



PowerPanel[®] Business Edition
Installation Guide
For
UPS without Remote Management Card

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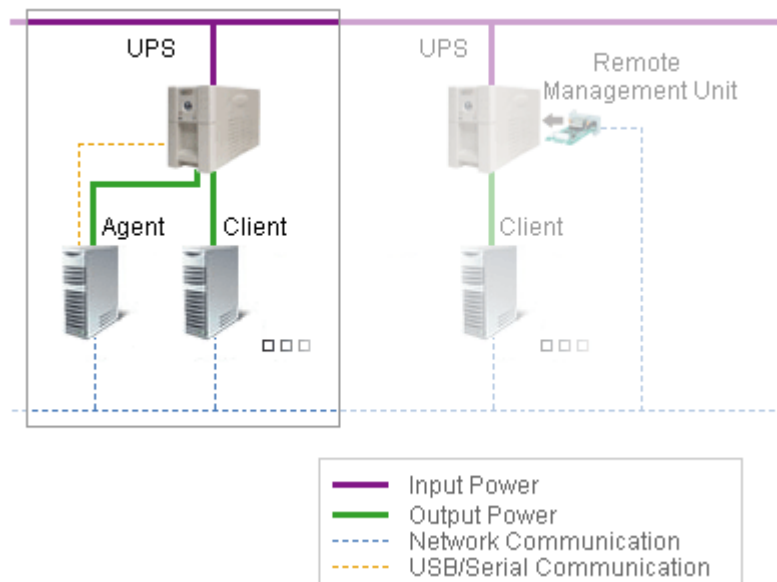
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Introduction

PowerPanel® Business Edition software provides for the power management and unattended/automatic shutdown of PCs and servers connected to the UPS. When one computer is supplied power by the UPS and communicates with the UPS through the USB or serial connection, installing PowerPanel® Business Edition Agent on this single computer can initiate a shutdown in the event of the power outage to prevent the hosted computer from experiencing data loss.

Computers which are also supplied power by the UPS can be protected by installing Client. The Agent establishes communication with the Client via the network and relays the UPS state to the Client. Before the UPS stops supplying power to the Client computer, the Client will be ordered to perform an early, graceful shutdown by the Agent.



Hardware Installation

Connect Computer's Power with UPS Correctly

UPS outlets may have different functions: **Surge + Battery** protected outlets provide protection for the equipment connected to them and supply battery power once power outage occurs. **Surge** protected outlets provides protection for the equipment but does not provide battery power when a power outage occurs. The Agent computer should be connected to the UPS in one of the **Surge + Battery** protected outlets instead of a **Surge** outlet.

On specific modes, **NCL** (Non-critical load) outlets are designed to turn off early to save battery power in order to maximize the battery runtime for the remaining outlets. The Agent computer also should be not plugged into these NCL outlets. Determine which outlet should be used by the Agent computer according the following:

Smart App Online series.

Outlets numbered **1** or **2** are NCL. The Agent computer should be plugged into one of the other outlets instead of these numbered ones.

Smart App Sinewave series and Professional Rack Mount LCD series.

The Agent computer should be plugged into one of outlets labeled **CRITICAL LOAD**.

Smart App Intelligent LCD series.

The Agent computer should be plugged into one of outlets labeled **SURGE + BATTERY**.

Note:** The Agent computer should also be plugged into one of outlets labeled **SURGE + BATTERY** in other series such as the **Smart App AVR series, PFC Sinewave series, Intelligent LCD series, AVR series, Standby series, BS series, DX series, BRICs series, BRICs LCD series, Office Rack Mount series and Office Tower series.

Value series, Value GP series, Value GP LCD series and Paragon Tower series.

- The Agent computer can be plugged into any of the outlets.

Professional Rack Mount series.

- The Agent computer should be plugged into one of black outlets.

Professional Tower series.

- The Agent computer should be plugged into one of outlets labeled **CRITICAL LOAD OUTLET BANK**.

Ensure USB or Serial Cable between Computer and UPS is Connected Properly

Make sure the connection between the Agent computer and the UPS is securely connected. The Agent will not monitor the UPS status if the communication is lost.

If Agent is installed on VMware vMA, or on any virtual machine in ESX and ESXi, USB device or serial cable which connects to the UPS should be assigned to vMA or any virtual machine manually.

Follow the below steps:

1. Click **Edit virtual machine settings** of the virtual machine. If the USB controller is available, go to step **6** to add a new USB device.

ppbe232_centos

Getting Started Summary Resource Allocation Performance Events Console Permissions

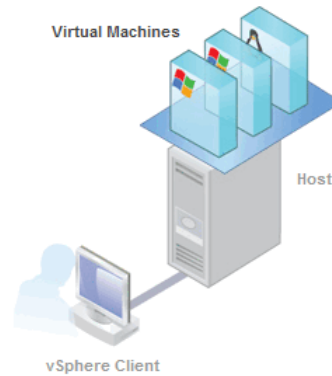
close tab X

What is a Virtual Machine?

A virtual machine is a software computer that, like a physical computer, runs an operating system and applications. An operating system installed on a virtual machine is called a guest operating system.

Because every virtual machine is an isolated computing environment, you can use virtual machines as desktop or workstation environments, as testing environments, or to consolidate server applications.

Virtual machines run on hosts. The same host can run many virtual machines.

