



PowerPanel[®] Business Edition Installation Guide

For

UPS with Remote Management Card

Rev. 18

2015/12/2

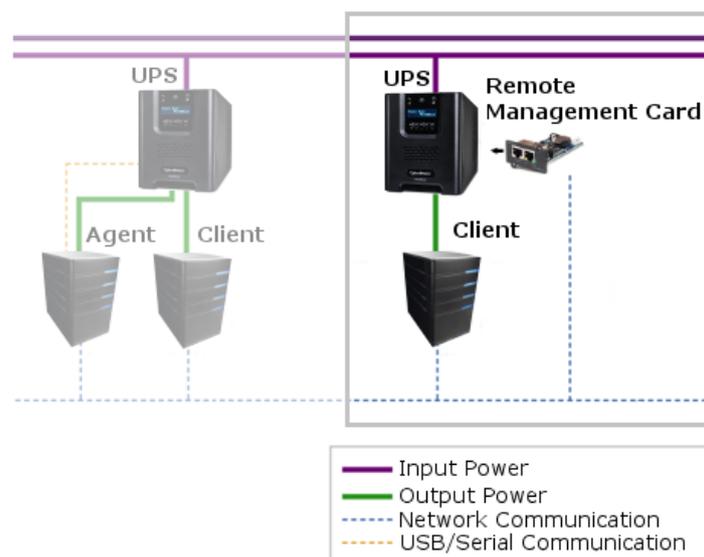
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Introduction

A UPS with a remote management card (RMCARD) can provide access to the UPS directly via the network. It provides a service to monitor the status and configure the UPS through the network. It also logs the UPS status and power events.

The PowerPanel® Business Edition Client running on the host can communicate with the UPS via the network. In the event of power failure, the Client will be informed of this condition from the RMCARD and request the hosted computer to shut down completely before the UPS stops supplying power due to the battery power being exhausted. It can be installed on various platforms to initiate a shutdown during a power outage including Windows, Linux, Citrix XenServer and VMware ESX/ESXi. The following sections describe installation on the various platforms.



The UPS can establish communication with the PowerPanel® Business Edition Center via the network. The Center serves to simultaneously monitor and manage multiple UPS units. When the UPS stops supplying power, any computers running the PowerPanel® Business Edition Client, are shut down in advance to avoid a system crash or data loss.

Hardware Installation

Before installing the PowerPanel® Business Edition software, make sure that the following hardware installations are configured properly:

- Verify the computer's power is connected to the UPS outlet properly.
- Verify the computer's network is connected.
- Verify the RMCARD's network is connected.

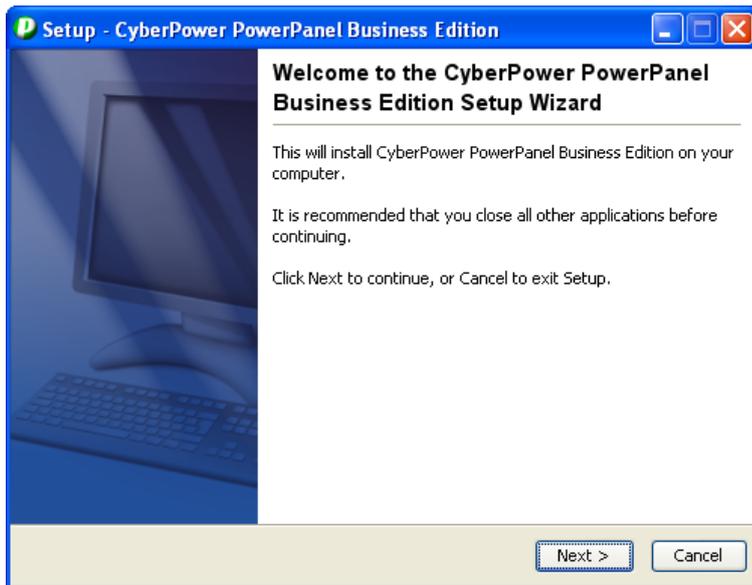
Please refer to the **Remote Management Card User's Manual** for a proper hardware installation.

Installing PowerPanel® Business Edition Software

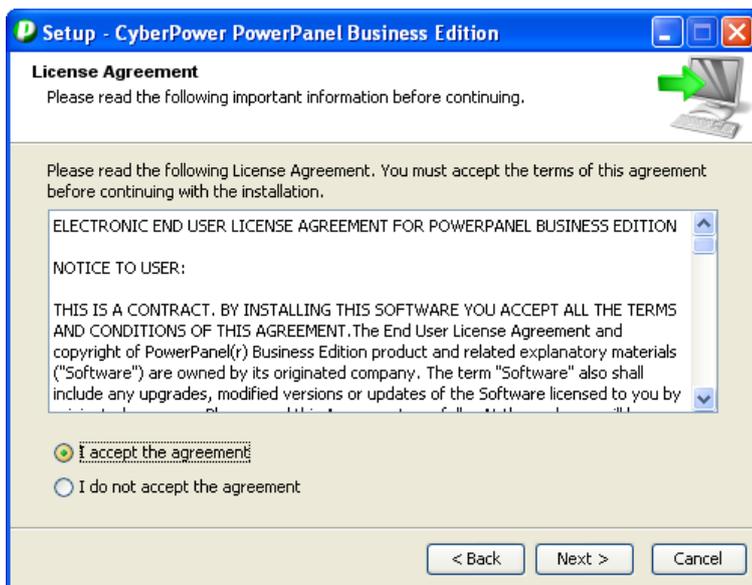
Installation on Windows

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 window 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:

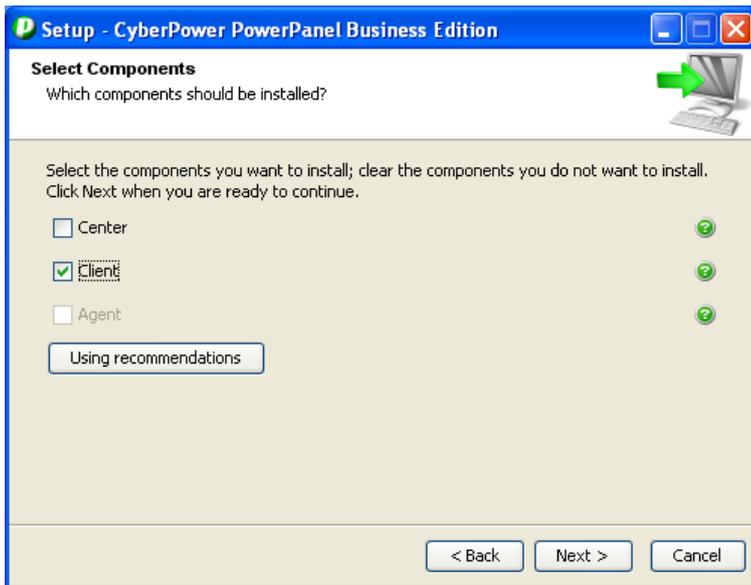
- Click the **Next** button to start the installation.



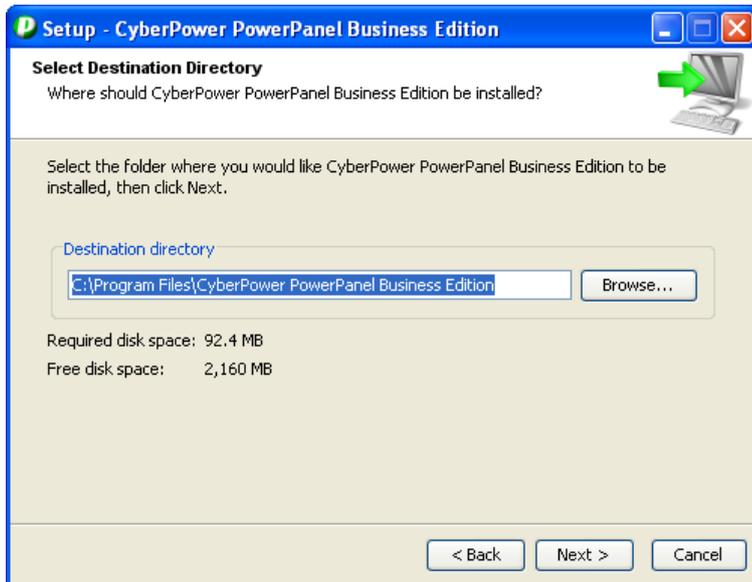
- Accept the license agreement.



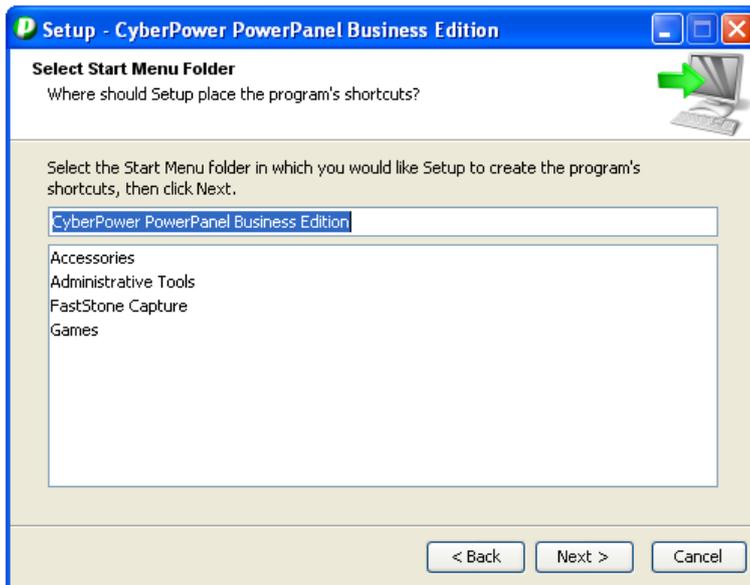
- **Choose the component.** In order to monitor multiple UPS units simultaneously, Center should be installed. If one single computer is powered by the UPS with an RMCARD installed, Client should be installed.



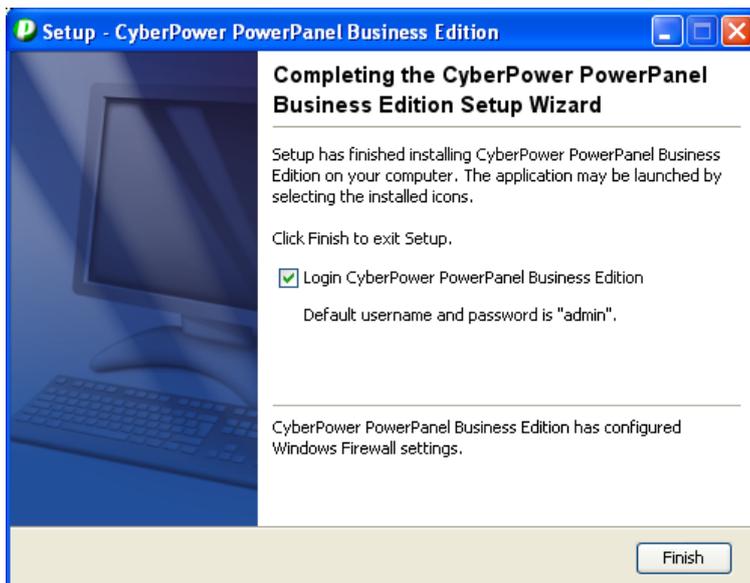
- Choose the destination directory.



- Choose the start menu folder.



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



Installation on Linux

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

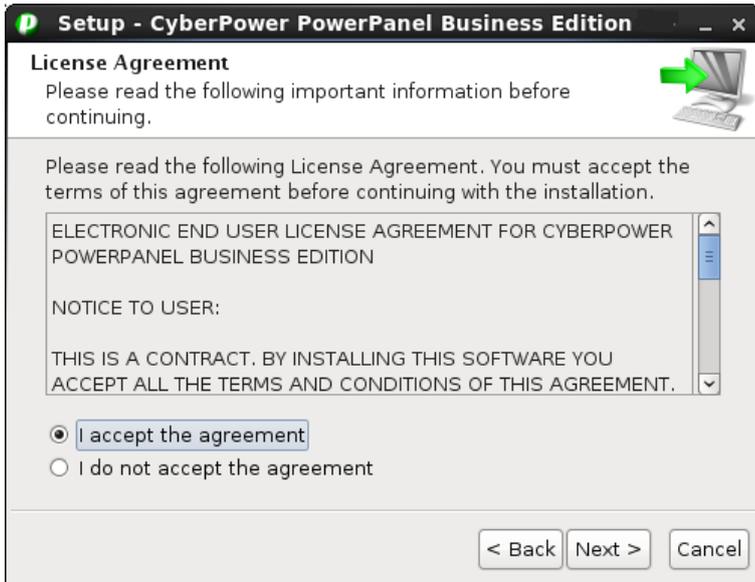
***Note:** On Linux systems, users may mount the CD by using the mount command. Run **mount -t iso9660 /dev/cdrom /mnt/cdrom** as a root user. /dev/cdrom is the CD drive and /mnt/cdrom will be the mount point.*

To install follow these steps:

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



- Accept the license agreement.



- **Choose the component.** In order to simultaneous monitor multiple UPS, Center should be installed. If one single computer which is powered by the UPS requiring protection, Client should be installed.



