

PowerPanel[®] Business Edition Installation Guide

For

UPS with Remote Management Card

Rev. 3

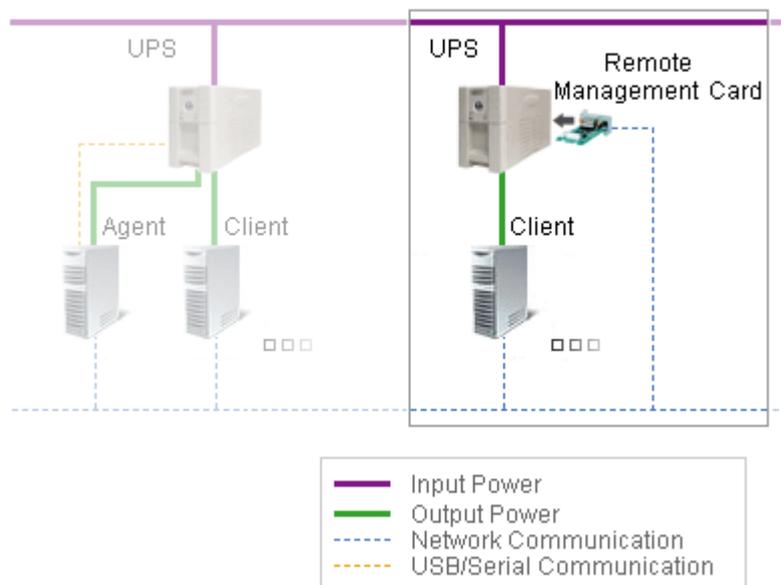
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Introduction

An UPS with the remote management card (RMCARD) can provide users for accessing the UPS directly via the network. Any computers, running the PowerPanel® Business Edition Client and being supplied power by the UPS, are shut down in advance to avoid the system crash or data loss in the event of power outage. The PowerPanel® Business Edition Client running on the host can communicate with the UPS via the network. In the event of power failure, the PowerPanel® Business Edition Client will be aware of this condition and request the hosted computer to shut down completely before the UPS stops supplying power due to battery power exhausting.



The PowerPanel® Business Edition Client can be installed on the various platforms to conform shutdown requirement including Windows, Linux, VMWare ESX/ESXi. Below sections describes special conditions to these platforms individually if necessary.

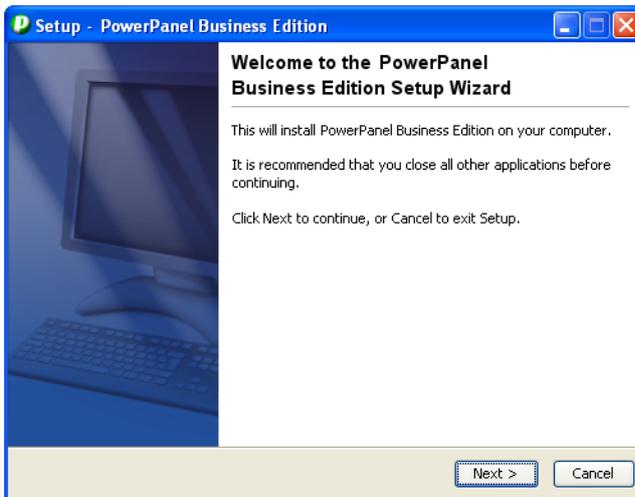
Install PowerPanel Business Edition Client

Installation on Windows

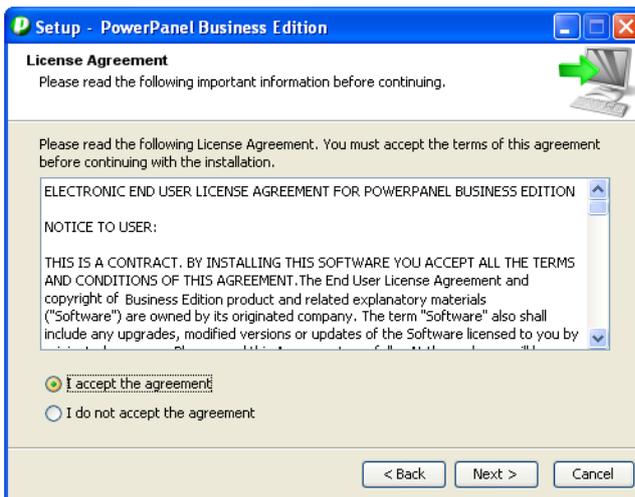
A popup page will be displayed automatically when inserting the PowerPanel® Business Edition installation CD. Users can click the **Install PowerPanel Business Edition** shortcut on the popup page to initiate the installation procedure. If the popup page is not displayed when inserting the CD, browse to the CD drive and open the folder named **software**, and then double click the file named **setup.exe** to start the installation procedure.