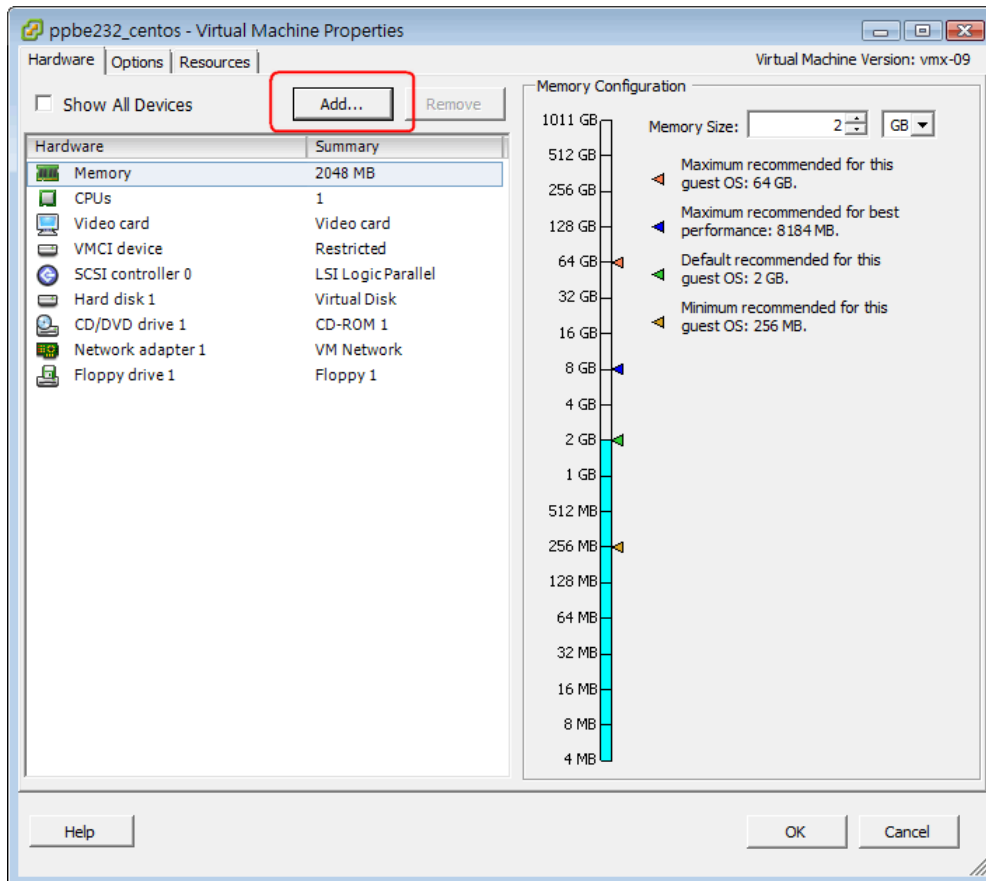


Basic Tasks

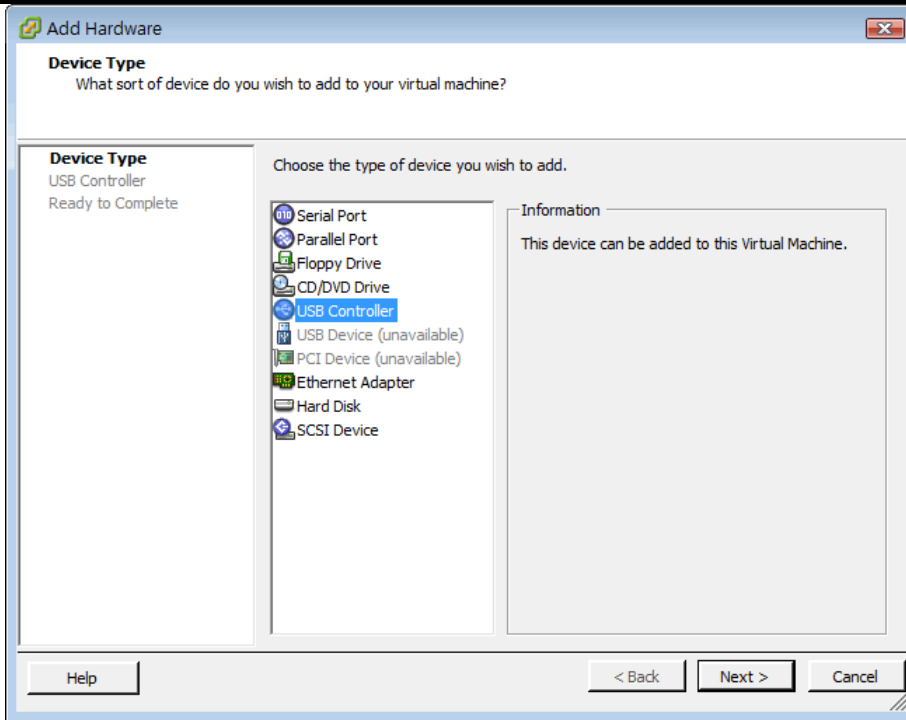
▶ Power on the virtual machine

🔧 Edit virtual machine settings

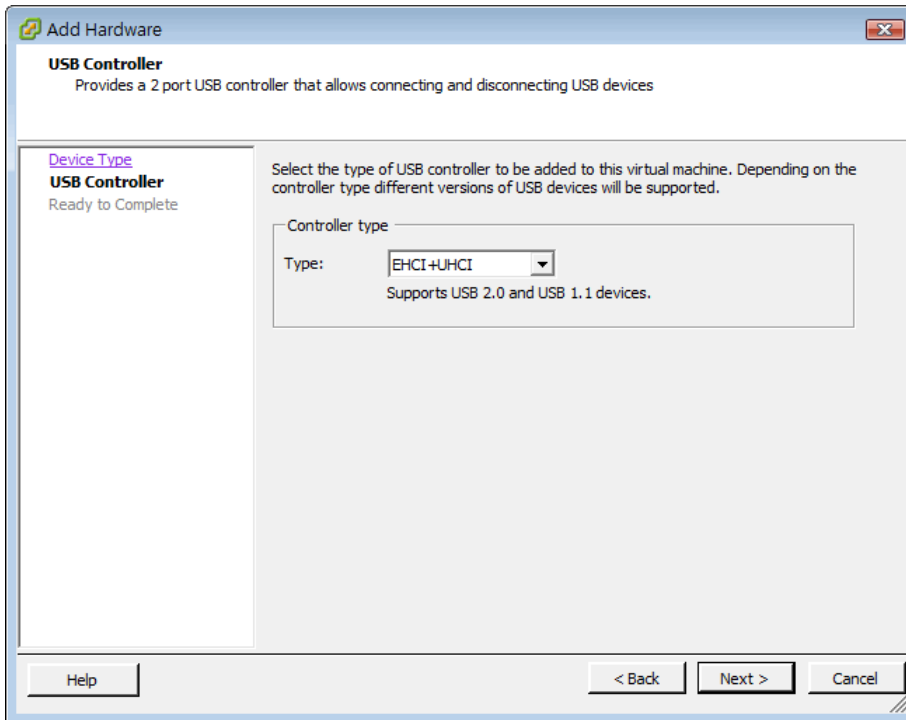
2. Click **Add** to add a new USB controller.



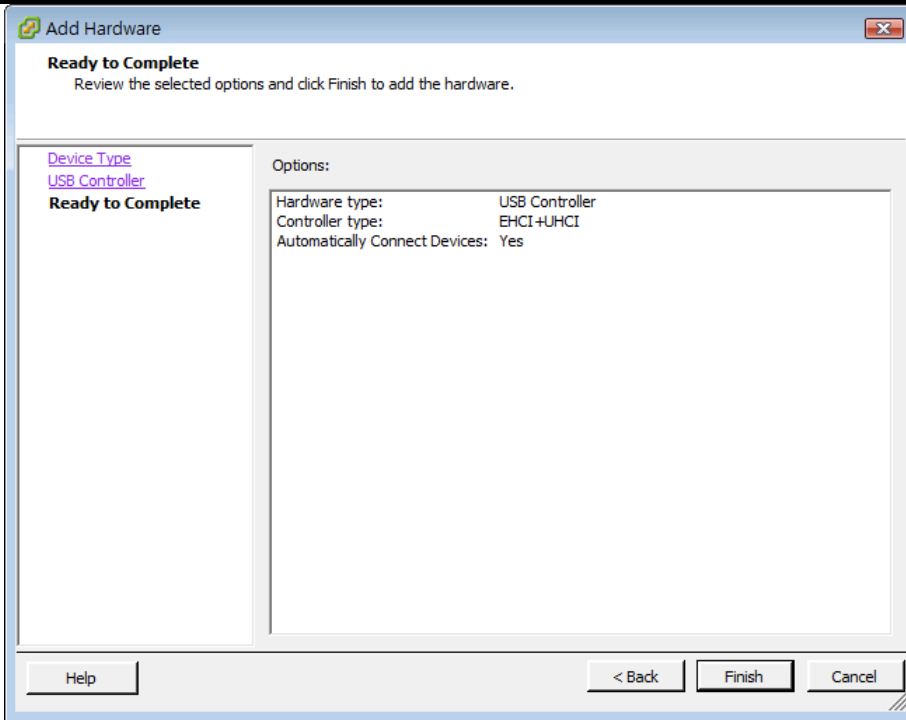
3. Select **USB Controller** from the list and click **Next**.



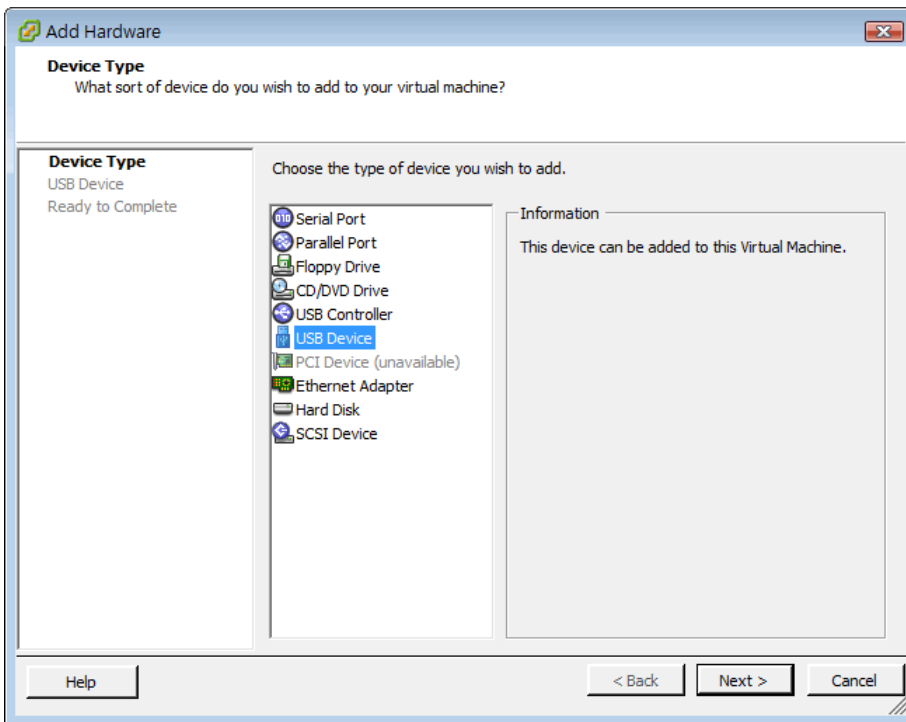
4. Select USB Controller Type.



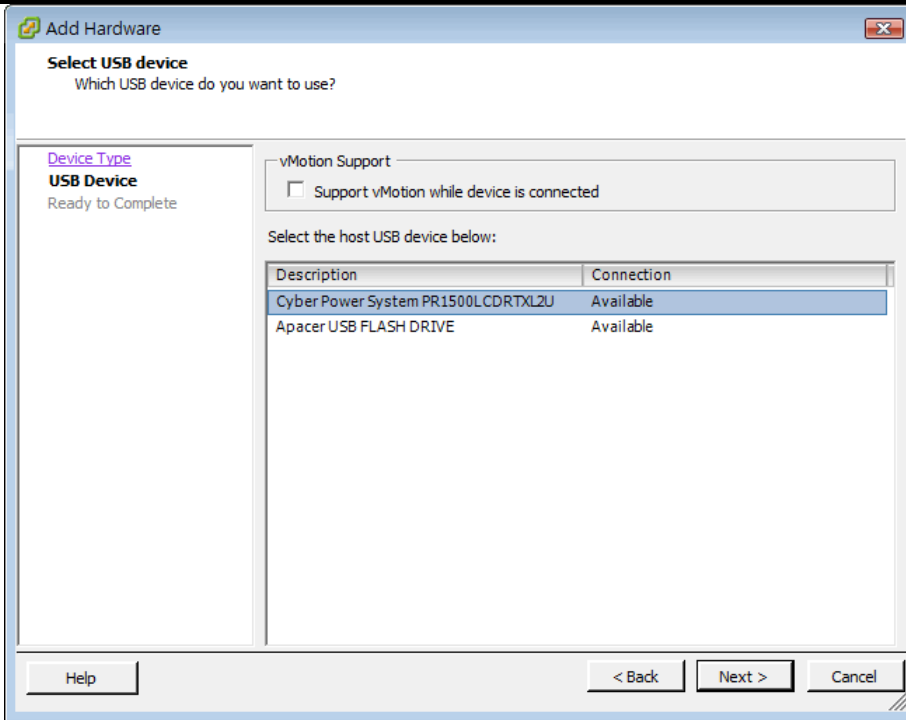
5. This will add a USB controller. Click **Finish** to finish.