- Choose the destination directory.



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



Installation in 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]
```

- Determine to use recommendation before selecting the components. Select **n** to ignore the recommendation.

```
Select the components you want to install; clear the components you do not
want to install. Click Next when you are ready to continue.
Using recommendations
Yes [y, Enter], No [n]
```

- **Choose the component.** In order to monitor multiple UPS units simultaneously, Center should be installed. If one single computer is powered by the UPS, Client should be installed.

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

- **Choose the destination directory.**

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

- Installation procedure starts and once finished. It will end automatically.

```
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 Mac

File folder will be displayed automatically when inserting the PowerPanel® Business Edition installation CD. Find the installer in the `/Software/Mac` folder, and double click the file named **Setup.dmg**, then in the same way double click the file named **CyberPower PowerPanel Business Edition Installer** to initiate the wizard. The installation wizard will guide users in completing the installation.

Note: If PPBE service stopped in unexpected conditions and the OS X version is 10.6 or earlier. Please update

Java to the latest version via **Software Update**, then execute `restartService.sh` to restart PPBE service, the default file path is `/Applications/ppbe/bin/restartService.sh`.



Note: *Cyberpower PowerPanel® Business Edition software is a third-party application. At the first time to launch the PPBE installer on the Mac OS X 10.8(or later version), you should do following:*

- 1.Right-click the Installer and choose “Open”.
2. Choose “Open” again at the dialog to open it.

To install follow these steps:

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



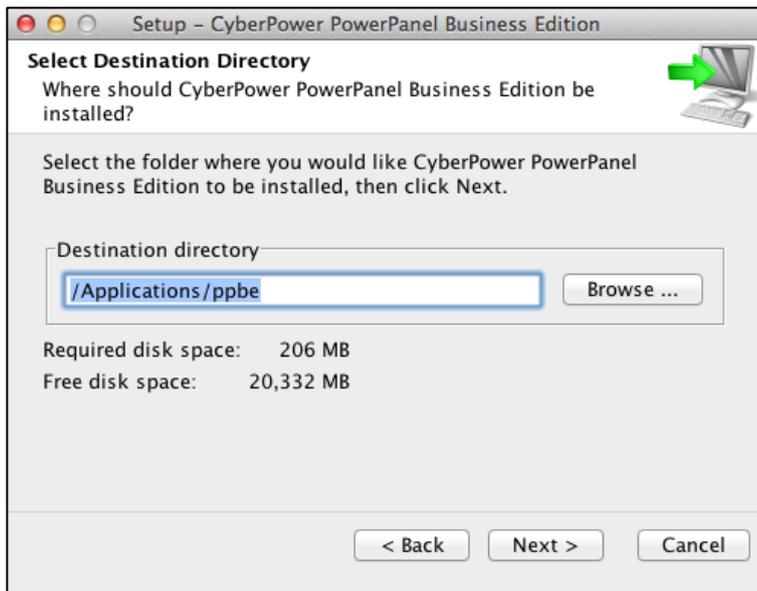
- Accept the license agreement.



- **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/PDU/ATs, equipment and computers on a local network, Center should be installed.



- Choose the destination directory.



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

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. Refer to [Installation on Text Mode](#) section to complete the installation.

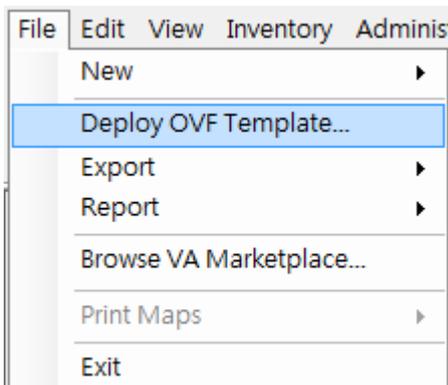
Virtual Appliance Deployment on ESXi

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.

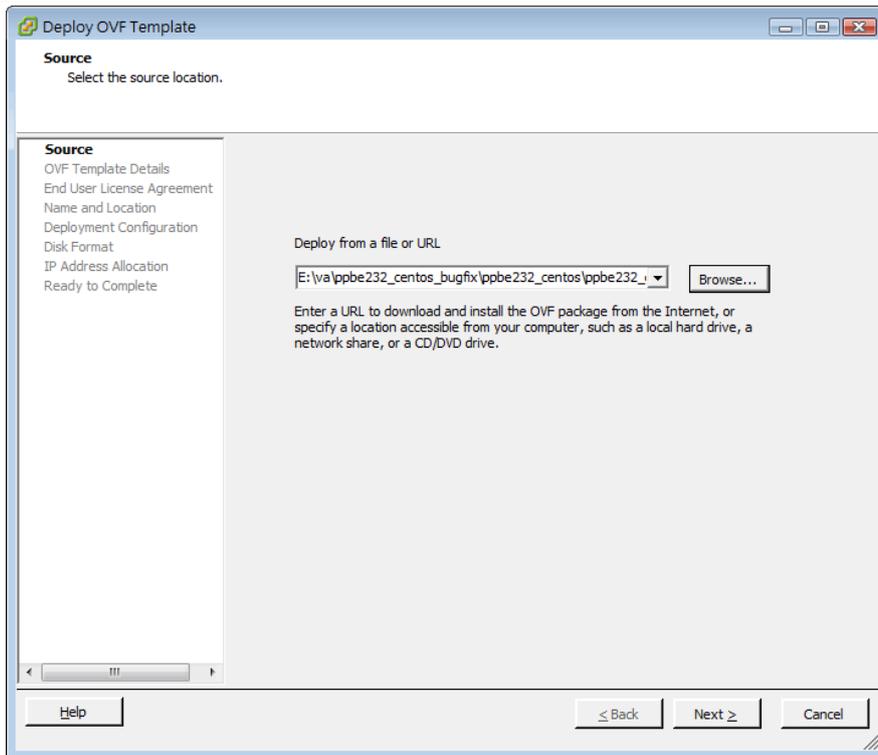
Download the PPBE virtual appliance which is pre-installed Client from [CyberPower](#). In order to deploy the PPBE virtual appliance on VMware ESXi host, users must install **vSphere Client** tool first on another remote computer. To download the **vSphere Client** installer, users can enter the ESXi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

The deployment procedure will be initiated as below steps:

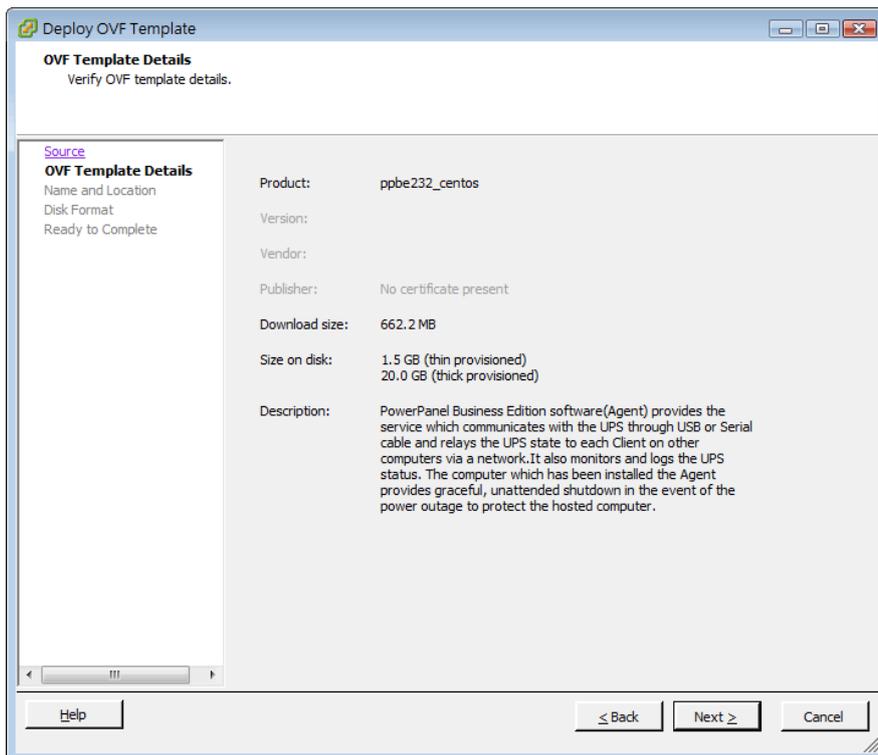
- Launch the vSphere Client. Open the **Deploy OVF Template** window from **File > Deploy OVF Template...** item.



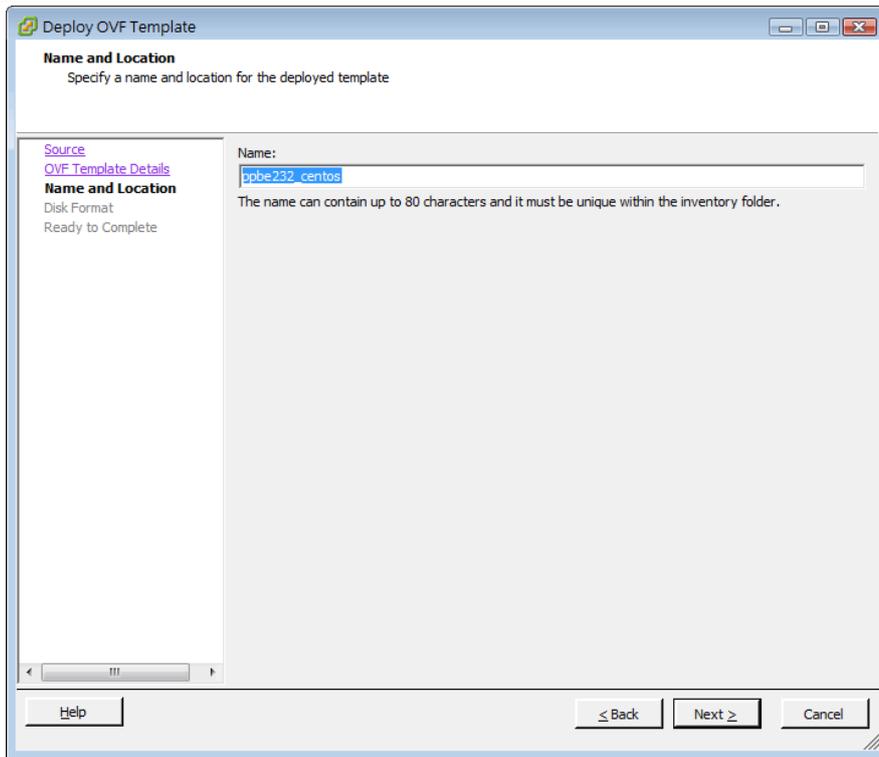
- Click **Browse** to import the `ppbeXXX_centos.ovf` extracted from the download zip file. Click **Next** to start a deployment task.



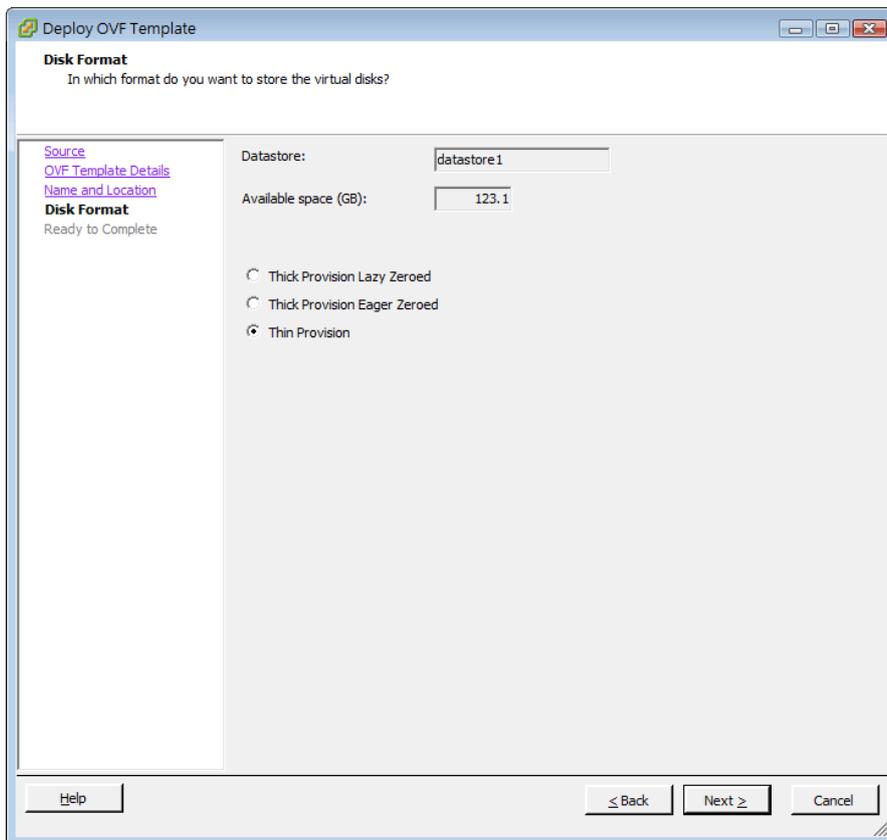
- The OVF template detail is displayed. Click **Next** to continue.