To install follow these steps:

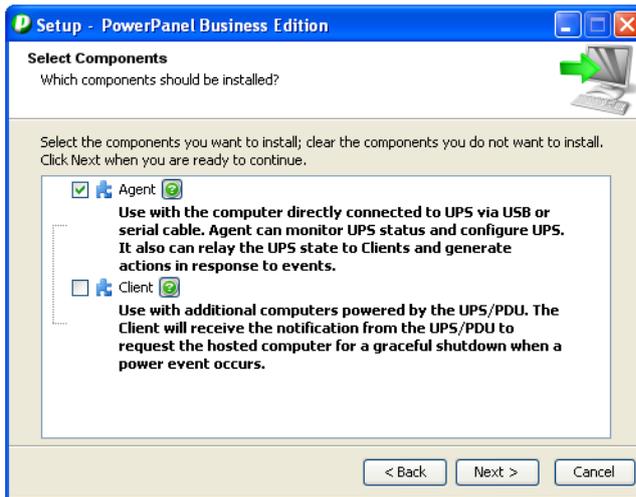
- Click the **Next** button to start an installation.



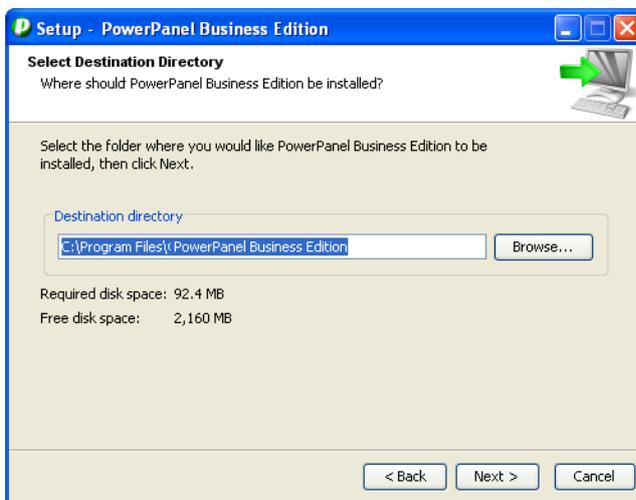
- Accept the license agreement.



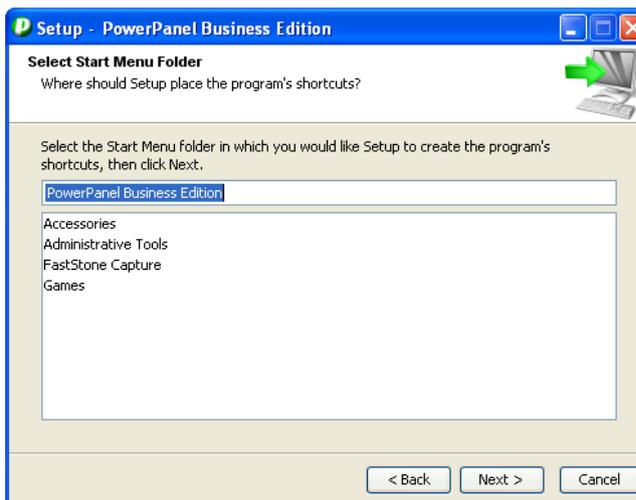
- **Choose the component.** In order to communicate with UPS RMCARD, you have to select the Client instead of Agent to install.



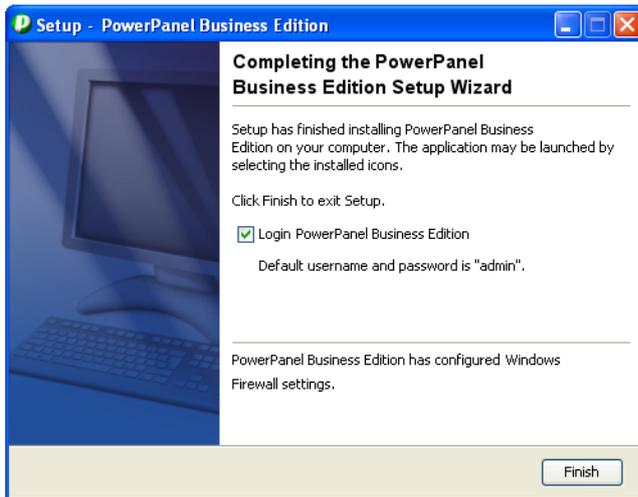
- Choose the destination location.