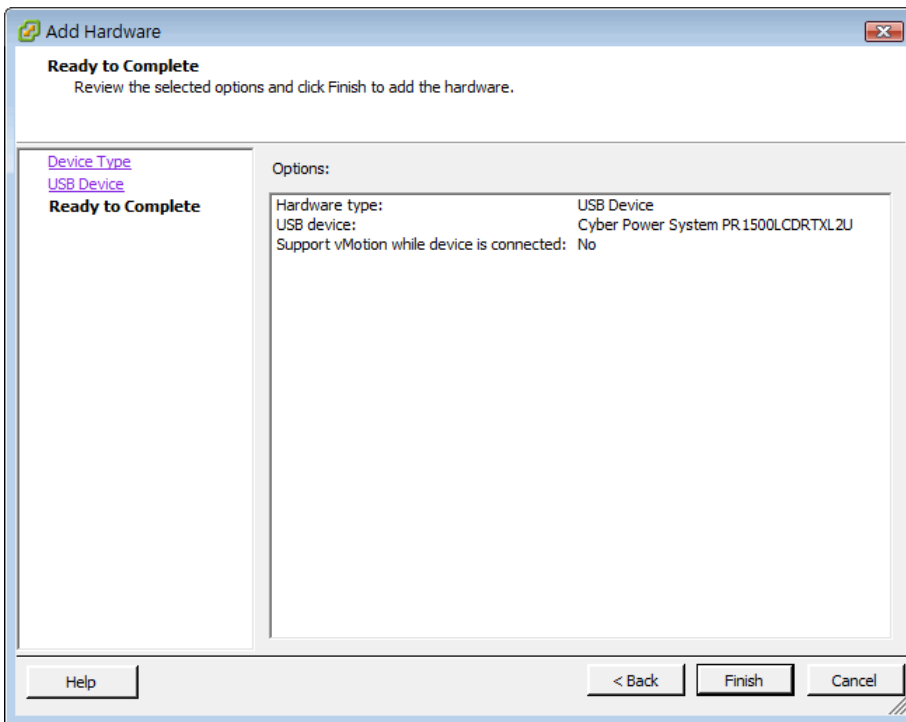
6. Select the **USB Device** and click **Next**.



7. Select the **USB Device** which is connected with the PPBE virtual machine.



8. USB device detail will be displayed and click **Finish** to finish. This will add a new USB device.



Note: USB device passthrough from an ESX or ESXi host to the vMA is supported from ESX/ESXi 4.1.

Note: Citrix XenServer 5.0 and later versions support USB device.

Installing PowerPanel® Business Edition Software

If a single computer has a USB or serial connection to UPS, the Agent should be installed on this computer. If multiple computers plugged into the UPS, the computers without the USB or serial connections should install

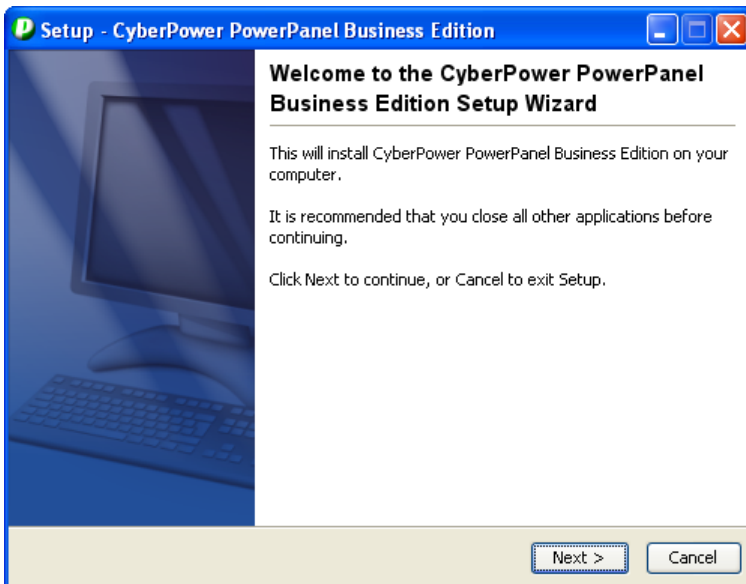
the Client. The PowerPanel® Business Edition software is compatible with Windows, Linux, Citrix XenServer and VMware ESX/ESXi systems.

Installation on Windows

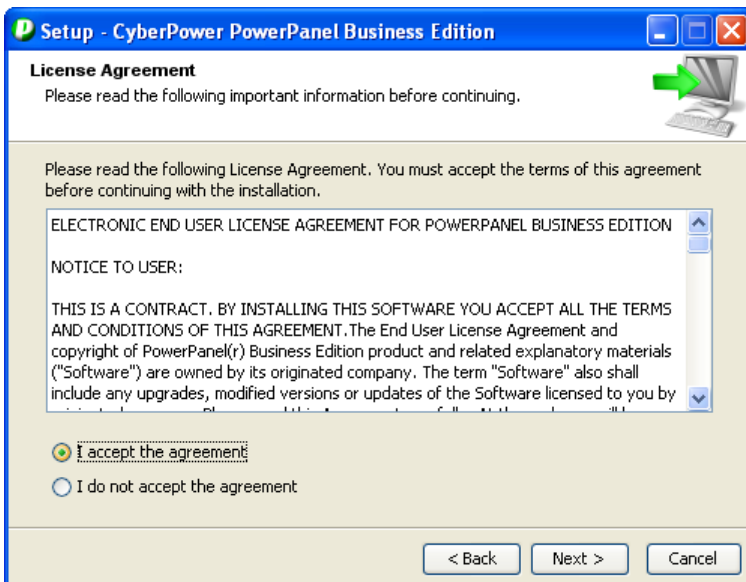
A popup window will be displayed automatically when inserting the PowerPanel® Business Edition installation CD. Users can click the **Install PowerPanel Business Edition software** shortcut on the popup page to initiate the installation procedure. If the popup window is not displayed when inserting the CD, browse to the CD drive and open the folder which locates at **/Software/Windows** 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.

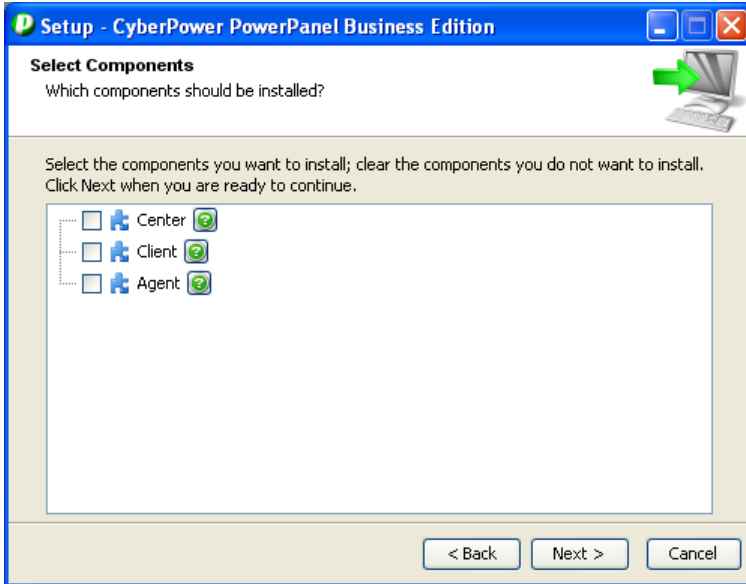


- Accept the license agreement.

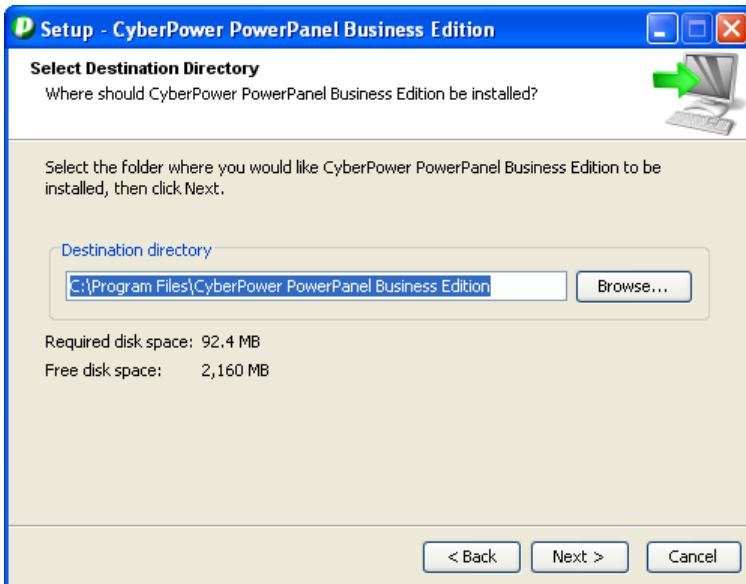


- **Choose the component.** If the target computer is connected to the UPS directly via a USB or serial connection, Agent should be installed. If the computer does not have a USB or serial connection to the UPS, or the computer is powered by a UPS with a remote management card or a PDU, Client should be installed. If multiple UPS units require monitoring, Center should be installed.