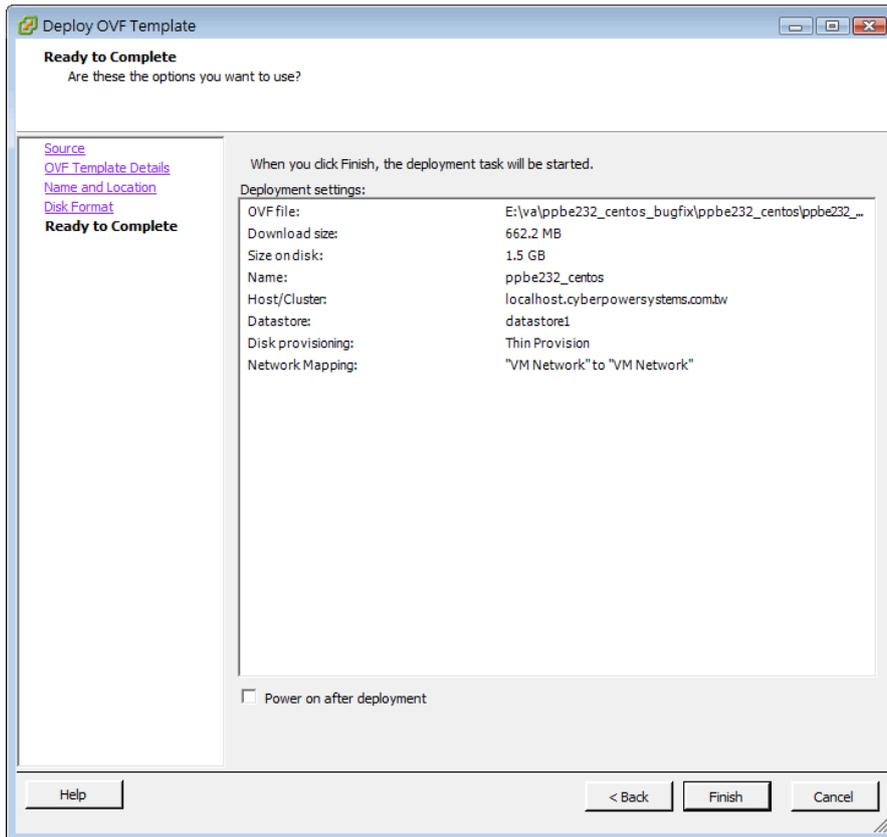
- Enter the name for the deployed PPBE virtual appliance. This name should be unique within the inventory.



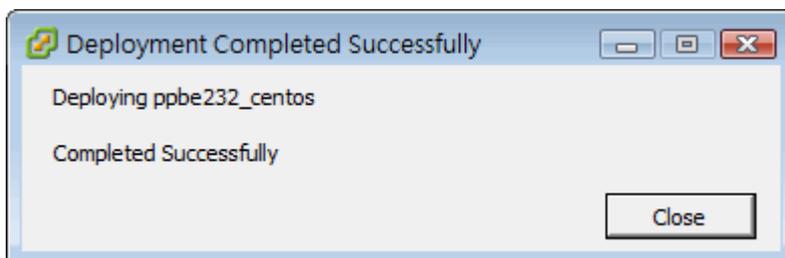
- Select the virtual disk format for the PPBE virtual appliance. The default option is **Thin Provision**. Refer to [About Virtual Disk Provision Disk Policies](#) for further information about how to select virtual disk format.



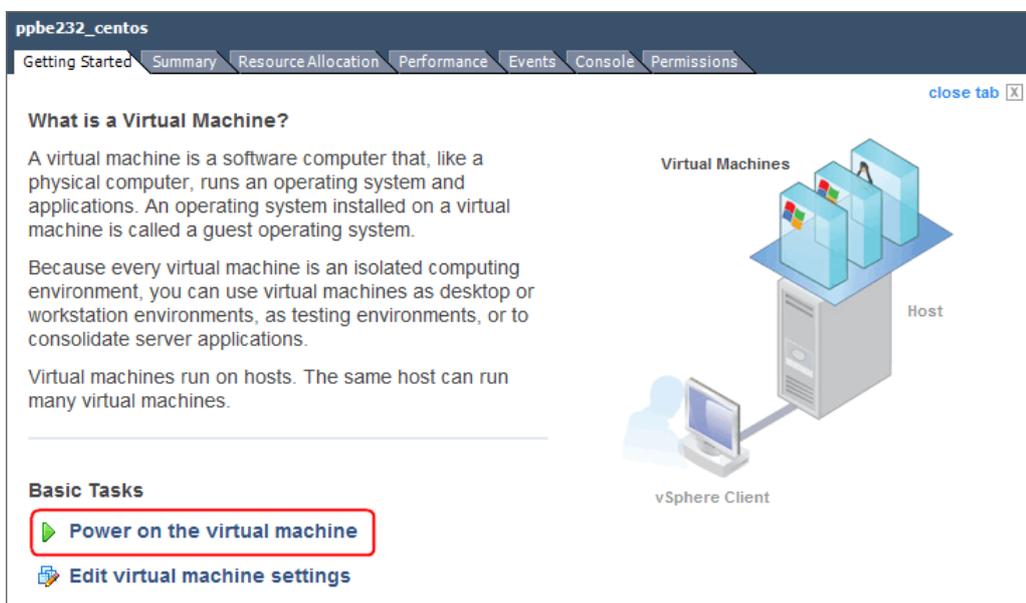
- A deployment detail is displayed. Click **Finish** to start the deployment task.



- 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 Client.



- 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**.

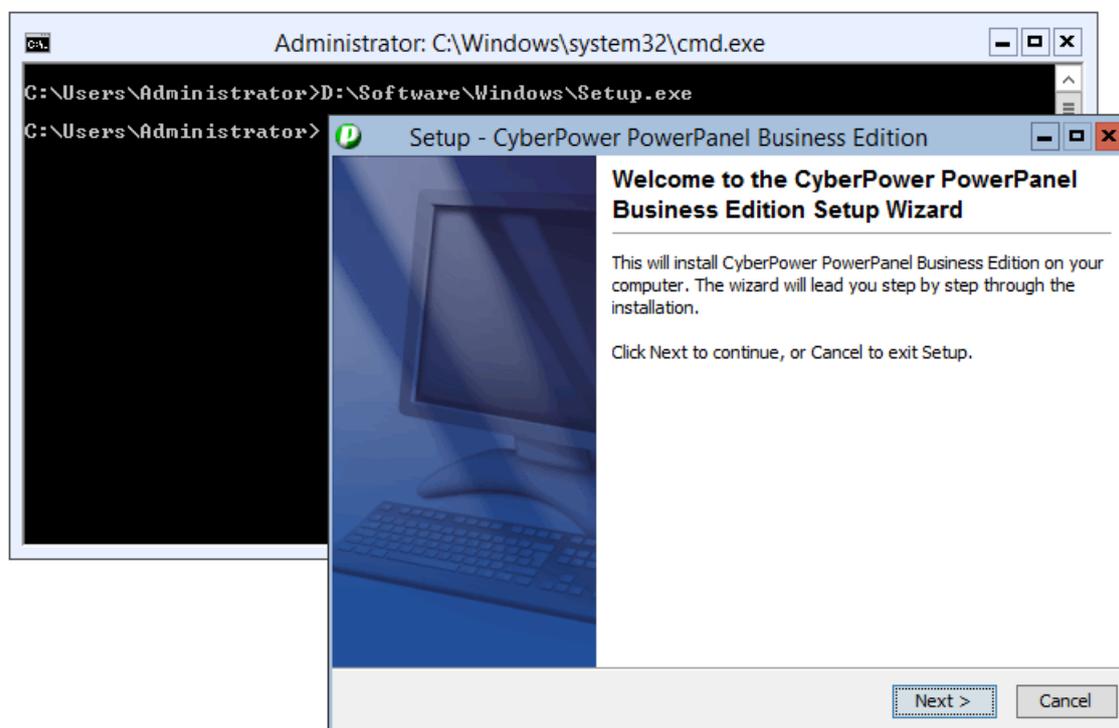
Installation on XenServer

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**. Refer to [Installation on Text Mode](#) section to complete the installation.

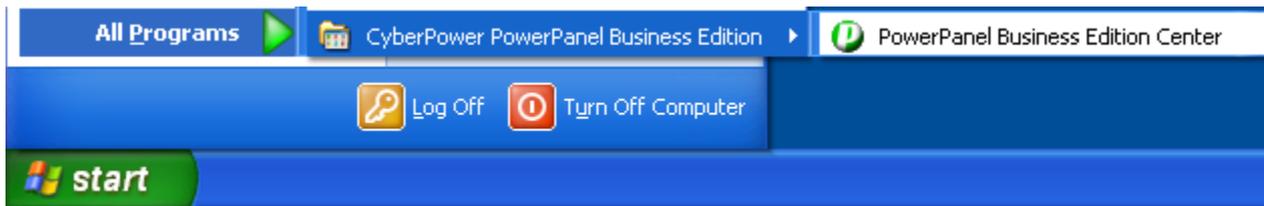
Installation on Hyper-V Server

Use the PowerPanel® Business Edition installation CD to complete the installation on the target computer. Run the **<CD_Drive>\Software\Windows\setup.exe** 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 PowerPanel® Business Edition interface in Windows, go to **Start > All Programs > CyberPower PowerPanel Business Edition > PowerPanel Business Edition Client** (or **PowerPanel Business Edition Center**), which will take you to the login page.



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

The default username is **admin** and the default password is **admin**. For security purposes, it is recommended you 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.



Quick Configuration

A **Welcome** screen will display at the first time to use Client. The welcome screen will lead you to complete the quick configuration. You can decide whether to continue or ignore it. It is strongly recommended to complete the quick configuration. Inability to complete the quick configuration may put your computer in the extreme risk when power events occur. If you decide to ignore the quick configuration, click the **Exit** button. A popup confirm dialog will display and click the **Yes** button to ignore the quick configuration. Refer to [Import Profile](#) section for further details about completing the quick configuration.

Configure Power Protection for Computers

In order to ensure the computers which are connected to the UPS have sufficient time to complete the shutdown prior to turning off outlets, Client should be installed. The Client will establish communication with the UPS and receive

commands from the UPS for a complete shutdown to avoid data loss or a system crash. Refer the [Install PowerPanel® Business Edition Software](#) chapter for installing the Client.

Import Profile

The **Profile Import** screen provides a shortcut to import your own profile to complete the quick configuration. If you would like to import a profile, click the **Yes** option and click the **Next** button to import the profile. A popup dialog will ask you to assign the profile. After the profile import is complete, Client will show the result on the **Finish** screen.

If you would like complete the quick configuration without profile, click the **No** option and click **Next** button to continue.

Configure Authentication

In order to secure and protect the network communication with Client and UPS RMCARD, the security settings must be configured properly in the **Authentication** screen. The settings are used for authenticating the network communication between the Client and UPS RMCARD.

The Secret Phrase is configured on the **General/Identification** page of the UPS RMCARD web. The SNMP settings are configured on the **Network Service/SNMPv1 Service** and **Network Service/SNMPv3 Service** pages of the UPS RMCARD web. Click **Next** to the next step.

Assign IP Address of UPS Units and Connected Outlet

Communication can be established through the network by assigning the IP address of the UPS RMCARD and outlet assignment on the **Power Source Assignment** screen in the Client. In order to ensure the UPS RMCARD can respond to the Client normally, the community configuration must be setup properly.

Assign the IP address of the UPS RMCARD 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 UPS output outlet which supplies power to the Client computer according to the actual connection. Click the **Apply** button for Client to establish the communication between Client and UPS RMCARD.

Configure Shutdown Settings

The **Shutdown Settings** screen allows you to specify the manner in which Client computer is shut down prior to a UPS powering off, set the duration which Client will take to shut down. Even if Client requires shutting down the VMware ESXi host, you can specify the root permission and the ESXi host address.

Setup Necessary Shutdown Time

Each computer running the Client requires 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 **Shutdown Settings** screen in the Client.

Configure Shutdown Action for ESXi

In order to ensure the ESXi host and all virtual machines can be shut down correctly in case of power events, users have to configure the host address, account and password of the root user for the host shutdown from vMA. Fill in the *Host Address*, *Account* and *Password* fields with actual username and password for ESXi host.

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

VM Host	
Host Address	192.168.100.200
Account	root
Password	*****

Note: In order to allow the interactions between physical and virtual machines, VMware tools must 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 ESXi

In order to ensure that all virtual machines and VMware ESX/ESXi server host can be shut down and restart gracefully.

- 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** of the vSphere Client.

localhost.cyberpowersystems.com VMware ESXi, 4.0.0, 208167

Getting Started Summary Virtual Machines Resource Allocation Performance Configuration Users & Groups Events Permissions

Hardware

- Health Status
- Processors
- Memory
- Storage
- Networking
- Storage Adapters
- Network Adapters
- Advanced Settings

Software

- Licensed Features
- Time Configuration
- DNS and Routing
- Virtual Machine Startup/Shutdown
- Virtual Machine Swapfile Location
- Security Profile
- System Resource Allocation
- Advanced Settings

Virtual Machine Startup and Shutdown Properties...