- Choose the start menu folder.



- Click the **Finish** button to complete the installation.



Installation on Linux

On Linux, users may mount CD by using the mount command. Run **mount -t iso9660 /dev/scd0 /mnt/cdrom** as a root user. */dev/scd0* is the CD drive and */mnt/cdrom* will be the mount point.

Browse to the CD drive and find the installer named **setup.sh** in the **/software/linux** folder. The installer is used to install the Client and requires root permission. The installation wizard will guide users to complete the installation. Double click **setup.sh** or run the **./setup.sh** command to initiate an installation wizard on desktop.

To install follow these steps:

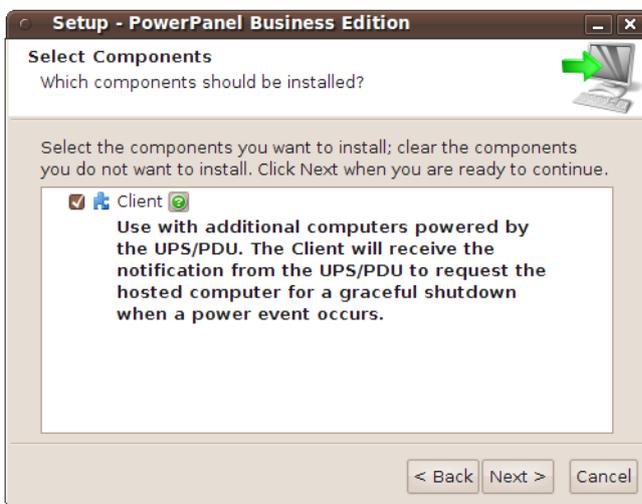
- Click the **Next** button to start an installation.



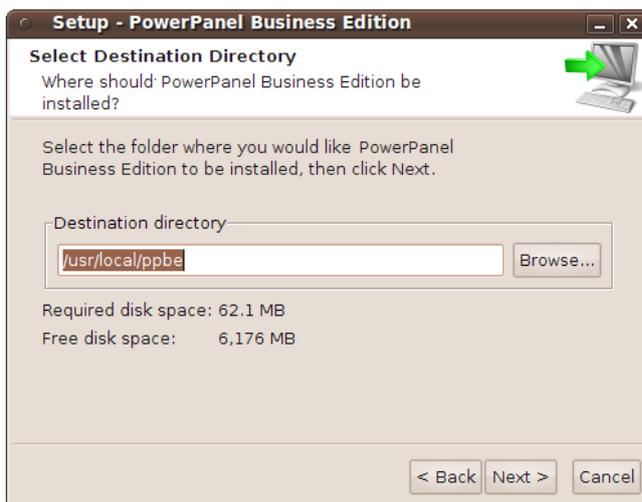
- Accept the license agreement.



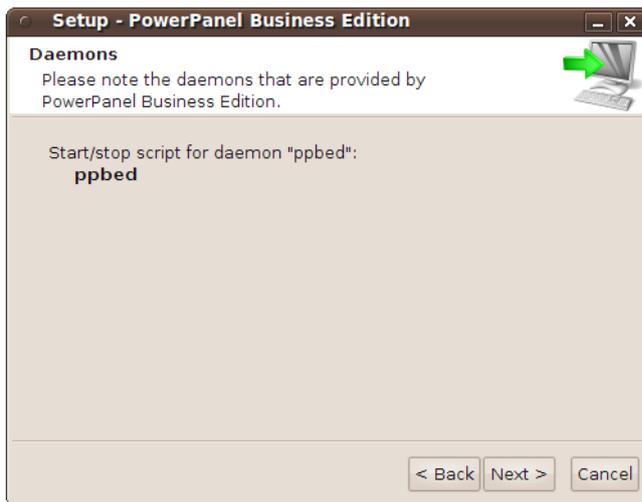
- Click **Next** button to the next step. On Linux, only Client can be installed.



- Choose the destination location.



- The daemon **ppbed** will start during installation. Click **Next** button to continue.



- Click the **Finish** button to complete the installation.



Note: The Linux installation will be also initiated by using the `./setup -c` command in text mode. The detailed installation steps are described in **Installation on VMWare ESX/ESXi 4** section.