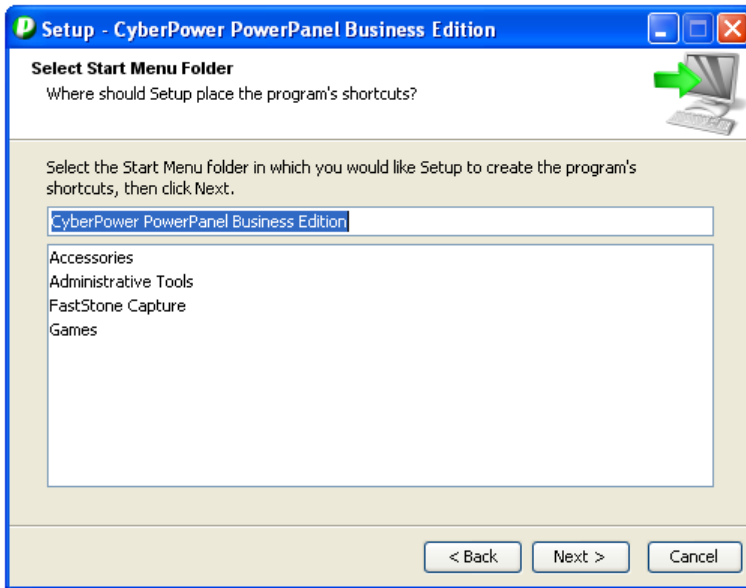
Note: *The Agent, Client and Center cannot be installed at the same time.*



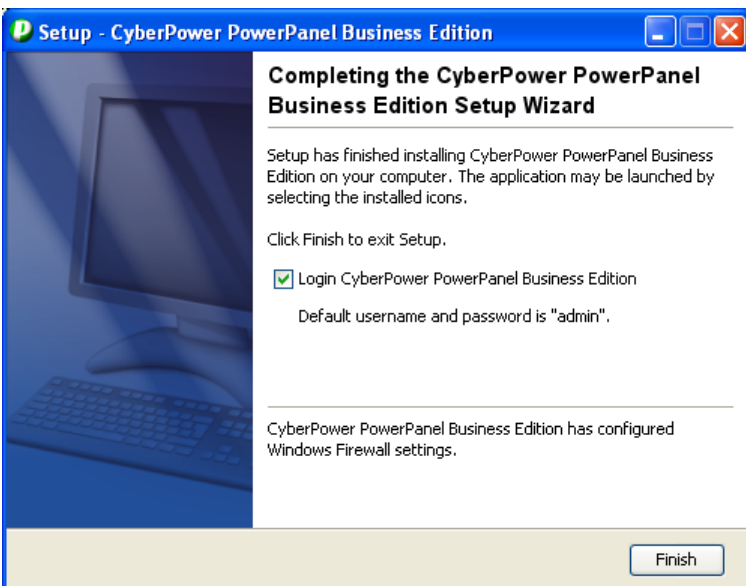
- **Choose the destination directory.**



- **Choose the start menu folder.**



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



Installation on Linux

The installer is used to install the PowerPanel® Business Edition software and requires root permission. The installation wizard will guide users to complete the installation. Browse to the CD drive and find the installer in the **/Software/Linux** folder. Initiate an installation wizard by running **./ppbe-linux-x86.sh** command or double clicking **ppbe-linux-x86.sh** from desktop on 32-bit systems. Initiate an installation wizard by running the **./ppbe-linux-x86_64.sh** command or double clicking **ppbe-linux-x86_64.sh** from desktop on 64-bit systems.

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

To install follow these steps:

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

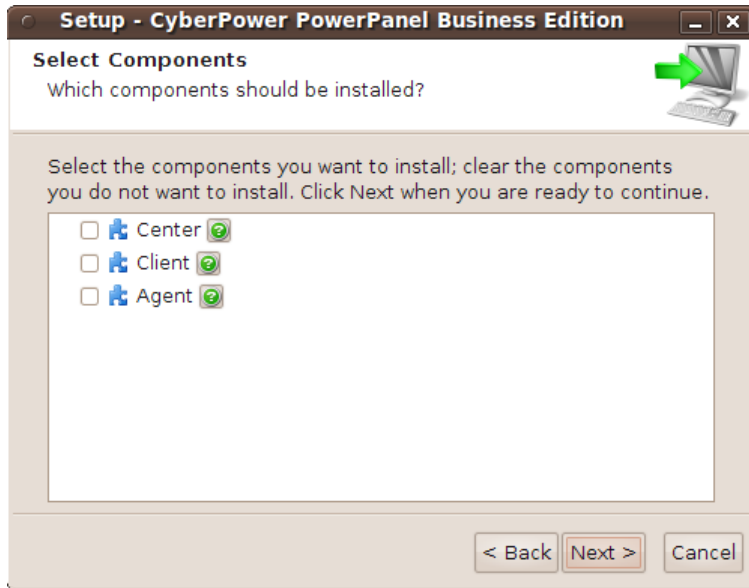


- Accept the license agreement.



- **Choose the component.** If the target computer can communicate with UPS directly via a USB or serial connection, Agent should be installed. If the computer does not have a USB or serial connection to the UPS, or the computer which is powered by the UPS with a remote management card or a PDU, Client should be installed. If multiple UPS requires a synchronous monitoring, Center should be installed.

Note: The Agent, Client and Center cannot be selected to install at the same time.



- Choose the destination directory.



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



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



Installation on Text Mode

When the system does not support graphic mode, the Linux installation needs to be initiated in the terminal by using the `./ppbe-linux-x86.sh -c` command on 32-bit systems or use `./ppbe-linux-x86_64.sh -c` command on 64-bit systems.

The installation procedure will be initiated as following steps:

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

```
Starting Installer ...
This will install CyberPower 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.** If one single computer is connected to the UPS directly via a USB or serial connection, Agent should be installed. If the computer is powered by a UPS already connected to an Agent, has a remote management card installed or is connected to a PDU, Client should be installed. If the administrator requires simultaneous monitoring and access to multiple UPS/PDUs, equipment and computers on a local network, Center should be installed.

Note: Agent, Client and Center cannot be installed on the same computer.

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

- **Choose the destination location.**

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

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

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

Installation on VMware ESXi and ESX

Installation on ESXi

Installation must be launched in the **vMA (vSphere Management Assistant)** which is also a virtual machine on the ESXi host; Agent should be installed on the vMA of ESXi 4.1 or later versions. In order to deploy vMA on the ESXi host and install PPBE in the vMA, users must install the **vSphere Client** tool on another remote computer first. To download the vSphere Client installer, users can enter the ESXi host IP address to access the web page. Users can visit [VMware](#) website for **vSphere Management Assistant Guide document** about vMA deployment on VMware ESXi.

The installer will guide users in completing the installation. Refer to [Installation on Text Mode](#) section to follow the same steps to complete installation. The installer requires root permission to initiate the installation procedure. Mount CD by running `mount -t iso9660 /dev/cdrom /mnt/cdrom` as a root user. (/dev/cdrom is the CD drive and /mnt/cdrom will be the mount point.). Browse the CD drive and find the installer in the `/Software/Linux` folder. Initiate an installation procedure by running the `./ppbe-linux-x86_64.sh` command.

Before installing Agent with the USB or serial connection, make sure that the platform running the Agent supports USB or serial connection. VMware ESXi 4.1 and later versions support a USB device to be passed through from an ESXi host to vMA.

Note: In order to make sure that Agent on vMA of the ESXi host can establish communication with UPS through USB connection, you should upgrade virtual hardware to the latest version. Refer to [How do I upgrade virtual hardware version of vMA](#) of **FAQ** chapter from **PowerPanel Business Edition User Manual** to know how to upgrade.

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.

Installation on ESX

Installation must be launched in the **Service Console** (aka **Console Operation System**). To initiate the installation procedure on VMware ESX also requires root permission. Use the same command to mount CD and initiate the installation procedure.

Before installing Agent with the USB connection, make sure the host supports USB connection. ESX 4.1 does support USB devices. Refer to [Installation on Text Mode](#) section to complete the installation.

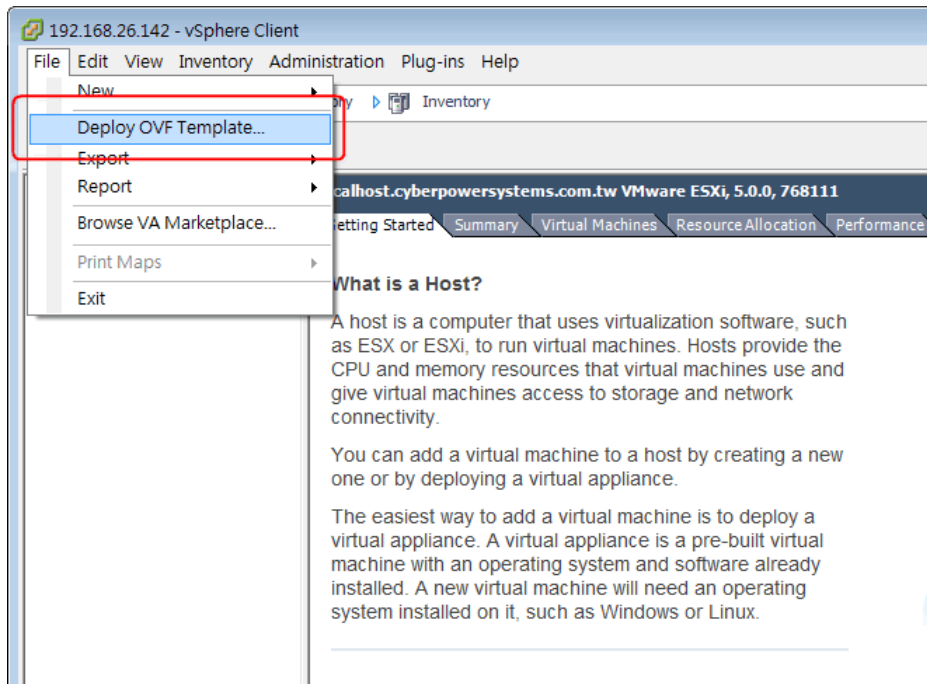
Virtual Appliance Deployment on ESXi

A virtual appliance (VA) is a prebuilt software solution, comprised of one or more virtual machines that is packaged, maintained, updated and managed as a unit. It is fundamentally changing how software is developed, distributed, deployed and managed.

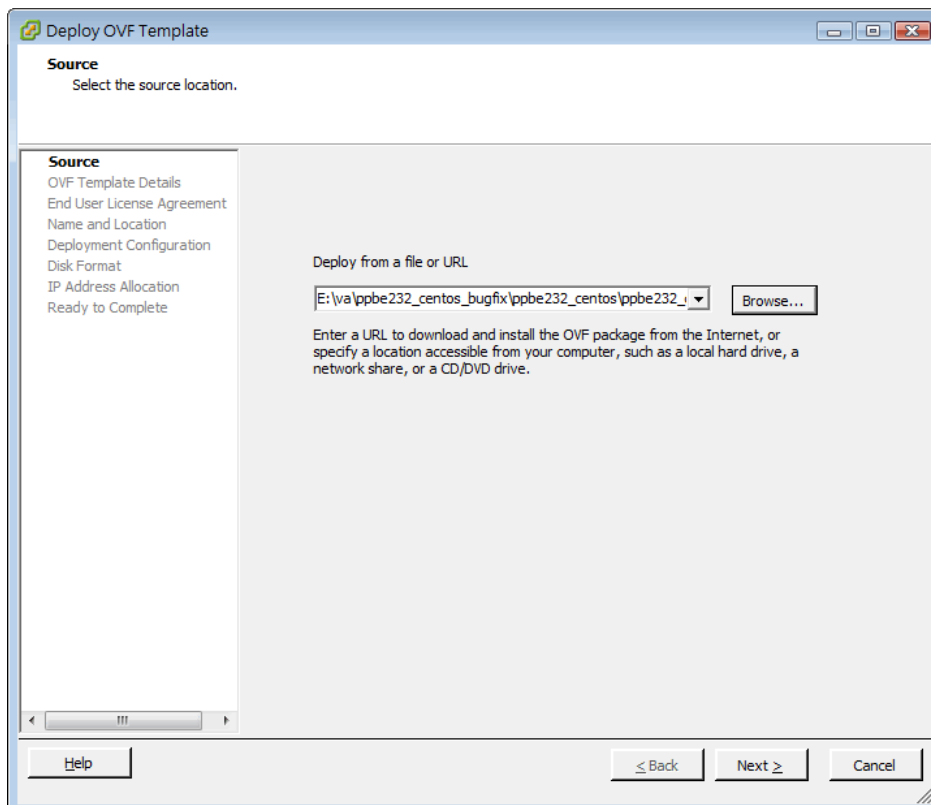
Download the PPBE virtual appliance which is pre-installed Agent from [CyberPower](#). In order to deploy the PPBE virtual appliance on VMware ESXi host, users must install vSphere Client tool first on the remote computer. To download the **vSphere Client** installer, users can enter the ESXi host IP address to access web page of ESXi host.

The deployment procedure will be initiated as below steps:

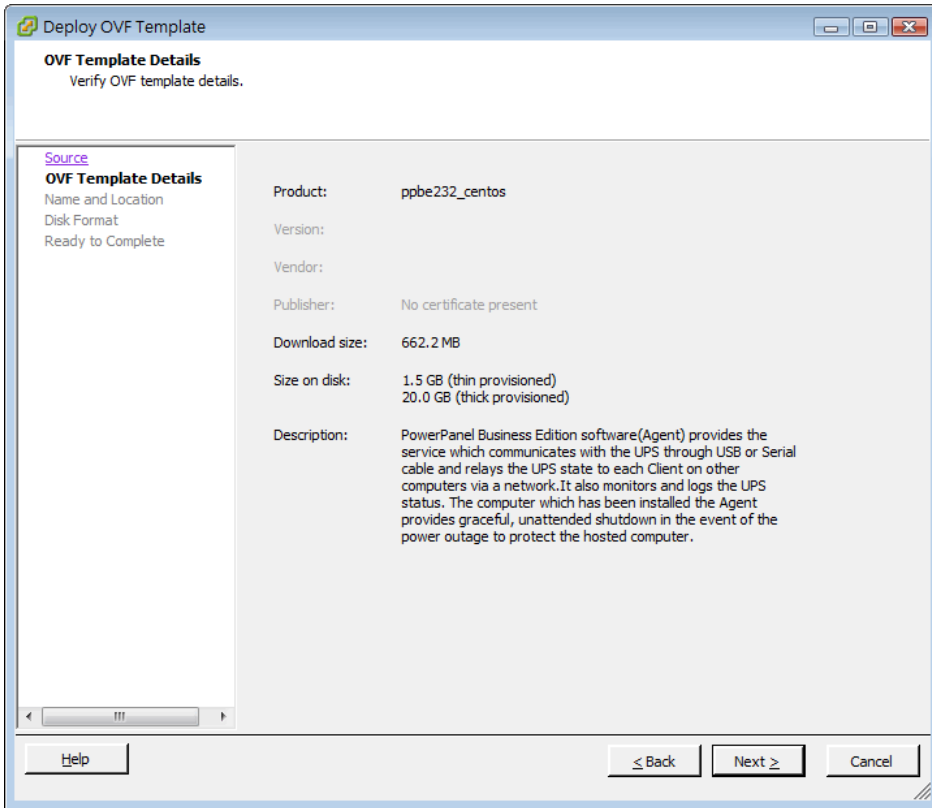
- Launch the vSphere Client. Open the **Deploy OVF Template** window from **File > Deploy OVF Template...** item.



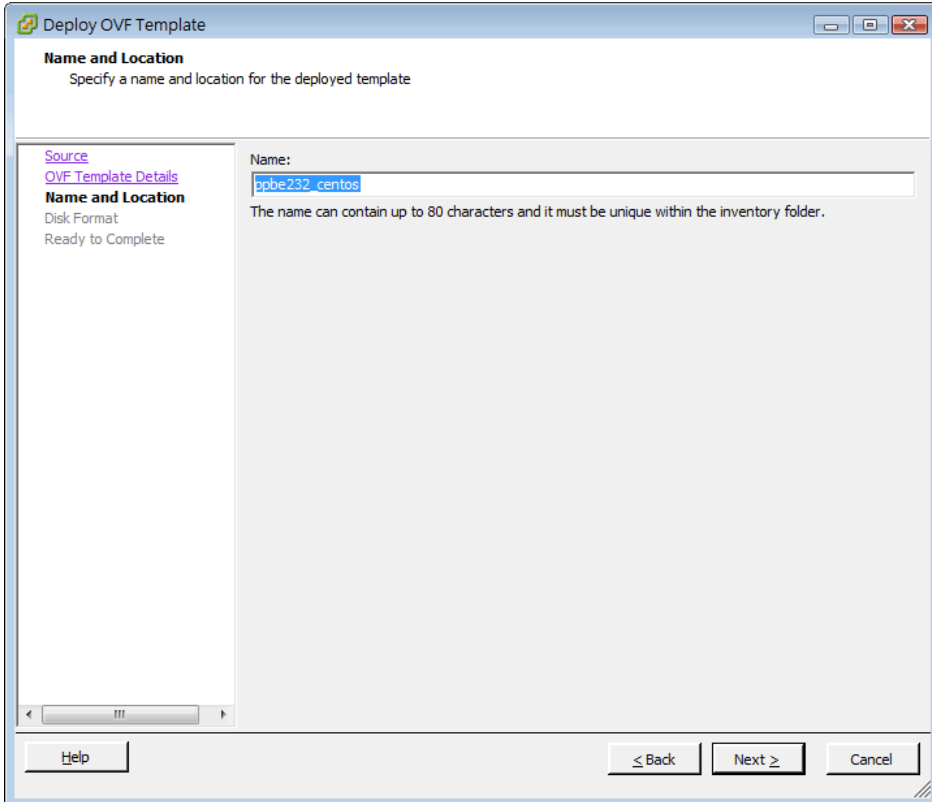
- Click **Browse** to import the **ppbeXXX_centos.ovf** extracted from the download zip file. Click **Next** to start a deployment task.



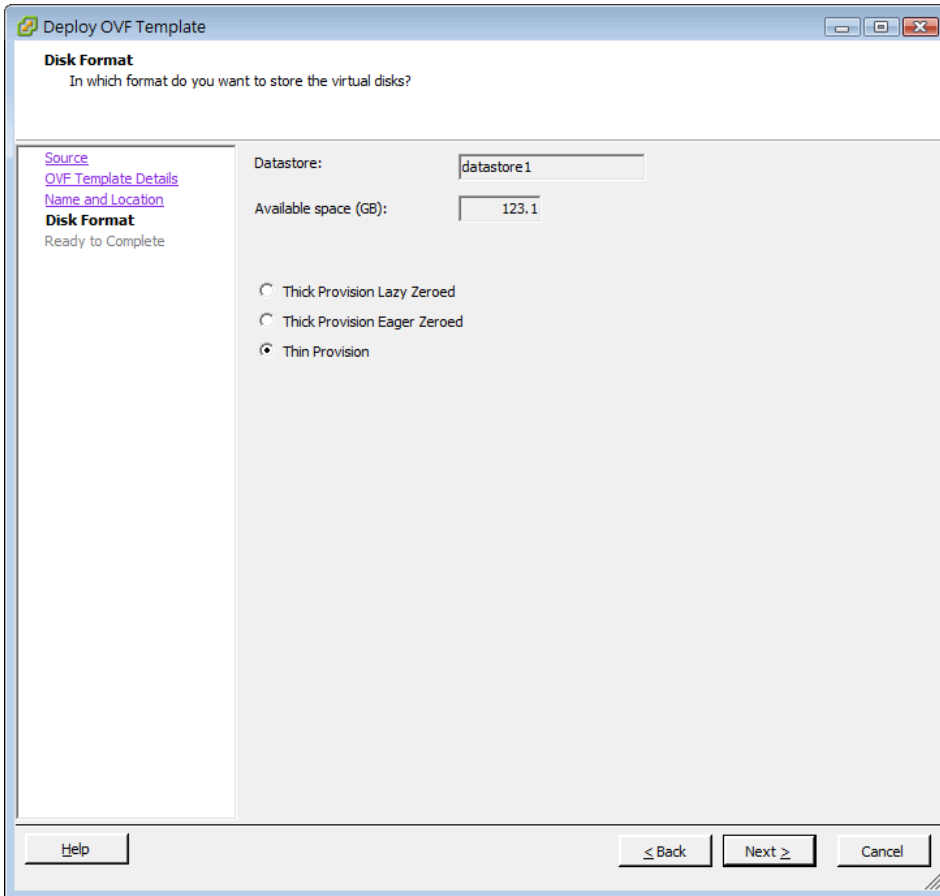
- The OVF template detail is displayed. Click **Next** to continue.



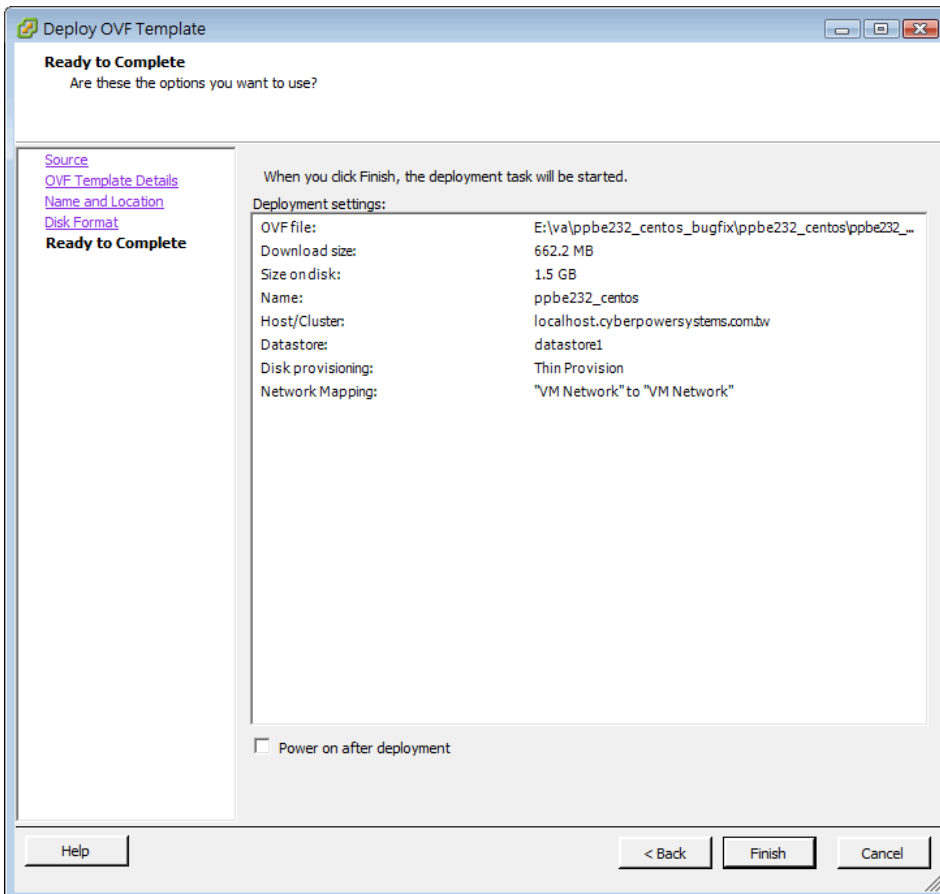
- Enter the name for the deployed PPBE virtual appliance. The default option is **Thin Provision**. This name should be unique within the inventory.



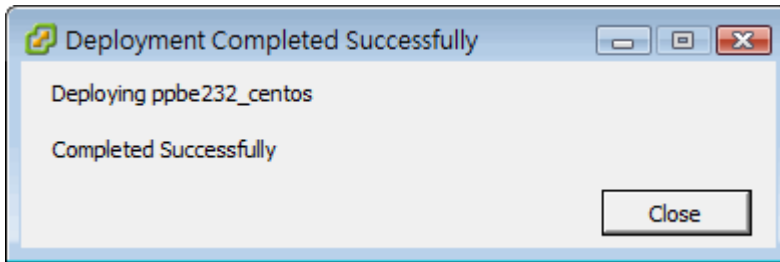
- Select the virtual disk format for the PPBE virtual appliance. Refer to [About Virtual Disk Provision Disk Policies](#) for further information about how to select virtual disk format.



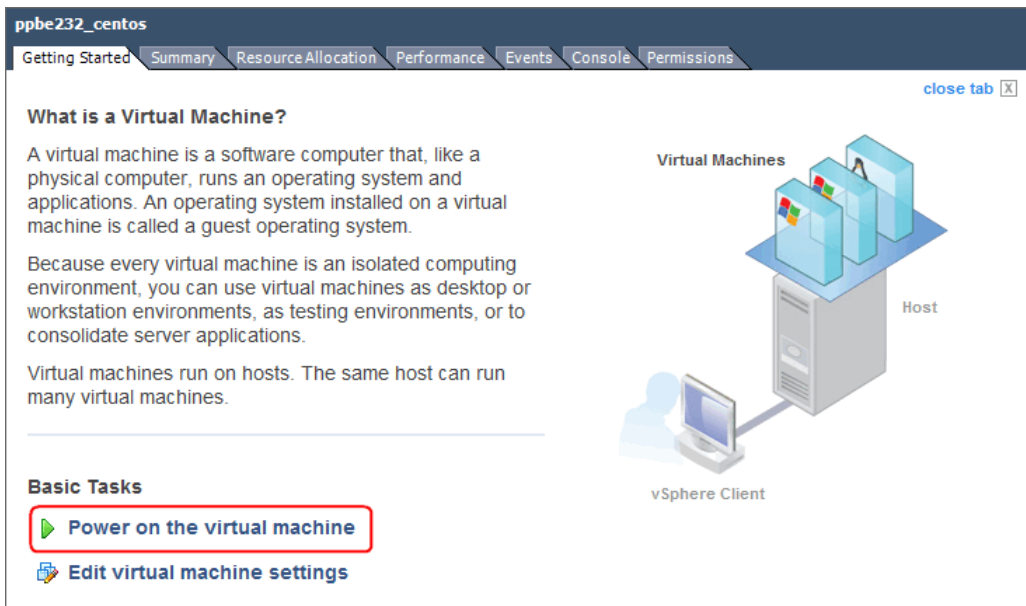
- A deployment detail is displayed. Click **Finish** to start the deployment task.



- After the deployment task is complete, the PPBE virtual appliance will be added into the inventory.



- Click **Power on the virtual machine** to power on the virtual machine and ready to access the PPBE.



- Login the virtual appliance. The default username and password are **admin**. In order to perform shutdown accurately, you must change the time zone settings of the virtual appliance.
This can be a direct copy of the time zone file from the **/usr/share/zoneinfo** folder. We assume that the host is located under the Chicago CST zone in Chicago, and the time zone can be changed by running the command **cp /usr/share/zoneinfo/America/Chicago /etc/localtime**.

Installation on XenServer

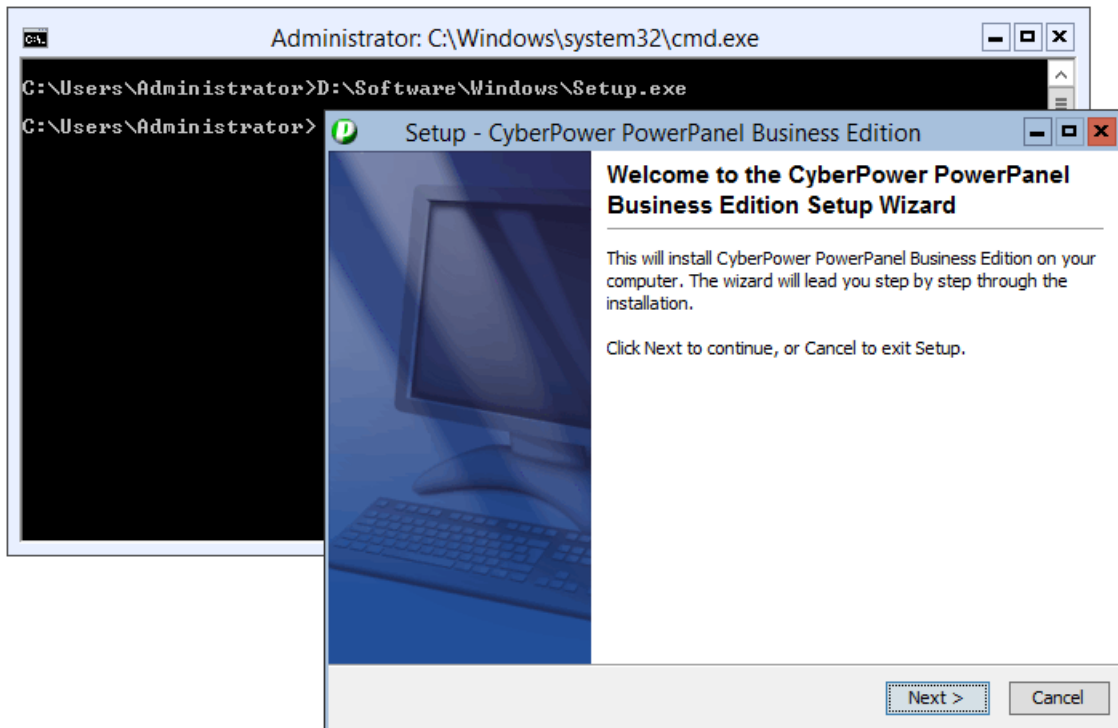
The installer requires root permission to install the PowerPanel® Business Edition. Mount CD by running **mount -t iso9660 /dev/cdrom /mnt/cdrom** as a root user (**/dev/cdrom** is the CD drive and **/mnt/cdrom** will be the mount point.). Browse the CD drive and run **./ppbe-linux-x86.sh** command to initiate an installation procedure.

Installation must be launched on the **Dom0**; Agent should be installed on the Dom 0 of XenServer 5 or later versions. Refer to [Installation on Text Mode](#) section to complete the installation. Before installing Agent with the USB or serial connection, make sure that the platform running the Agent supports USB or serial connection. Citrix XenServer 5.0 and later versions support USB device.

Installation on Hyper-V Server

Use the PowerPanel® Business Edition installation CD to complete the installation on the target computer. Run the **<CD_Drive>\Software\Windows\setup.exe** of the command prompt such as below illustration to

start the installation procedure (*CD_Drive is a CD drive formatted as D: or E:*). A popup window will be displayed when the installation is launched. Refer to [Installation on Windows](#) section to follow the same steps to complete installation.



Access PowerPanel® Business Edition Software Interface