Start and Stop Virtual Machines with the system Enabled

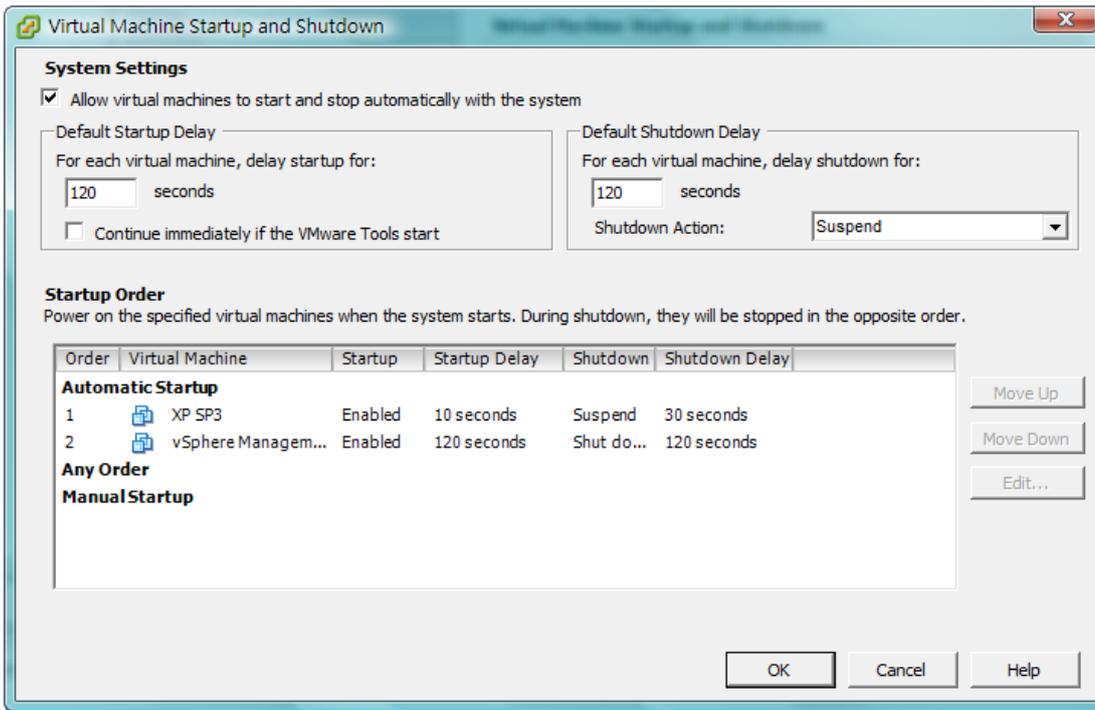
Default Startup Delay 2 minutes

Default Shutdown Delay 2 minutes

Startup Order

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.

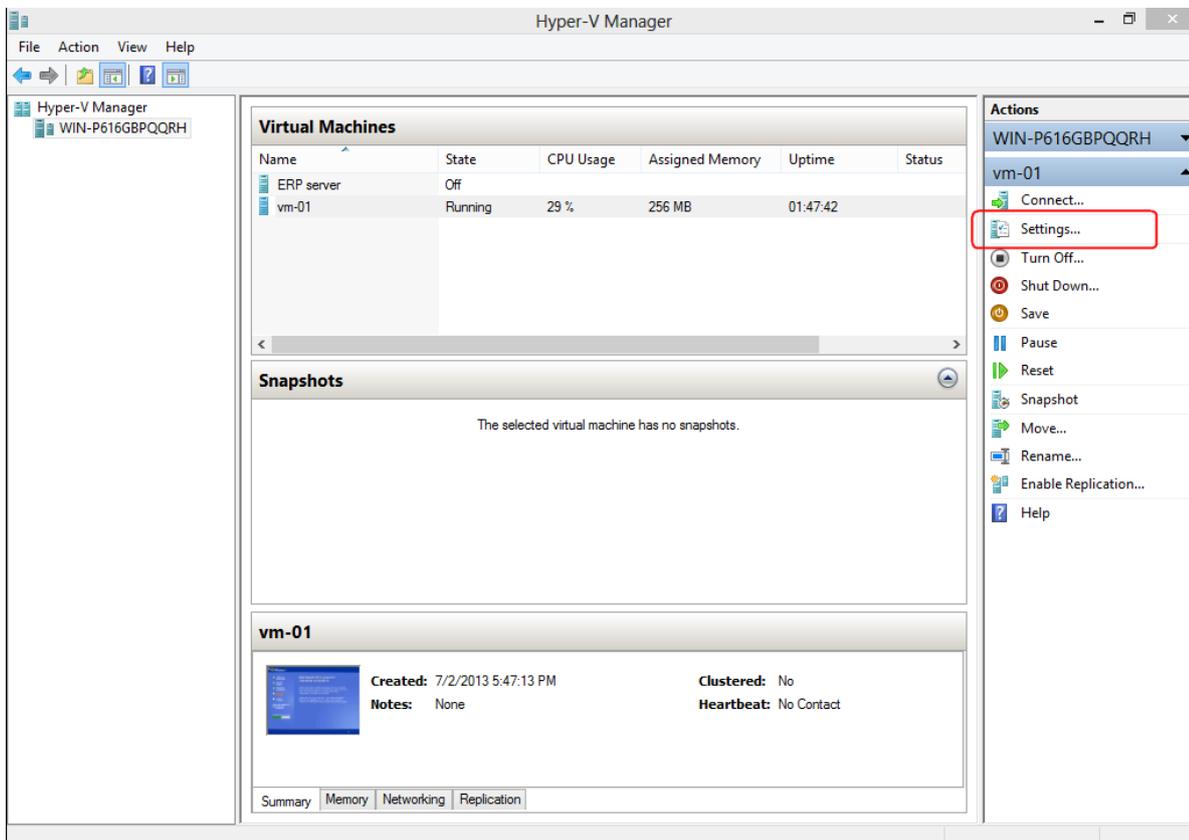


Configure Shutdown of Virtual Machines on Hyper-V Server

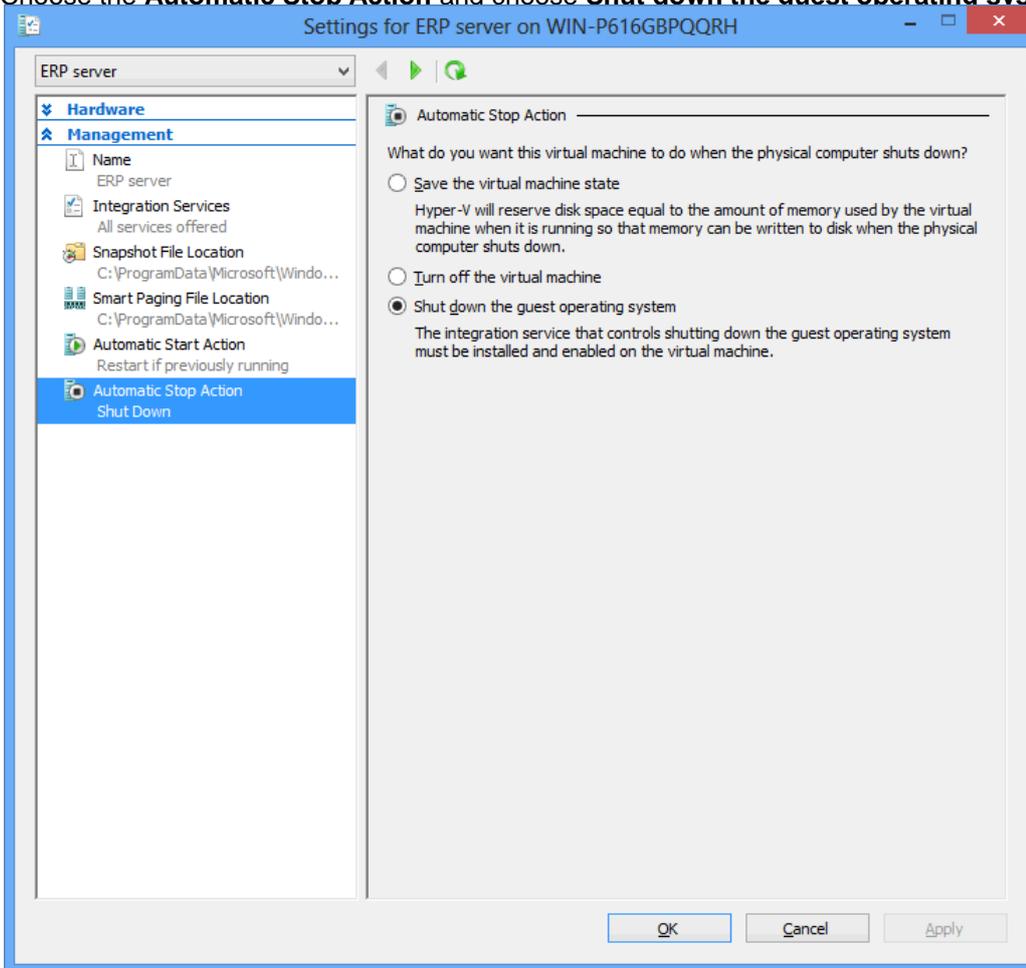
In order for the virtual machines to be shut down correctly when the Hyper-V host shuts down, users should configure a guest operating system shutdown on each virtual machine.

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* 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.

Configure Actions for Essential Events

The **Event Action** screen lists the following critical events and action settings for each event according to actual power connection. Client will generate actions in response to events when UPS encounter the power conditions.

- **Battery capacity is critically low.** *Battery capacity is critically low; power could be lost immediately.*
- **Output overload.** *Power consumption exceeds the power rating of UPS. If the overload is sustained, the UPS will shut off*
- **Network communication lost with UPS in a power event.** *Communication with the UPS has been lost after a power event occurred. When the utility power becomes abnormal and the UPS is using the battery to supply power, loss of network communication between the Client and UPS causes the Client to generate a critical priority event because it cannot respond to changes in the status of utility and battery power.*

- **The output power is going to stop soon.** *Output power will stop due to power event or user commands. The Client will shut down the hosted computer.*
- **Utility power failure.** *Utility power failure, battery power will be supplied.*

Note: Refer to PPBE user's manual for more details about more events which are not available in this screen.

In order to protect your computer when power events occur, you have to arrange the shutdown action for events. After the actions are configured properly, click **Next** to the next step.

Make Sure Power Configuration is Correct

The **Finish** screen lists all power configurations through entire quick configuration. In order to make sure that your computer can be protected when power events occur, you must review the power configuration. Click **Finish** button to complete the quick configuration if the power configuration is correct.

Mass Deployment

In order to install Client 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**.

```
installModule=client
programGroupName=CyberPower PowerPanel Business Edition
installationDir=ppbe_installation_directory
profilePath=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*). **profilePath** indicates the absolute path of profile (e.g. *C:/import/profile.zip* or */import/profile.zip*).

Note. If the installation module is **Center** and **Agent**, this should be **agent¢er**; if the installation module is **Center** and **Client**, this should be **client¢er**.

- 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
```

Note. When you would like to upgrade the pre-installed Agent or Client during the unattended installation, set the **installationDir** parameter blank. The installer will automatically detect where preinstallation PPBE directory locates and attempt to complete the upgrade installation.

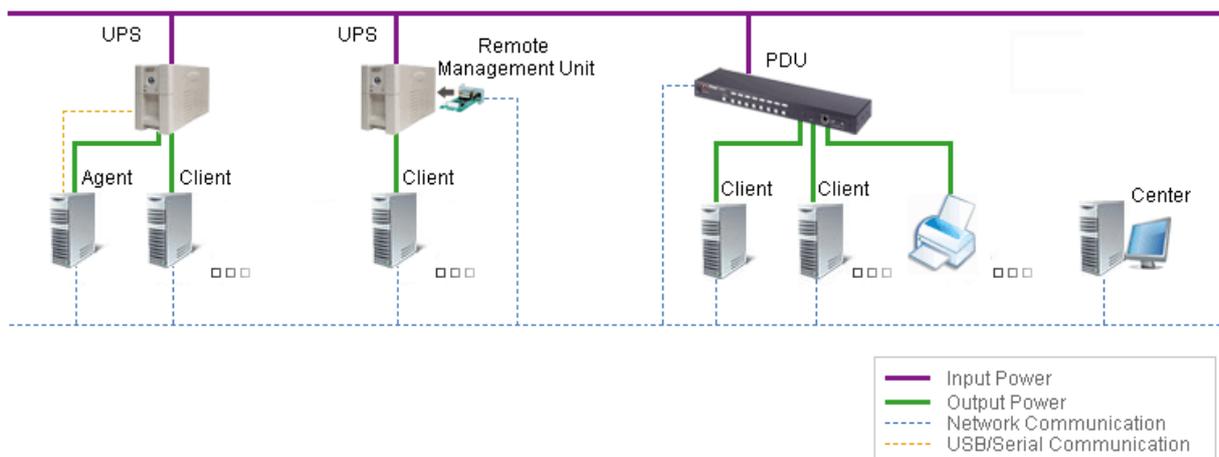
Computers which never installed Agent or Client can be installed the PPBE by assigning a valid path. Assigning a blank

path to the *installationDir* parameter during the unattended installation will allow the installer to use the default path as the installation directory. **C:/Program Files/CyberPower PowerPanel Business Edition/** will be the default installation directory in Windows systems. **/opt/ppbe** or **/usr/local/ppbe** will be the default installation directory in most Linux distributions.