Installation on VMWare ESX/ESXi 4

On VMWare ESX/ESXi, users may mount CD by using the mount command. Run **mount /dev/scd0 /mnt/cdrom** as a root user. `/dev/scd0` is the CD drive and `/mnt/cdrom` will be the mount point.

Browse to the CD drive and find the installer named **setup.sh** in the `/software/linux` folder. The installer is used to install the Client and requires root permission. The installation wizard will guide users to complete the installation. Double click **setup.sh** or run the `./setup.sh` command to initiate an installation procedure.

Note: Installation for **ESX** server must be launched on the **Service Console** (aka **Console Operation System**); installation for **ESXi** server must be launched on the **vMA** (**vSphere Management Assistant**) installed on the VMWare ESXi host computer.

The installation procedure will be initiated as following steps:

- Press **Enter** to start an installation.

```
Starting Installer ...
This will install PowerPanel Business Edition on your computer.
OK [o, Enter], Cancel [c]
```

- **Accept the license agreement.**

```
YOUR ACCEPTANCE OF THE FOREGOING AGREEMENT WAS INDICATED DURING
INSTALLATION.
```

```
I accept the agreement
Yes [1], No [2]
```

- **Choose the component.** Click **Enter** for the default selection to install the Client.

```
Which components should be installed?
1: Client
Please enter a comma-separated list of the selected values or [Enter] for the de
fault selection:
[1]
```

- **Choose the destination location.**

```
Where should PowerPanel Business Edition be installed?
[/usr/local/ppbe]
```

- Installation procedure starts to process until the installation is complete.

```
Please wait for PowerPanel Business Edition configuring
Default username and password is "admin".
PowerPanel Business Edition may not do hibernation.
Finishing installation...
```

***Note:** In order to allow the interactions between physical and virtual machines, VMware tools have to be installed on each virtual machine. Refer to VMware ESX/ESXi Server documentation for further information about VMware Tools.*

Verify Firewall Settings

The installer will automatically setup in order to ensure the PowerPanel Business Edition can pass through the firewall during installation. Users can verify the firewall settings or setup again according to following steps.

The firewall settings could be verified on Windows such as **Control Panel > System and Security > Windows Firewall > Allow programs to communicate through Windows Firewall** on Windows 7, **Control Panels > Security > Windows Firewall > All programs to communicate through Windows Firewall > Exceptions** tab on Windows Vista or **Control Panel > Network and Internet Connections > Windows Firewall > Exceptions** tab on Windows XP.

Most Linux distributions and VMWare ESX 4 have the firewall installed and startup. Once installation is complete, verify the below ports are open: UDP 161 (out), UDP 162 (in), TCP 3052 (in/out), UDP 3052 (in/out), TCP 8443 (in/out), UDP 53566 (in/out).

Use “*iptables*” command, which is supported by most Linux distributions, to list the open communication ports using in connection.

On Linux, use following command to open communication ports

```
iptables -I OUTPUT -p udp --dport 161 -j ACCEPT
iptables -I INPUT -p udp --dport 162 -j ACCEPT
iptables -I INPUT -p tcp --dport 3052 -j ACCEPT
iptables -I INPUT -p udp --dport 3052 -j ACCEPT
iptables -I OUTPUT -p tcp --dport 3052 -j ACCEPT
iptables -I OUTPUT -p udp --dport 3052 -j ACCEPT
iptables -I INPUT -p tcp --dport 8443 -j ACCEPT
iptables -I OUTPUT -p tcp --dport 8443 -j ACCEPT
iptables -I INPUT -p udp --dport 53566 -j ACCEPT
iptables -I OUTPUT -p udp --dport 53566 -j ACCEPT
service iptables save
```

On VMWare ESX 4 server, use following command to open communication ports:

```
esxcfg-firewall -o 161,udp,out,ppbed
esxcfg-firewall -o 162,udp,in,ppbed
esxcfg-firewall -o 3052,udp,out,ppbed
esxcfg-firewall -o 3052,udp,in,ppbed
esxcfg-firewall -o 3052,tcp,out,ppbed
esxcfg-firewall -o 3052,tcp,in,ppbed
esxcfg-firewall -o 53566,udp,out,ppbed
esxcfg-firewall -o 8443,tcp,out,ppbed
esxcfg-firewall -o 8443,tcp,in,ppbed
```

Access PowerPanel® Business Edition Client Interface

To access the Client interface in Windows, go to **Start > Programs > PowerPanel Business Edition > PowerPanel Business Edition Client**, which will take you to the login page. On Linux, user can also enter the URL as `http://127.0.0.1:3052/client` in the address of the web browser to access to the Client.