To access the Agent web interface in Windows, go to **Start > All Programs > CyberPower PowerPanel Business Edition > PowerPanel Business Edition Agent or PowerPanel Business Edition Client or PowerPanel Business Edition Center**), which will take you to the login page.

On Linux, user can enter the URL as **http://localhost:3052/** in the address of the web browser to access to the interface. Users can also enter the URL, **http://localhost:3052/** in the local computer or **http://hosted_computer_ip_address:3052/** in the remote computer, to the address field of the web browser to access the PowerPanel® Business Edition software web interface. **hosted_computer_ip_address** is the IP address of the computer which has the PowerPanel® Business Edition software installed. For the virtual machine such as vMA or VA on the ESX or ESXi, **hosted_computer_ip_address** is the IP address of the virtual machine (**Note: hosted_computer_ip_address** is the IP address of the host computer on ESX.).

The default username is **admin** and default password is **admin**. For security consideration, it is recommended to change the login username and password after the initial login.

PowerPanel® Business Edition supports multiple-language function and allows users to change language. It will choose the suitable language as the default one to display at the initial access. Users can change the language from the banner. After the language is changed, the page will refresh automatically and choose the assigned language as the default one to display.



Setup Necessary Shutdown Time

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

Configure Power Protection for More Computers

In order to ensure that computers connected to the UPS have sufficient time to complete the shutdown prior to the outlets turning off, Client should be installed. The Client will establish communication with the Agent and receive commands from the UPS for a complete shutdown to avoid data loss or a system crash. Refer to [Install PowerPanel® Business Edition Software](#) to installing the Client.

Assign Agent's IP Address and Connected Outlet in Client

Users must assign the Agent's IP address and connected outlet on the **Power/Configuration** page in Client to establish communication through the network. In order for Agent to respond the Client normally, the secret phase configuration must be setup properly.

Assign the IP address of Agent computer at the *Address* field or pick an address from the device list which shows all devices on the local network. Users have to assign the correct outlet which supplies power to the Client computer according to actual connection. Click **Apply** button for Client to establish the communication with Agent.

*Note: More Clients can also establish communications by assigning IP addresses and connected outlets on the **UPS/Load** page in Agent. Users can complete configurations to multiple Clients in Center easily.*

Configure Shutdown Action for ESXi

In order to assure the ESX/ESXi host and all virtual machines can be shut down correctly in case of power events, users have to configure the ESXi host address, account and password of root user for the host shutdown from the virtual machine running Agent. Fill in the *Host Address*, *Account* and *Password* fields with actual username and password for ESXi host on the **Event Action/Settings** page. Due to PowerPanel® Business Edition software is installed on the Service Console of ESX instead of vMA, **Event Action/Settings** page does not provide these settings for users to configure.

Note: Host Address is the IP address of the ESXi host computer on which vMA is operating but not the IP address of vMA.

Shutdown

Necessary shutdown time minutes

Shutdown type

VM Host

Host Address

Account

Password

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.

Configure Startup and Shutdown of Virtual Machines on ESX/ESXi

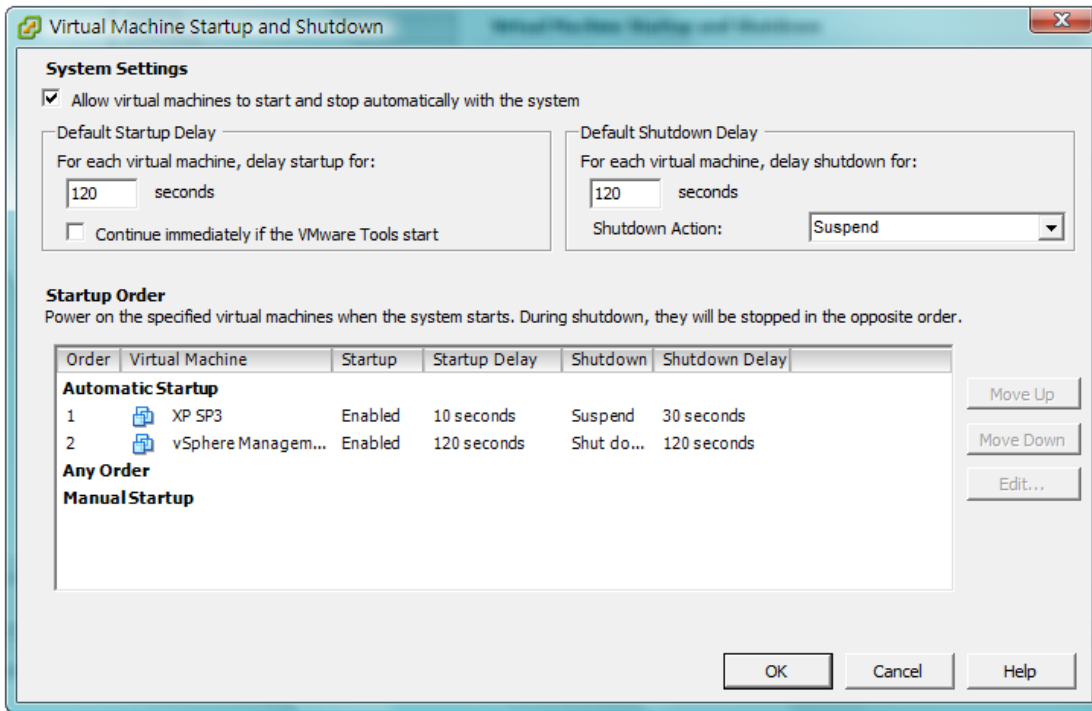
In order to assure that all virtual machines could be shut down and restart gracefully:

- Select the topmost ESX/ESXi server host from the tree hierarchy on the right side. Go to **Configuration > Virtual Machine Startup/Shutdown** menu > **Properties** of the vSphere Client.

The screenshot shows the VMware vSphere Client interface for configuring a host. The 'Configuration' tab is active, and the 'Virtual Machine Startup and Shutdown' section is expanded. The 'Properties...' button is highlighted with a red box. The configuration shows that 'Start and Stop Virtual Machines with the system' is enabled, with a default startup delay of 2 minutes and a default shutdown delay of 2 minutes. The 'Startup Order' table lists two virtual machines: 'XP SP3' and 'vSphere Management...'. The 'XP SP3' VM is set to start automatically with a 10-second delay and suspend after 30 seconds. The 'vSphere Management...' VM is set to start automatically with a 120-second delay and shut down after 120 seconds.

| Order | Virtual Machine | Startup | Startup Delay | Shutdown | Shutdown Delay |
|--------------------------|--------------------|---------|---------------|------------|----------------|
| Automatic Startup | | | | | |
| 1 | XP SP3 | Enabled | 10 seconds | Suspend | 30 seconds |
| 2 | vSphere Managem... | Enabled | 120 seconds | Shut do... | 120 seconds |

- Enable the **Allow virtual machines to start and stop automatically with the system** option.

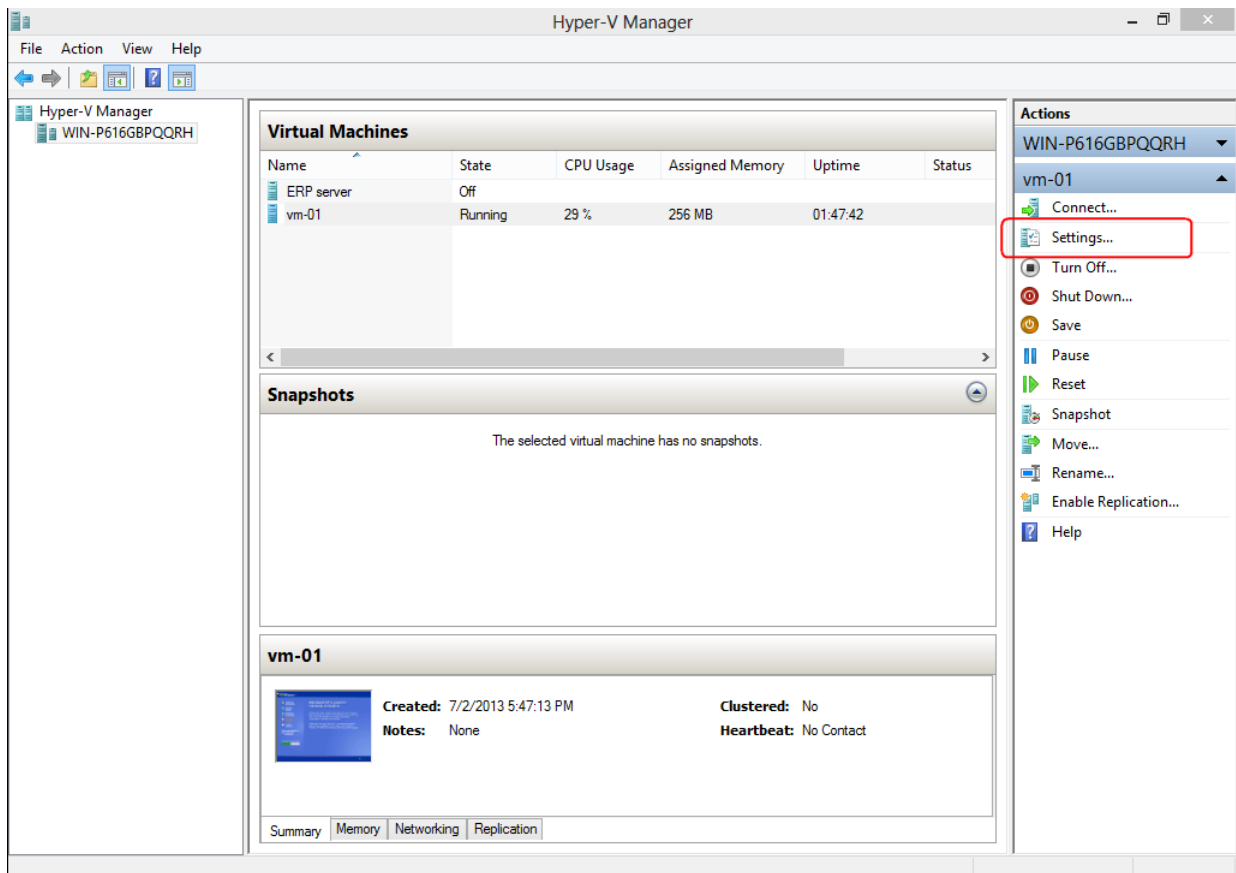


Configure Shutdown of Virtual Machines on Hyper-V Server

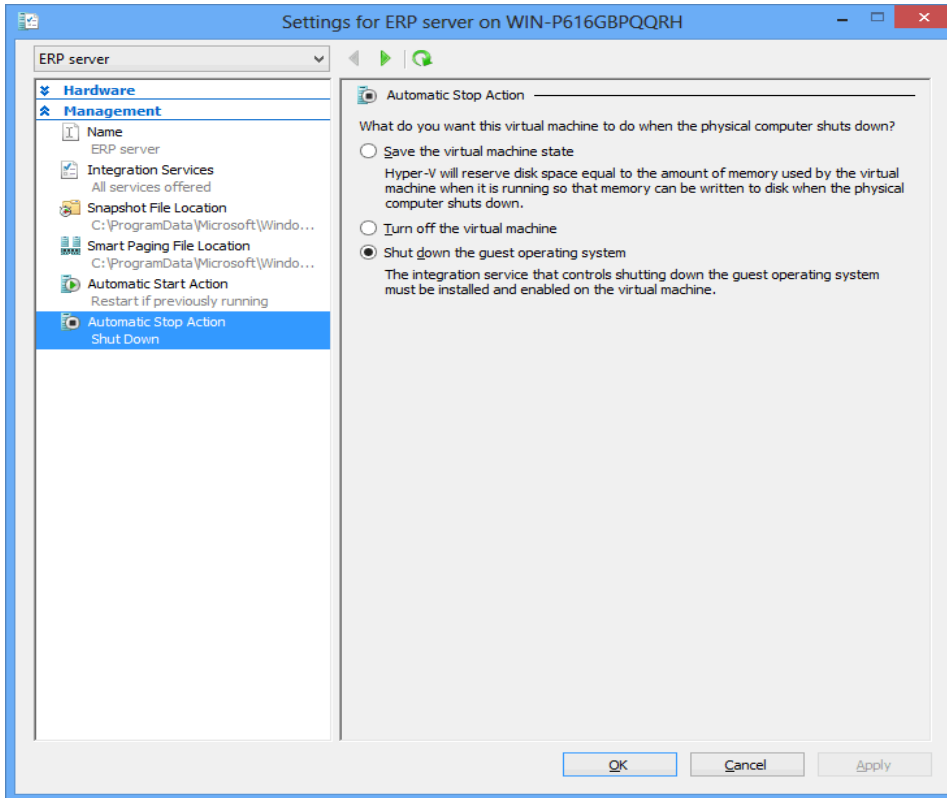
In order for the virtual machines to be shut down correctly when the Hyper-V host shuts down, users should configure a guest operating system shutdown on each virtual machine.

Follow below steps to configure the guest virtual machine to shut down with the host:

- Using the Hyper-V Manager to choose a VM and the click **Settings**.



- Choose the **Automatic Stop Action** and choose **Shut down the guest operating system**.



Hyper-V server will shut itself down only after the running virtual machines shut down. Ensure that the *Necessary shutdown time* in the **Event Actions/Settings** page must be sufficient to support the virtual machines to shut down and the Hyper-V server to shut down.

Note: In order to allow the interactions between physical and virtual machines, Hyper-V Integration Service (HIS) have to be installed on each virtual machine by accessing **Insert Integration Services setup disk** item from the **Action** menu of each virtual machine's console.

If the virtual machine is running a Linux distribution, refer to the [Linux Integration Services for Hyper-V](#) page to download and re install the Linux integration service for Hyper-V.

Mass Deployment

In order to install Agent on more computers and apply the same settings, users can follow below steps to complete the automatic deployment:

- **Export Profile.** Choose one target Client to export its power configuration and system settings to the profile on the **Preferences/Profile** page.
- Copy below example code to the text editor and save as new file named **setup.varfile**.