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 can gather the state and events from the monitored UPS units and the monitored UPS units can also accept commands from the Center for shutting off or restarting. Computers running Client can be ordered to initiate a graceful shutdown. Refer to **Installing PowerPanel® Business Edition Software** chapter for further details about Center installation.

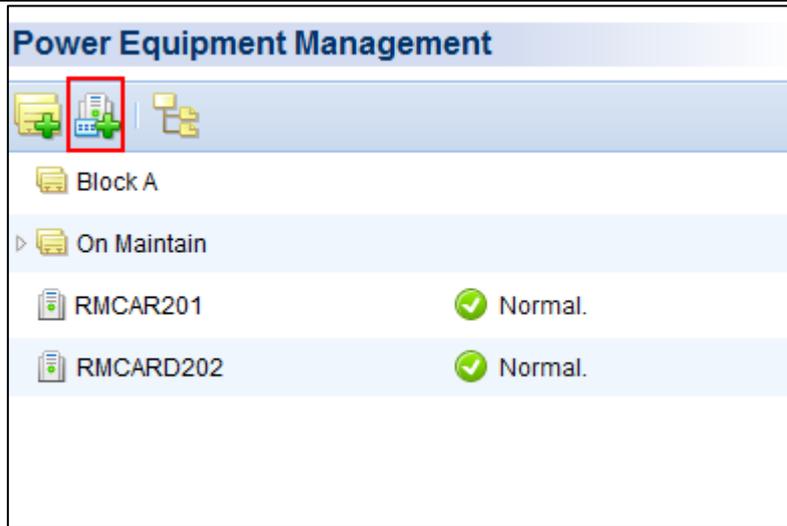
The Center can also establish communication with multiple UPS units. Monitored UPS units will relay the state to the Center and notify Center when and what power event occurs.



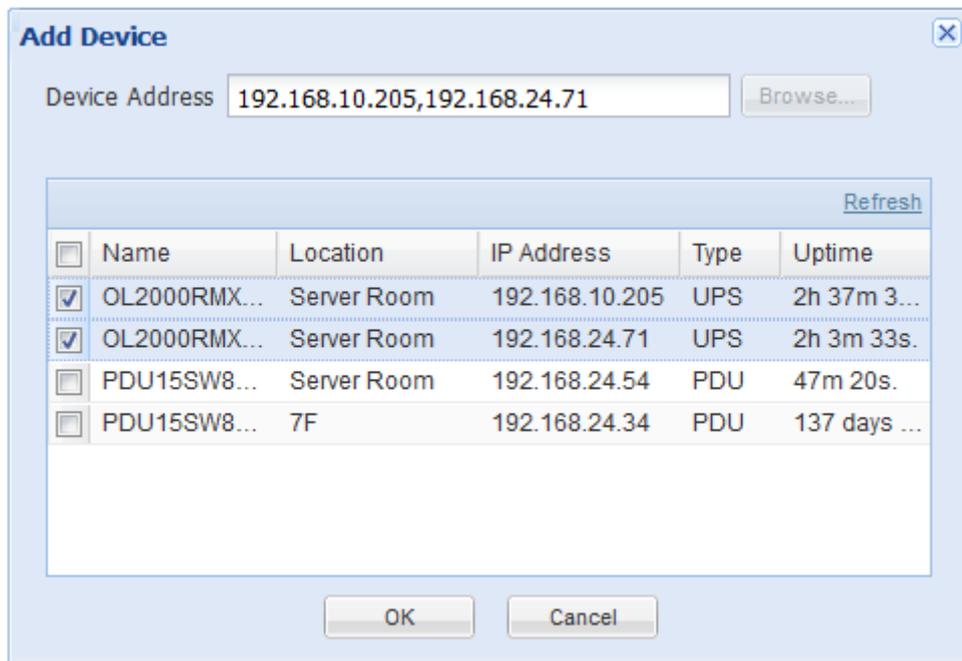
Add UPS Units

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

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



Either enter the IP address of the 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.



Note: If users require adding multiple UPS units to Center, repeat the aforementioned steps.

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



PowerPanel[®] Business Edition Installation Guide

For

UPS without Remote Management Card

Rev. 17

2015/12/2

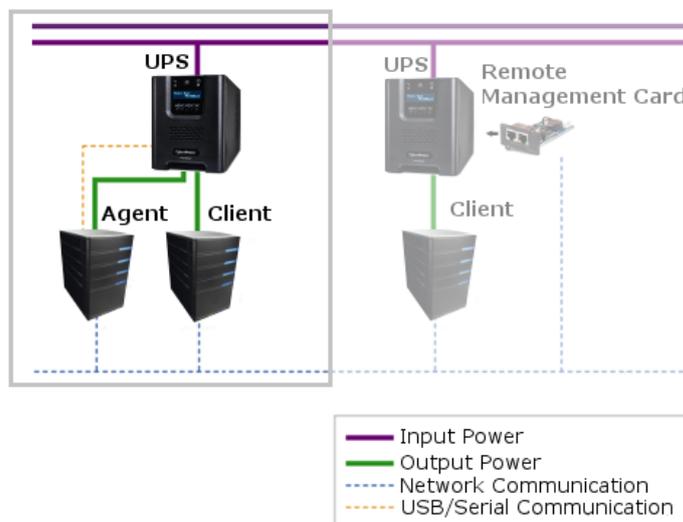
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Introduction

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**.

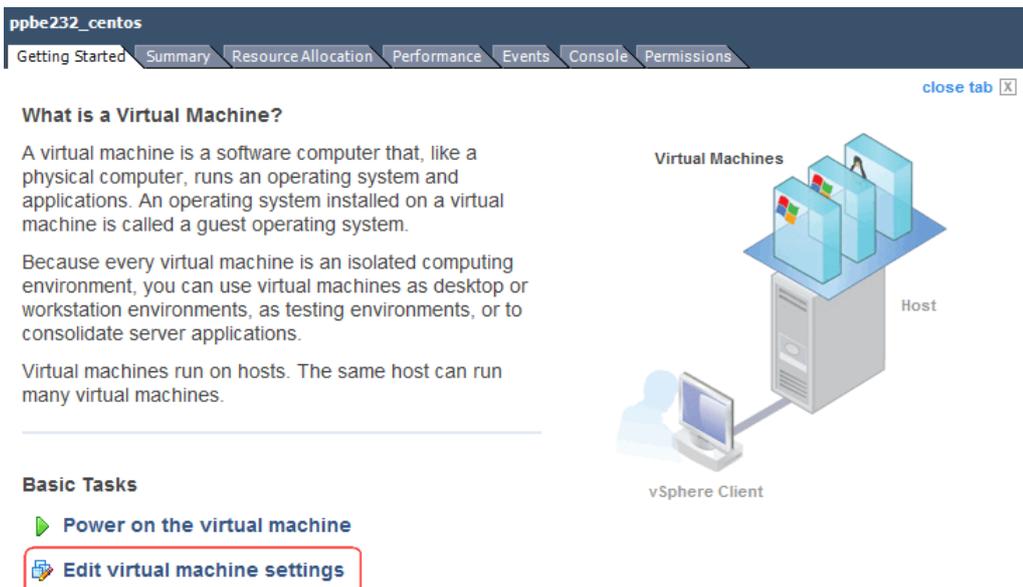
Ensure USB or Serial Cable between Computer and UPS is Connected Properly

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.

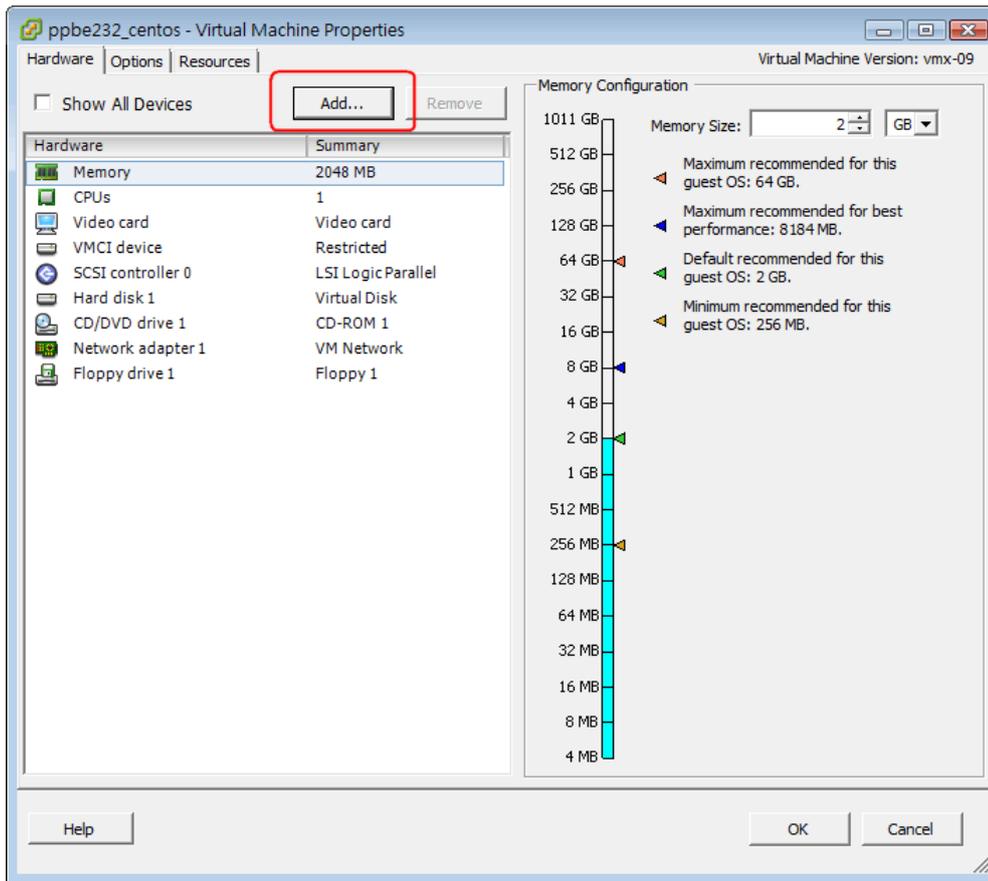
If Agent is installed on VMware vMA, or on any virtual machine in ESX and ESXi, USB device or serial cable which connects to the UPS should be assigned to vMA or any virtual machine manually.

Follow the below steps:

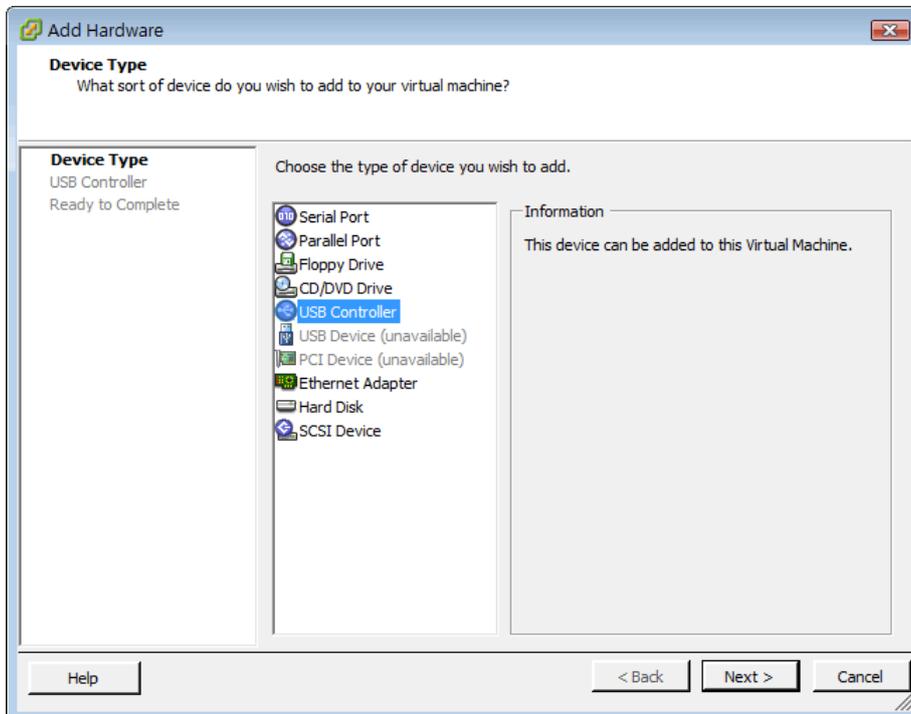
1. Click **Edit virtual machine settings** of the virtual machine. If the USB controller is available, go to step 6 to add a new USB device.