User can also enter the URL, `http://hosted_computer_ip_address:3052/client`, in the address of the web browser to access the Client from a remote computer. **hosted_computer_ip_address** is the IP address of the computer which has the PowerPanel® Business Edition Client installed.

The default username is **admin** and the default password is **admin**. For security purposes, it is recommended you change the login username and password in the Client after login.

Establish Communication between Client and UPS

Setup Authentication between Client and UPS RMCARD

In order to create the secure communication between Client and UPS, users must setup the matched secret phrase or the matched SNMP community for authenticating on communication.

Setup Secret Phrase between Client and UPS RMCARD

The secret phrase is used to create secure network communication between the Client and the UPS RMCARD. The secret phrase of the Client and the UPS RMCARD must be matched. User can setup the Secret Phrase on the **System/Security** page in the UPS RMCARD and can also setup the Secret Phrase on the *Secret Phrase* field of the **Security/Authentication** page in the Client.

For security purpose, it is recommended to change the key. The default secret phrase is **powerpanel.encryption.key**. When the key in the UPS RMCARD is changed, the key in the Client is also changed to match each other.

Assign an UPS IP Address in Client

Communication can be established through the network by assigning the Client an IP Address of the UPS. The IP address of the UPS RMCARD can be assigned at the *Address* field of the *Device Network Address* block on the **Power/Configuration** page in the Client. To identify the IP address, users can pick an address from the device list which shows all devices on the local network. In order to ensure the UPS RMCARD can respond to the Client normally, the community configuration must be setup properly.

Assign Connected Outlet of Client

Users should assign the correct **Major/NCL** outlet to the Client computer on the *Outlet* block of the **Power/Configuration** page in the Client.

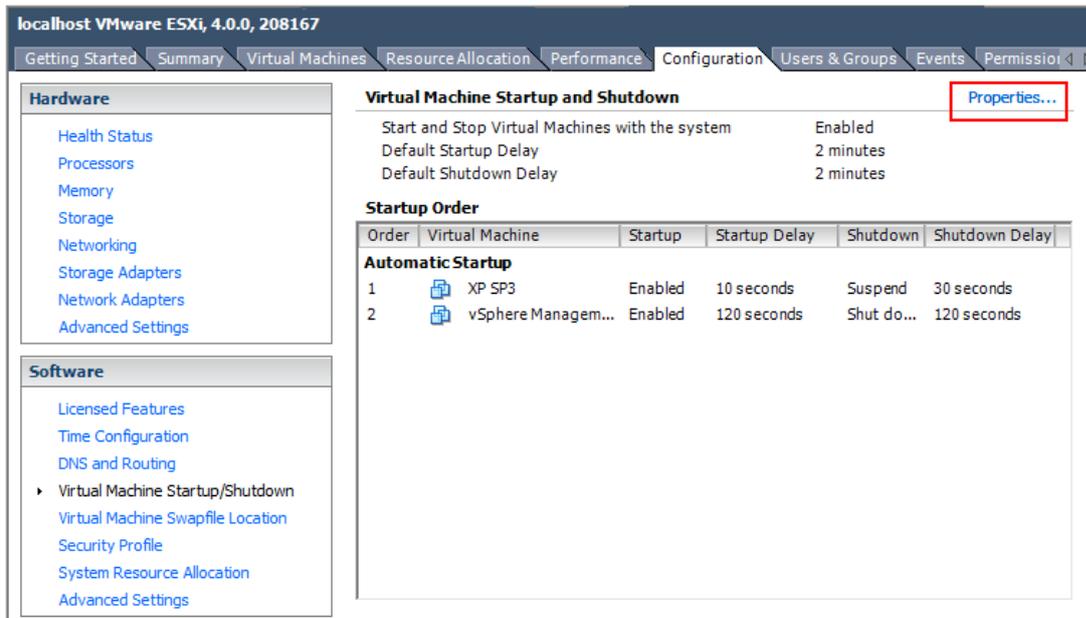
Setup Necessary Shutdown Time

Each computer running the Client requires the sufficient time to be shut down completely before the UPS stops supplying power for any reason. Therefore users could set up this sufficient time at the *Necessary shutdown time* option on the **Event Action/Action Settings** page in the Client