```
loginChecked$Boolean=true
componentVersion=2.6
installation=agent
programGroupName=CyberPower PowerPanel Business Edition
installationDir=ppbe_client_installation_directory
profile=exported_zip_location
```

- Edit the **setup.varfile** to replace **installationDir** and **profile** parameters. **installationDir** indicates the absolute path of installation directory for Client (e.g. *C:/Programs/CyberPower PowerPanel Business Edition/PowerPanel Business Edition* or */opt/ppbe*). **profile** indicates the absolute path of profile (e.g. *C:/import/profile.zip* or */import/profile.zip*).
- Place the **setup.varfile** and installer in the same directory. Make sure that the filename must be the same (e.g. **setup.exe** and **setup.varfile**).
- For Windows users, running the below command in the command prompt to complete the installation.

```
setup.exe -q -console -Dinstall4j.detailStdout=true
```

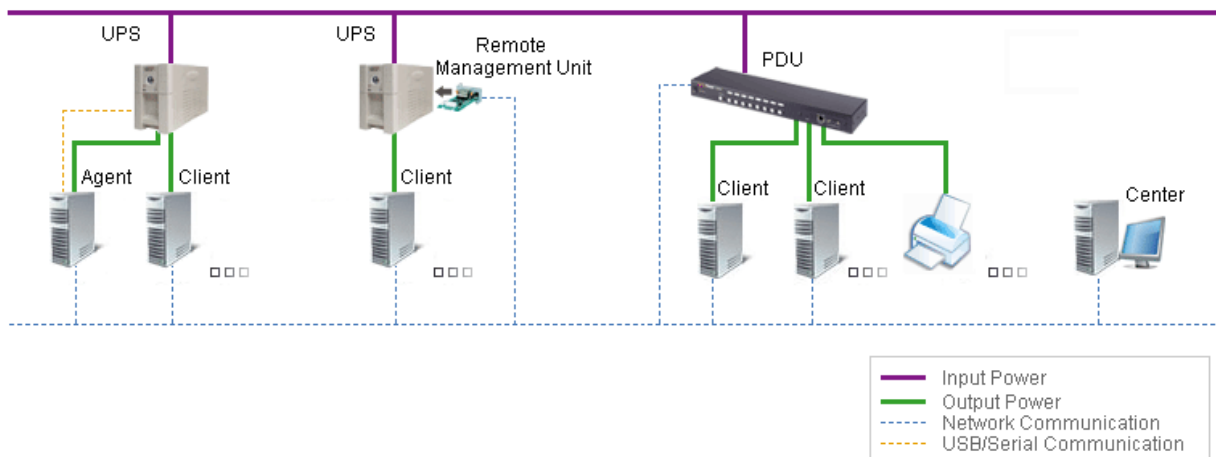
- For Linux users, running the below command in terminal to complete the installation.