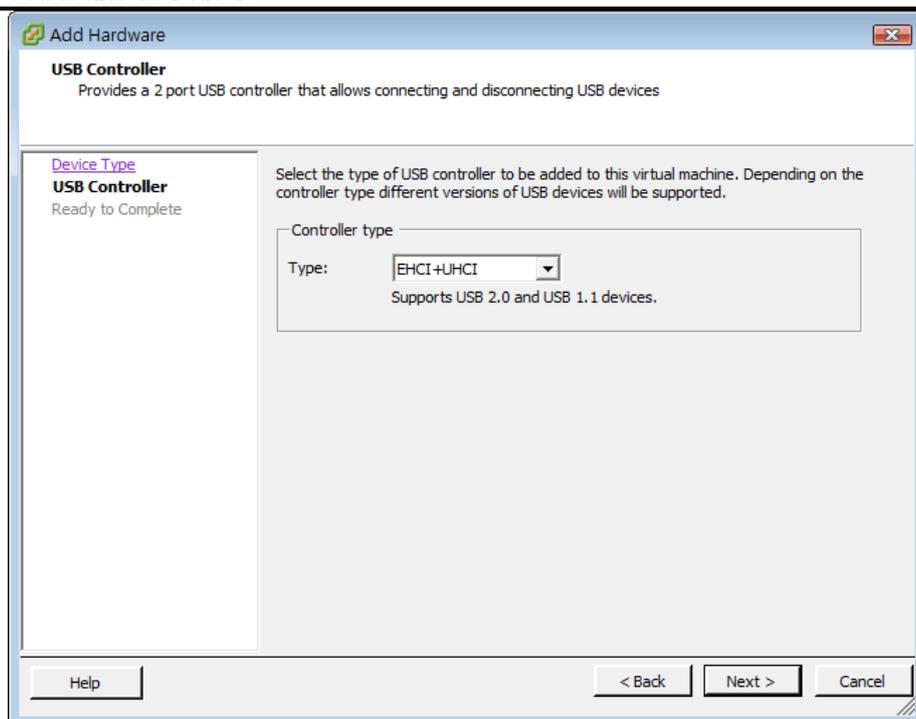
2. Click **Add** to add a new USB controller.



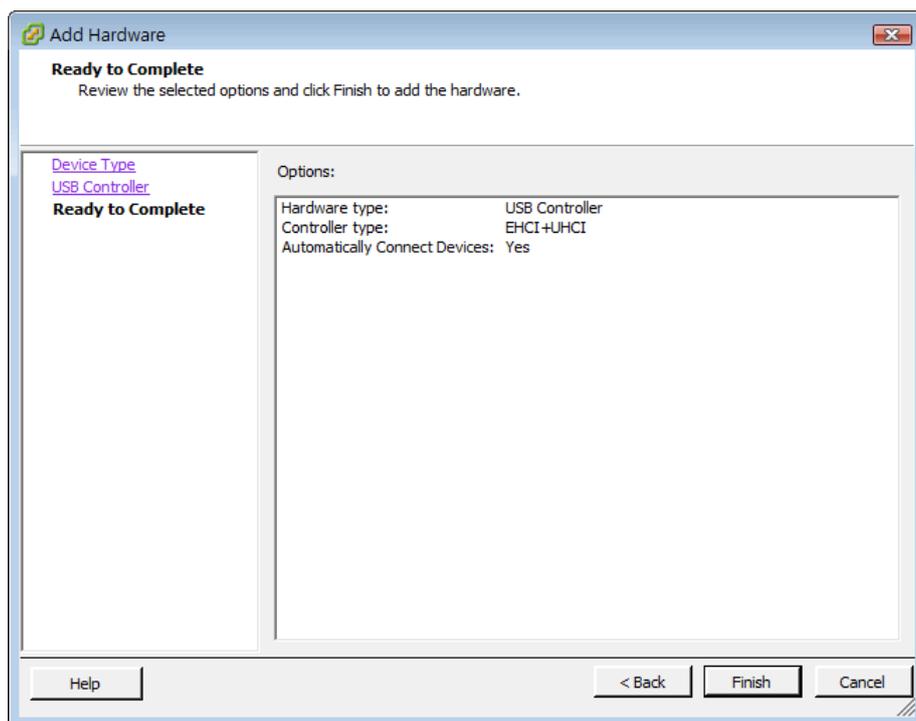
3. Select **USB Controller** from the list and click **Next**.



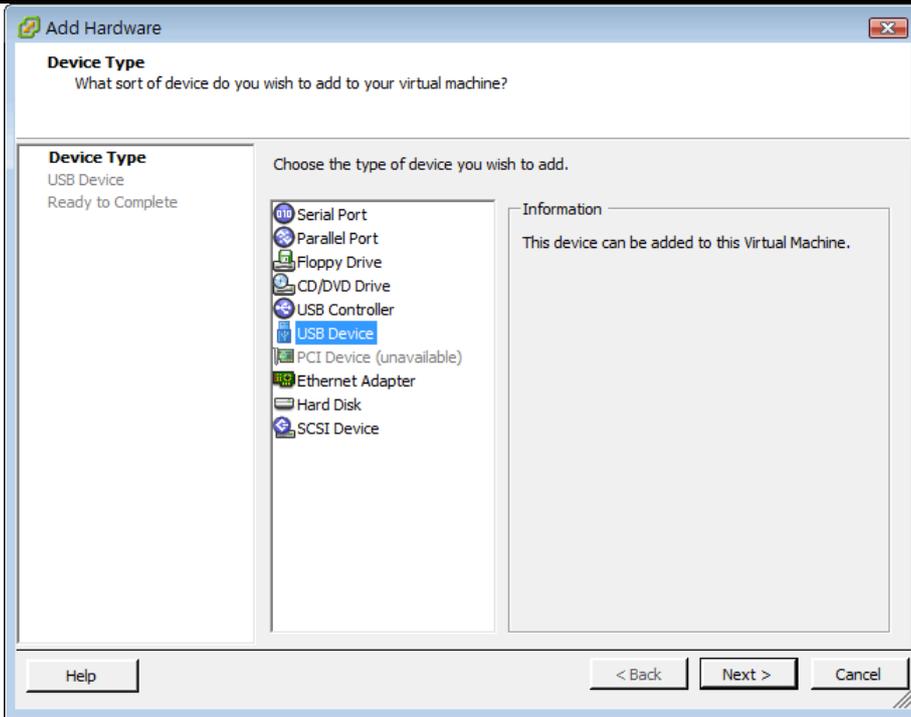
4. Select **USB Controller Type**.



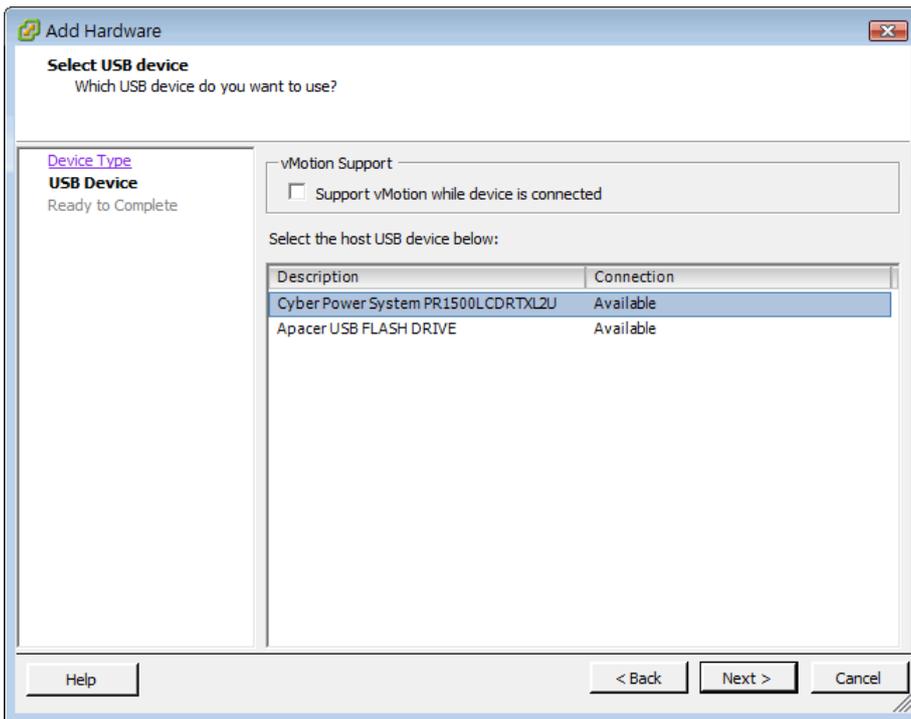
5. This will add a USB controller. Click **Finish** to finish.



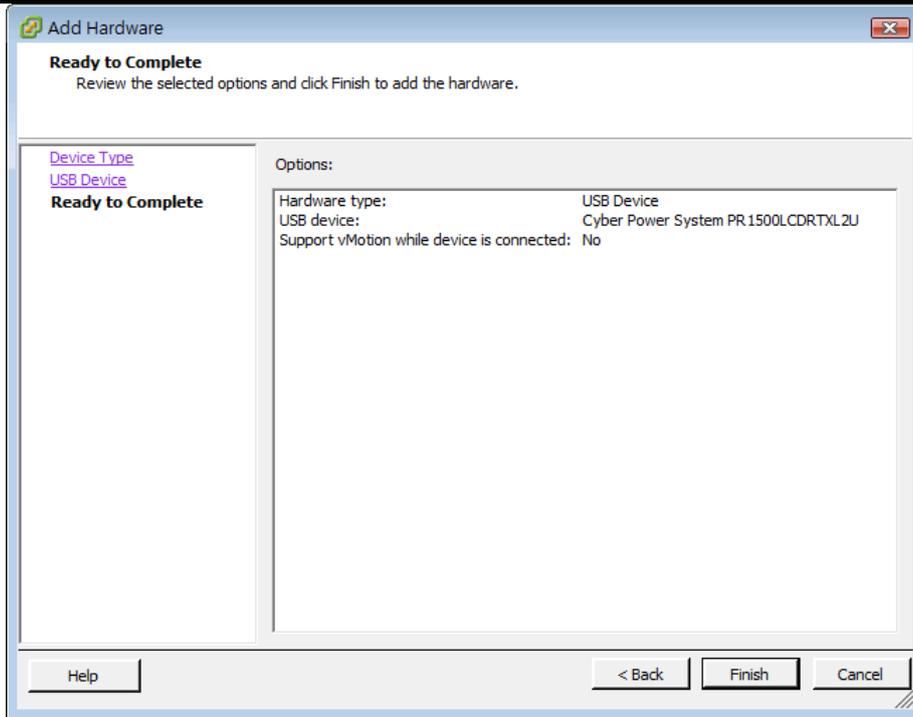
6. Select the **USB Device** and click **Next**.



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

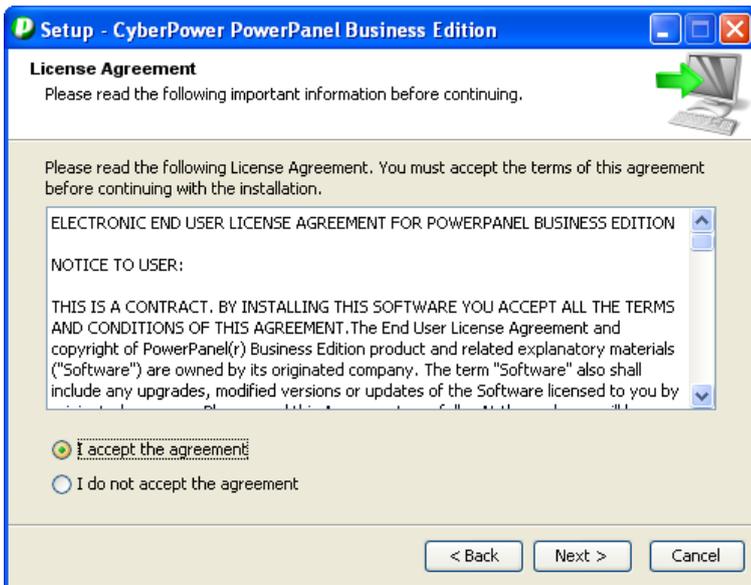
A popup window will be displayed automatically when inserting the PowerPanel® Business Edition installation CD. Users can click the **Install PowerPanel Business Edition software** shortcut on the popup page to initiate the installation procedure. If the popup window is not displayed when inserting the 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.

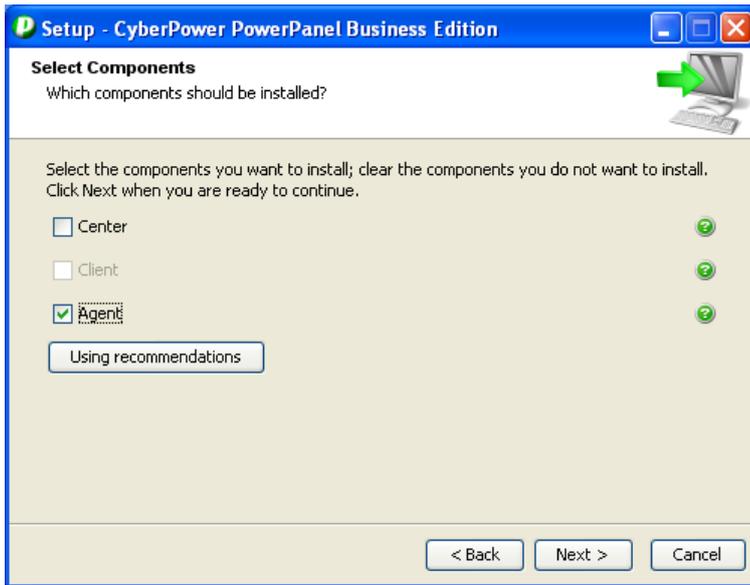


- Accept the license agreement.

