your ESX Host**

   ```
   scp c:\m11-UPS1.cfg root@your-host:/usr/local/bin/PowerChute
   ```

5. **Starting and Stopping the Thing (and see what happens…)**

   Note the Syntax of:

   ```
   /etc/rc.d/init.d/PowerChute
   Usage PowerChute [start|stop]
   ```

   a. **Start the Thing**

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

At this stage, PowerChute is installed and running on your ESX Host, and is talking to:

(1) Whichever UPS management card you configured when you installed it into your helper VM.

Or

(2) The one you specified in the m11.cfg file you chose to copy over earlier.

….That's great news! But how do I configure it!?

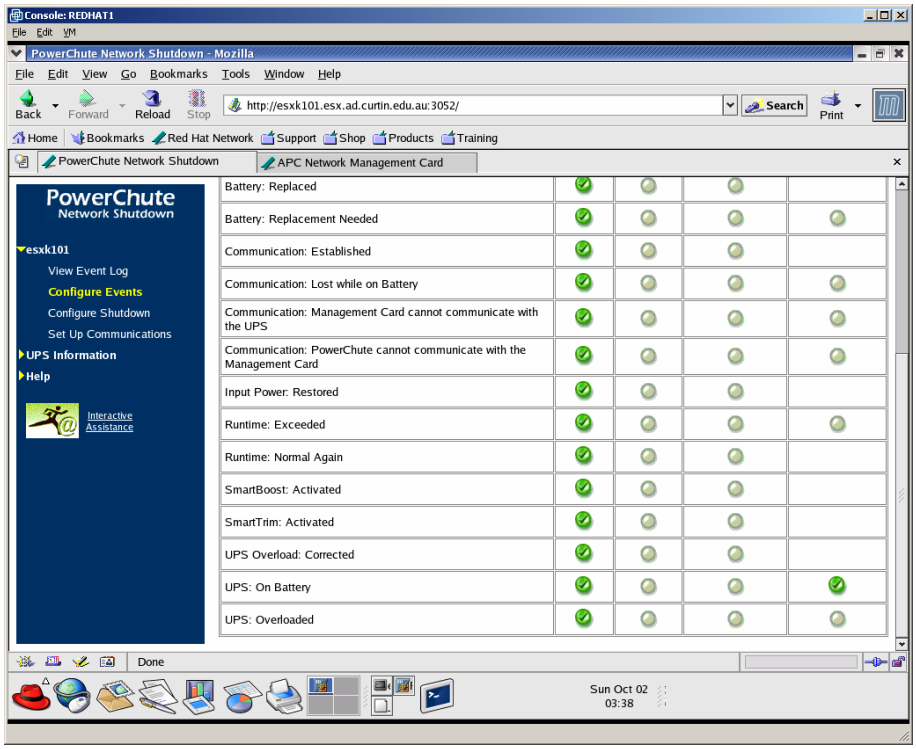
CONFIGURING YOUR ESX HOST'S POWERCHUTE:

1. **LOGON TO THE PCNS WEB INTERFACE**

   HTTP://YOUR-HOST.WHERE.COM:3052

2. FROM CONFIGURE SHUTDOWN OPTION, **UNTICK "TURN OFF UPS". THIS IS VERY IMPORTANT for enterprise environments.**

3. FROM CONFIGURE EVENTS OPTION, **SET UPS ON-BATTERY EVENT** TO SHUTDOWN SYSTEM AFTER 600 SECONDS (FOR EXAMPLES' SAKE ONLY. THIS DEPENDS ON YOUR ENVIRONMENT AND REQUIREMENTS…)



NOTE: WHEN CONFIGURING PCNS, IT'S BEST TO CTRL-REFRESH the application's frames after each item you change, as the application is buggy and sometimes looks like your changes haven't stuck. You may even have to do this multiple times (in Firefox) as well as right click and REFRESH the right hand frame so it updates with your new configuration. This is a noted bug with APC, and they don't seem to want to fix it.