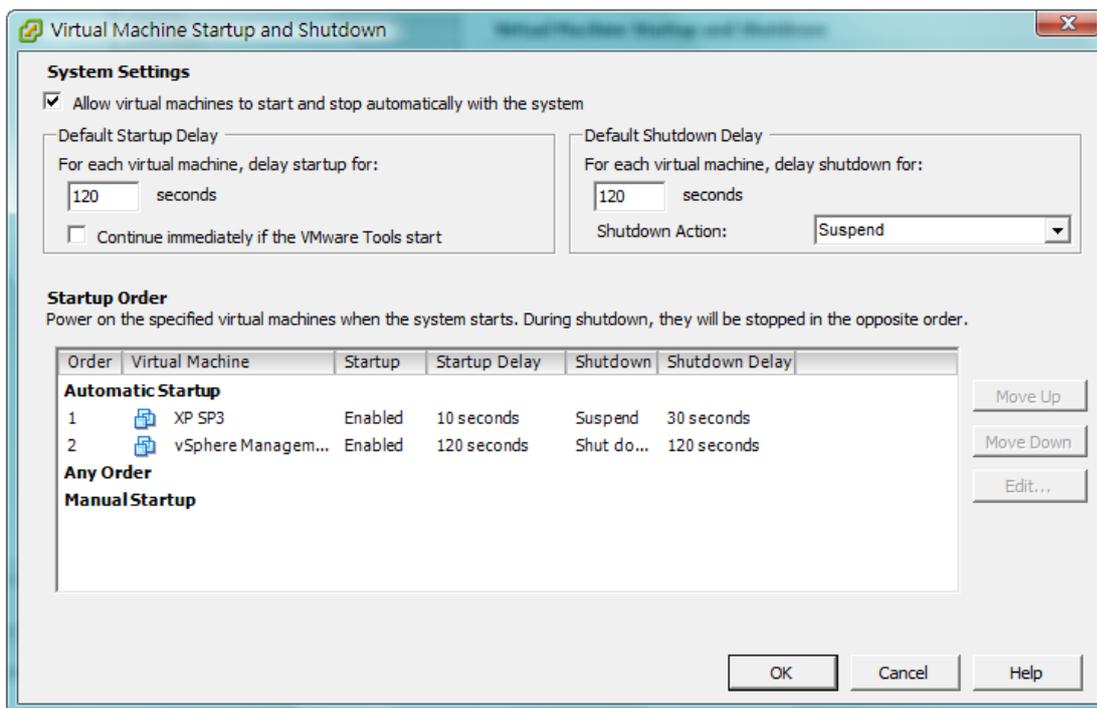
Configure Startup and Shutdown of Virtual Machines on VMWare ESX/ESXi 4

In order to assure that all virtual machines could be shut down gracefully, use **vSphere Client** to configure the shutdown delay time for each virtual machine. Following procedures will guide you to configure the automatic startup and shutdown properties of each virtual machine:

- Select the topmost VMware ESX/ESXi server host from the tree hierarchy on the left side. Go to **Configuration** → **Virtual Machine Startup/Shutdown** menu → **Properties**.



- Set **Allow virtual machines to start and stop automatically with the system** option enabled. The **Shutdown Action** option of the **Default Shutdown Delay** block should be changed to **Suspend** to ensure all virtual machine can restore from previous state at next boot of host machine.



Configure Command Execution for VMWare ESXi 4

(Note: Settings described in this section are not required on VMWare ESX 4)

In order to assure the ESXi host and all virtual machines can be shut down correctly in case of power events, users have to edit the command script files for specific event to shutdown ESXi host from vMA. Refer to the examples of **shutdown.sh** in the **extcmd** directory of installation folder. Then configure the command file fields to have **shutdown.sh** selected on events which are configured with shutdown action in the **Event Action/Events** page. These events include *Battery capacity is critically low*, *The output power is going to stop*

soon and *Utility power failure* events. That ensures the command able to be executed when these events occur.

Fill in the **\$host_username** and **\$host_password** with actually username and password for the ESXi host in the **shutdownHostViaSOAPAPICall.pl** of the **/extcmd/etc** directory:

```
.... (snippet)...  
my $host_username = 'your_username';  
my $host_password = 'your_password';  
.... (snippet)...
```

And add a line of the VMWare ESXi 4 installed computer (ESXi host) address in the **hostlist** file of the **/extcmd/etc** directory:

```
192.168.1.2
```