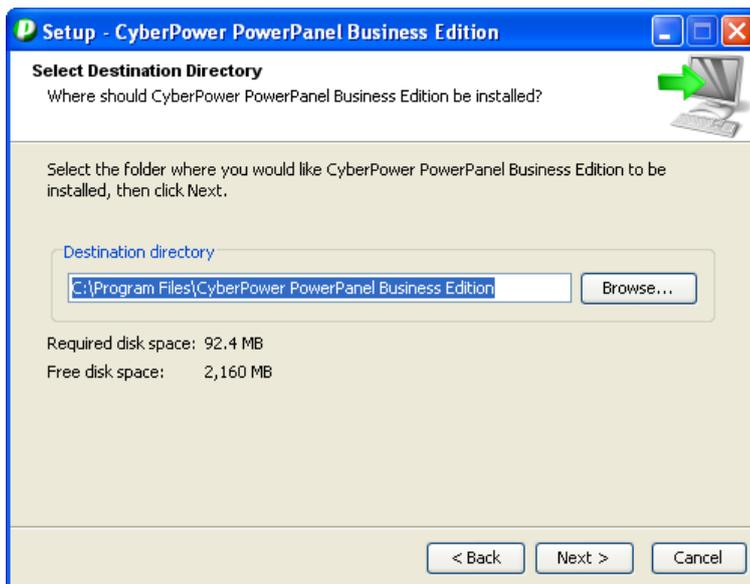


- **Choose the component.** If the target computer is connected to the UPS directly via a USB or serial connection, Agent should be installed. If the computer does not have a USB or serial connection to the UPS, or the computer is powered by a UPS with a remote management card or a PDU, Client should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

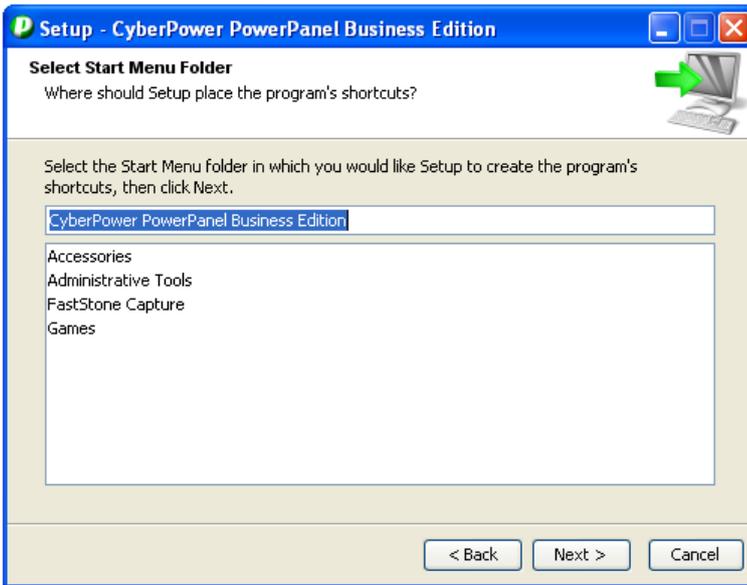
Note: Agent and Client cannot be installed on the same computer.



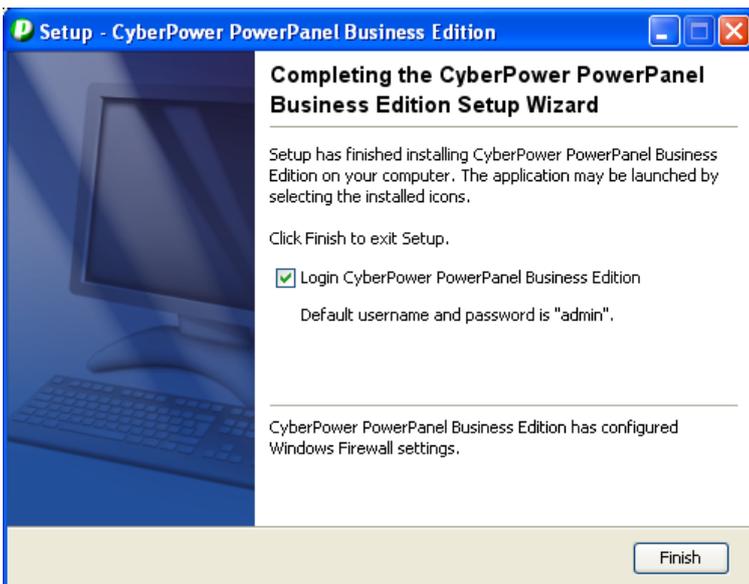
- Choose the destination directory.



- 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.

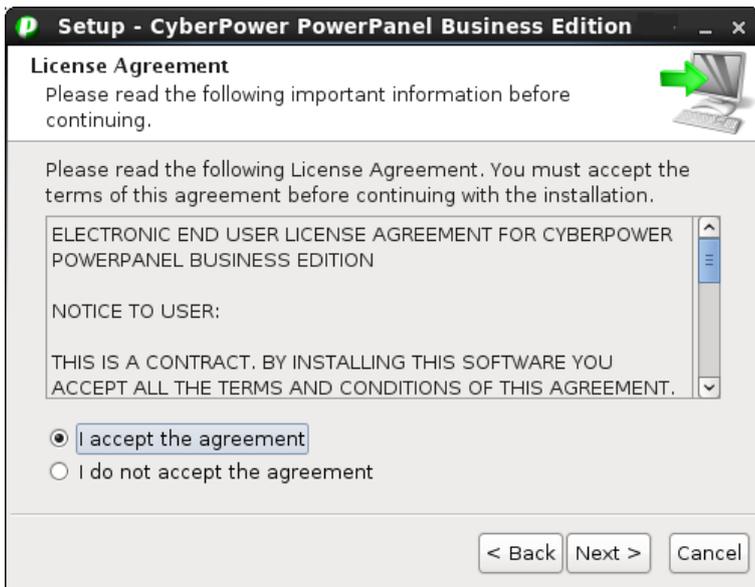
*Note: On Linux, users may mount the CD by using the mount command. Run **mount -t iso9660 /dev/cdrom /mnt/cdrom** as a root user. /dev/cdrom is the CD drive and /mnt/cdrom will be the mount point.*

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



- Choose the destination directory.



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



Installation in 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]
```

- Determine to use recommendation before selecting the components. Select **n** to ignore the recommendation.