CONFIGURE PCNS SHUTDOWN SETTINGS ON THE UPS

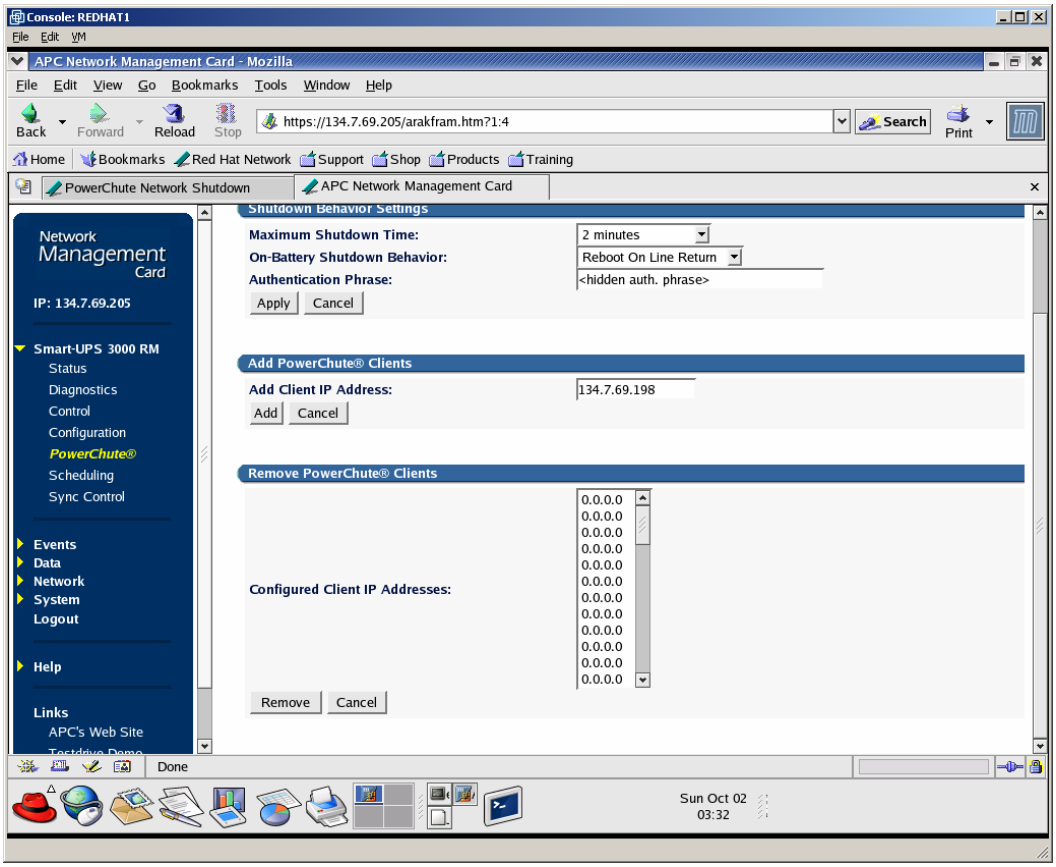
These additional steps may be required, depending on your UPS and whether or not ESX Host to UPS communications were successful. It's highly recommended to check the UPS anyway after configuring your new hosts.

1. LOGON TO YOUR UPS's MANAGEMENT CARD'S WEB INTERFACE

   HTTP://YOUR-MANAGEMENT-CARD.WHERE.COM

   - This may be https if your management card is equipped.

2. REMOVE ANY OF YOUR VIRTUAL MACHINE HELPER IP ADDRESS(ES) FROM THE MANAGEMENT CARD. THEY DON'T NEED TO BE THERE.



3. CHECK and ADD THE IP ADDRESS(ES) OF ALL OF THE ESX HOSTS THAT YOU'RE CONNECTING TO THIS UPS.

NOTE: HOW TO UNINSTALL POWERCHUTE

It's easy to uninstall from your Helper Virtual Machine, Just enter the following from the terminal window:

```
cd /usr/local/bin/PowerChute
./uninstall
```

But to uninstall from ESX is a little trickier. You need to first remove the symbolic links:

```
rm /etc/rc.d/rc0.d/S99PowerChute
rm /etc/rc.d/rc1.d/S99PowerChute
rm /etc/rc.d/rc2.d/S99PowerChute
rm /etc/rc.d/rc3.d/S99PowerChute
rm /etc/rc.d/rc4.d/S99PowerChute
rm /etc/rc.d/rc5.d/S99PowerChute
rm /etc/init.d/PowerChute
```

Then finally remove the files and folders. Be sure that you aren't using the Java folder for anything else before you do this! On a default ESX 2.x server system, there is no jvm directory anyway, so unless you've installed some other third party jvm based product, Powerchute should be the only thing using it.

```
rm -rf /usr/local/bin/jvm
rm –rf /usr/local/bin/PowerChute
```