```
sudo setup.sh -q -console -Dinstall4j.detailStdout=true
```

Manage UPS Units in Center

If the administrator requires monitoring multiple UPS units on the local network at one time, PowerPanel® Business Edition Center should be installed. The Center will track the state and events from the monitored UPS units and monitored UPS units can accept commands from the Center for shutting off or restarting. Refer to **Install PowerPanel Business Edition Software** chapter for further details about Center installation.

The Center can also establish communication with the multiple PDUs and UPS units with Remote Management Card. Monitored PDUs and UPS units will relay the state to the Center and notify Center what power event occurs.



Add UPS Units

Users can monitor and control multiple UPS on the **Management/Power Equipment** page by accessing the *Add Device* window to add UPS units to Center as below:

The *Add Device* window can be accessed by clicking the *Add Device* button of the toolbar or selecting *Add Device* of the context menu of any one group node.

Management

- ▶ Power Equipment
- IT Equipment

Logs

- System Logs

Security

- Login
- Authentication
- Network

Help

- Content
- About

Logout

Power Equipment Management

+ + +

Block A

▶ On Maintain

| | |
|-----------|---|
| RMCAR201 | ✔ Normal. |
| RMCARD202 | ✔ Normal. |

Either enter the IP address of UPS RMCARD on the *Device Address* field or click the **Browse** button to display the device list and select the IP address from the list. Click OK to proceed to add the selected UPS.

Add Device ✕

Device Address Browse...

[Refresh](#)

| <input type="checkbox"/> | Name | Location | IP Address | Type | Uptime |
|-------------------------------------|--------------|-------------|----------------|------|--------------|
| <input checked="" type="checkbox"/> | OL2000RMX... | Server Room | 192.168.10.205 | UPS | 2h 37m 3... |
| <input checked="" type="checkbox"/> | OL2000RMX... | Server Room | 192.168.24.71 | UPS | 2h 3m 33s. |
| <input type="checkbox"/> | PDU15SW8... | Server Room | 192.168.24.54 | PDU | 47m 20s. |
| <input type="checkbox"/> | PDU15SW8... | 7F | 192.168.24.34 | PDU | 137 days ... |

OK
Cancel

Note: If users need to add more UPS units to Center, please repeat steps the aforementioned steps

Note: Please refer to PPBE User’s Manual about further details of more functions about Center.