```
Select the components you want to install; clear the components you do not
want to install. Click Next when you are ready to continue.
Using recommendations
Yes [y, Enter], No [n]
```

- **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?
Center [1], Client [2], Agent [3]
Please enter a comma-separated list of the selected values or [Enter] for the default 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 Mac

File folder will be displayed automatically when inserting the PowerPanel® Business Edition installation CD. Find the installer in the **/Software/Mac** folder, and double click the file named **Setup.dmg**, then in the same way double click the file named **CyberPower PowerPanel Business Edition Installer** to initiate the wizard. The installation wizard will guide users in completing the installation.

*Note: If PPBE service stopped in unexpected conditions and the OS X version is 10.6 or earlier. Please update Java to the latest version via **Software Update**, then execute **restartService.sh** to restart PPBE service, the default file path is **/Applications/ppbe/bin/restartService.sh**.*



Note: *Cyberpower PowerPanel® Business Edition software is a third-party application. At the first time to launch the PPBE installer on the Mac OS X 10.8(or later version), you should do following:*

- 1.Right-click the Installer and choose “Open”.
2. Choose “Open” again at the dialog to open it.

To install follow these steps:

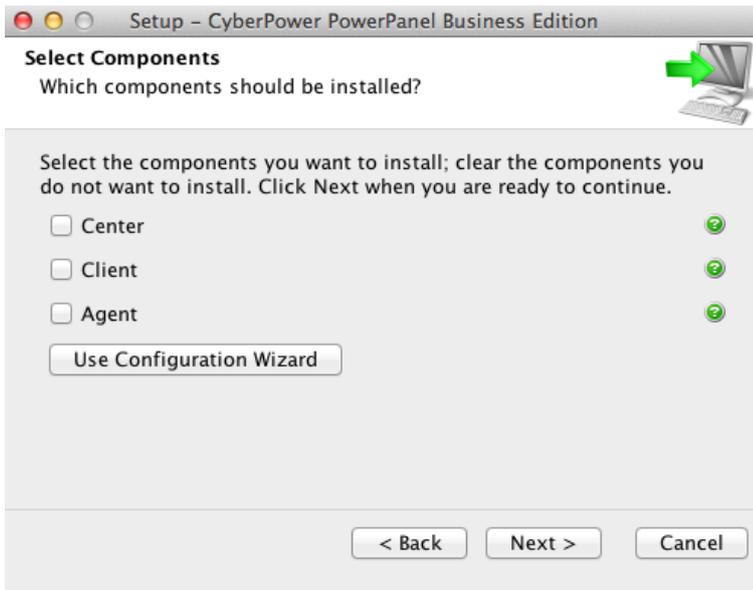
- Click the **Next** button to start an installation.



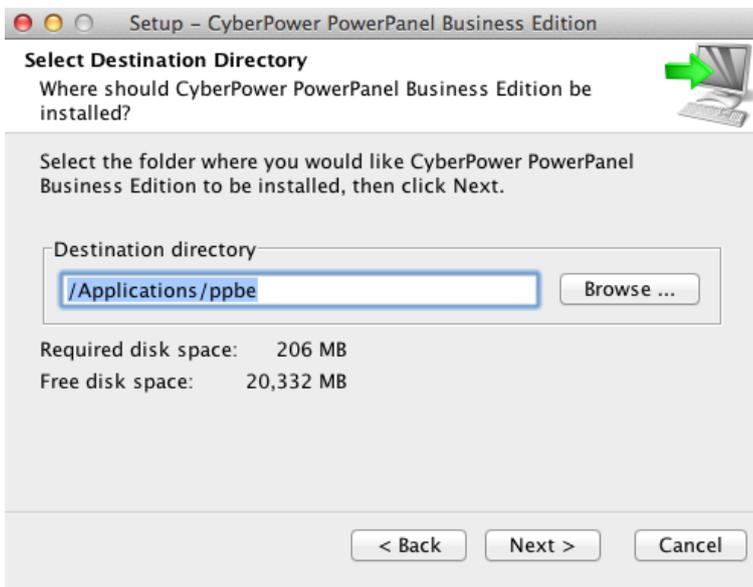
- Accept the license agreement.



- **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/PDU/ATs, equipment and computers on a local network, Center should be installed.



- Choose the destination directory.



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

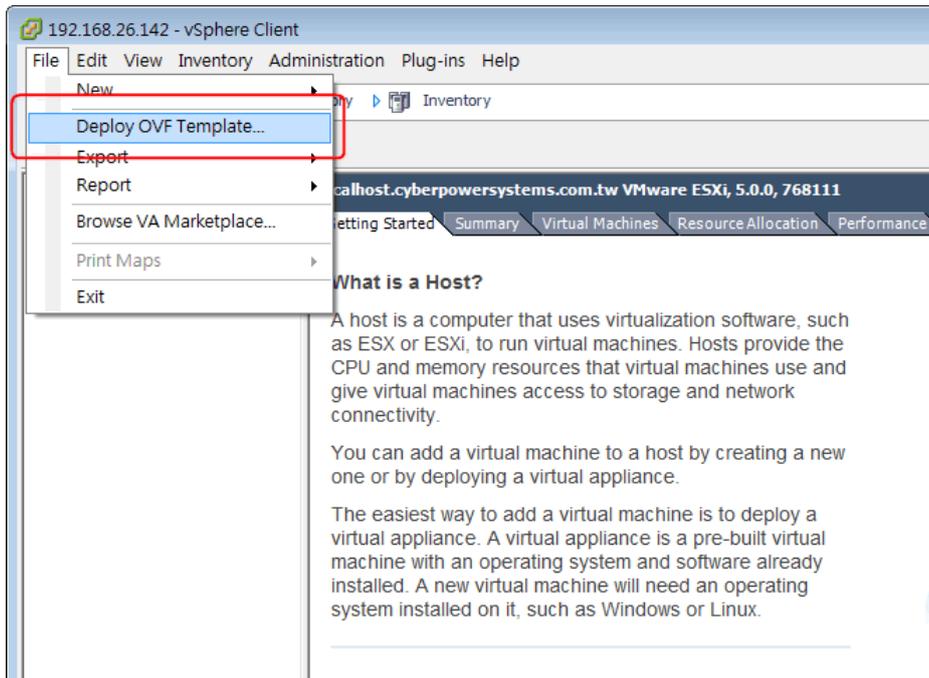
Virtual Appliance Deployment on ESXi

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.

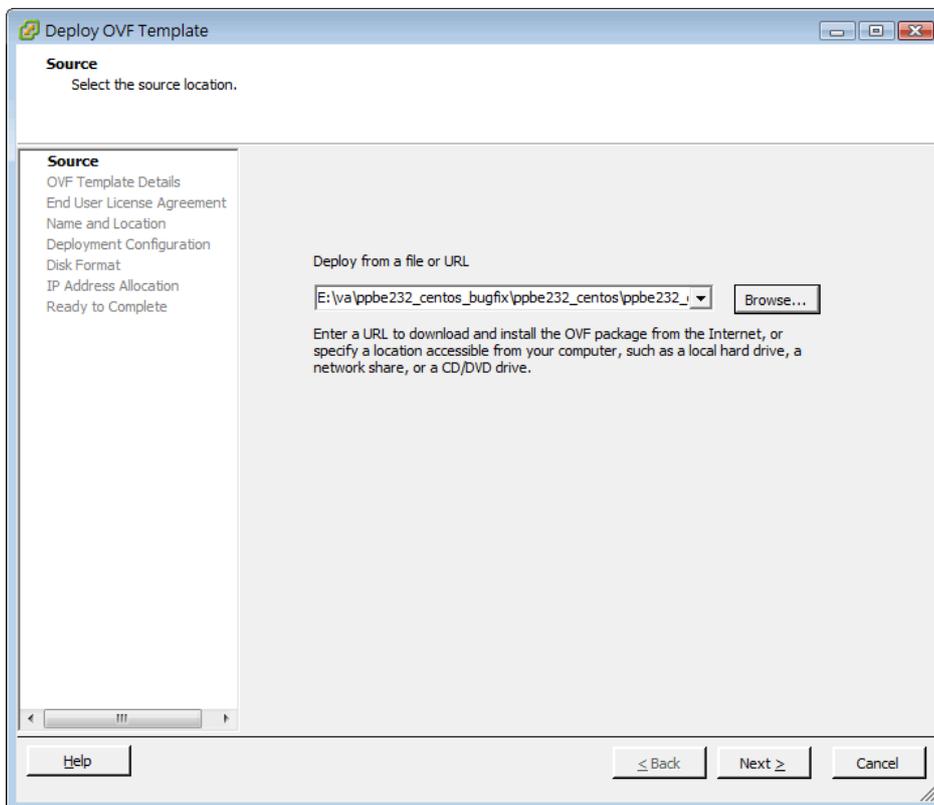
Download the PPBE virtual appliance which is pre-installed Agent from [CyberPower](#). In order to deploy the PPBE virtual appliance on VMware ESXi host, users must install vSphere Client tool first on the remote computer. To download the **vSphere Client** installer, users can enter the ESXi host IP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

The deployment procedure will be initiated as below steps:

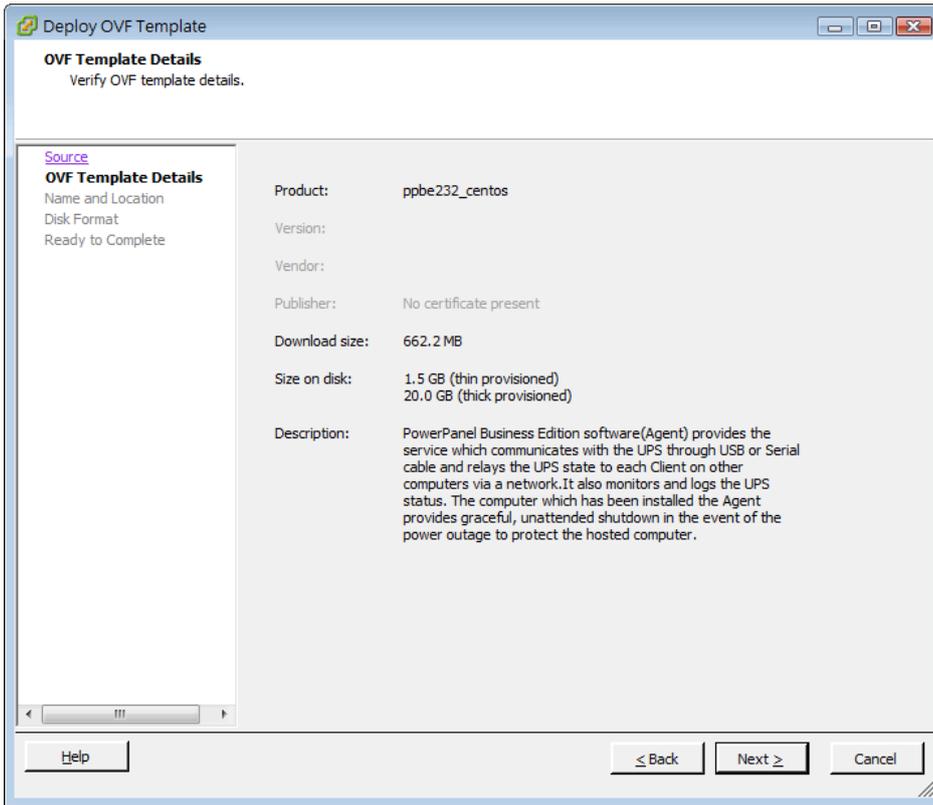
- Launch the vSphere Client. Open the **Deploy OVF Template** window from **File > Deploy OVF Template...** item.



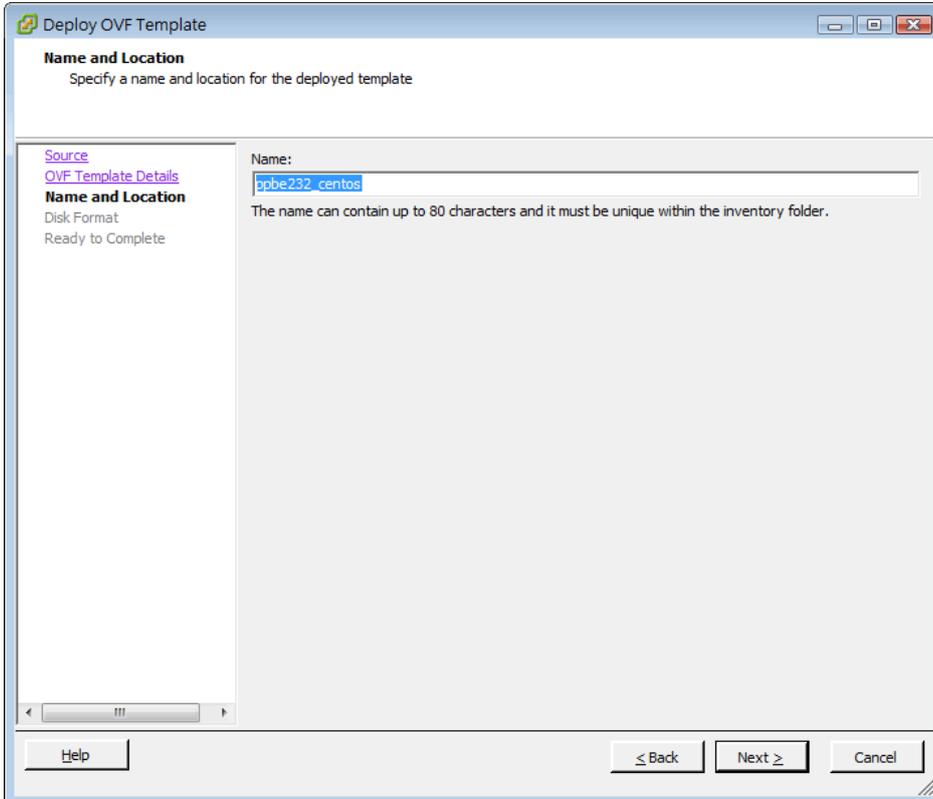
- Click **Browse** to import the **ppbeXXX_centos.ovf** extracted from the download zip file. Click **Next** to start a deployment task.



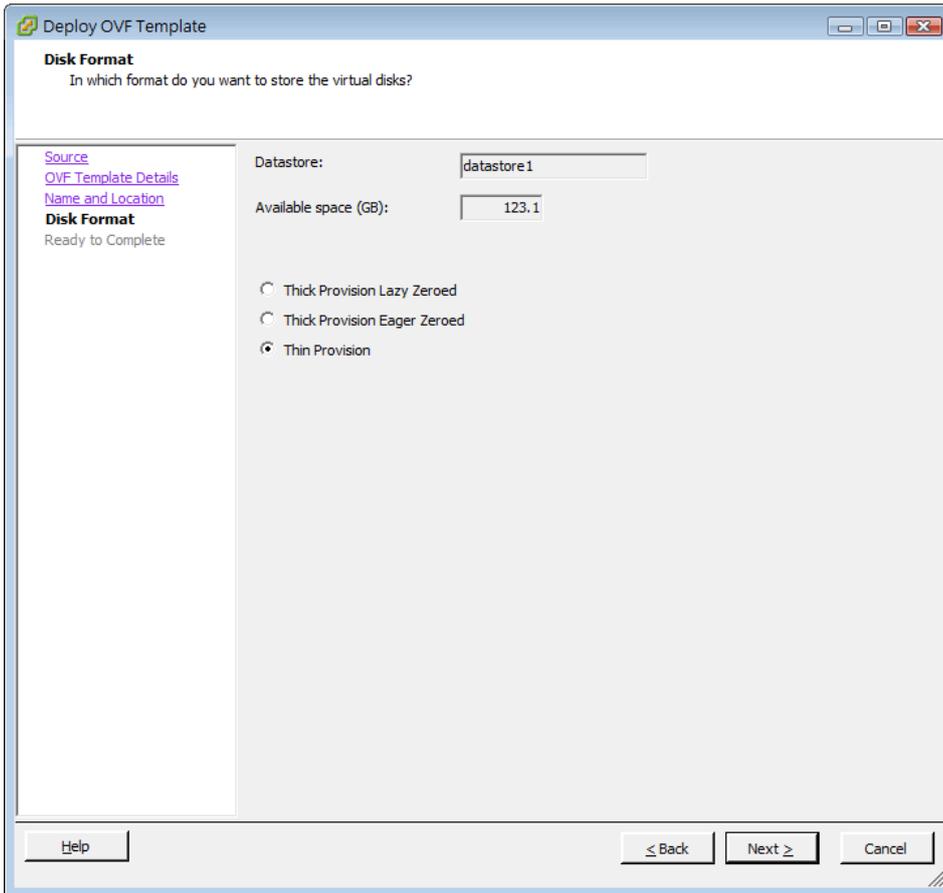
- The OVF template detail is displayed. Click **Next** to continue.



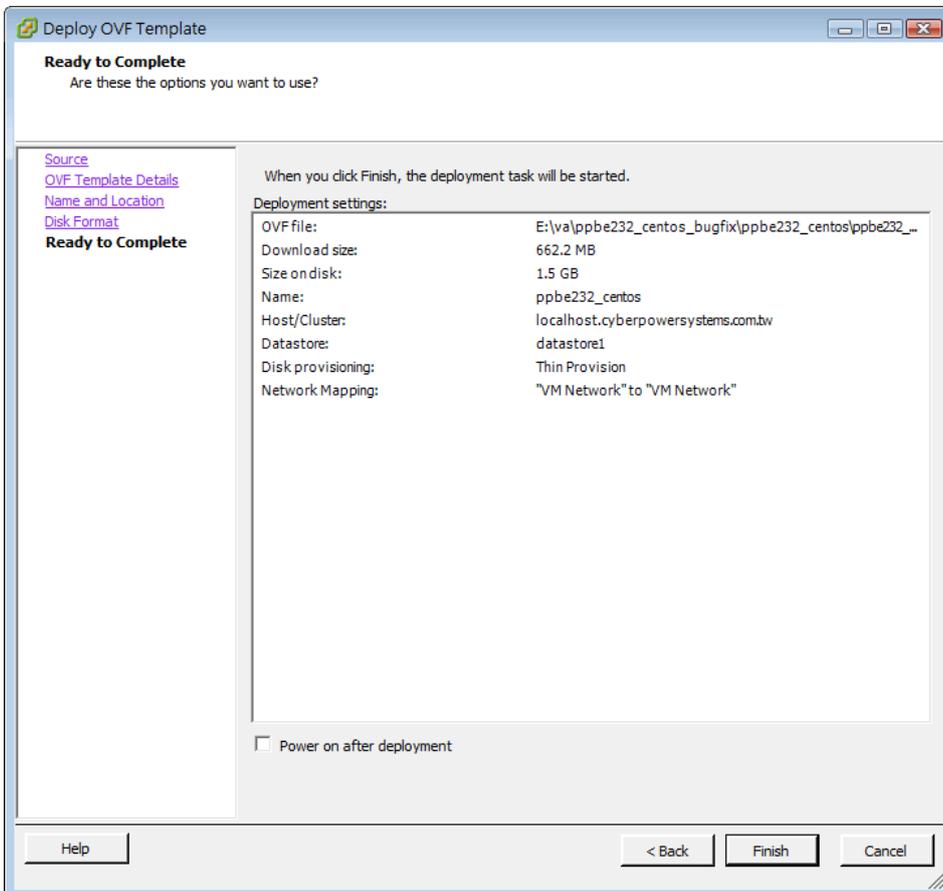
- Enter the name for the deployed PPBE virtual appliance. The default option is **Thin Provision**. This name should be unique within the inventory.



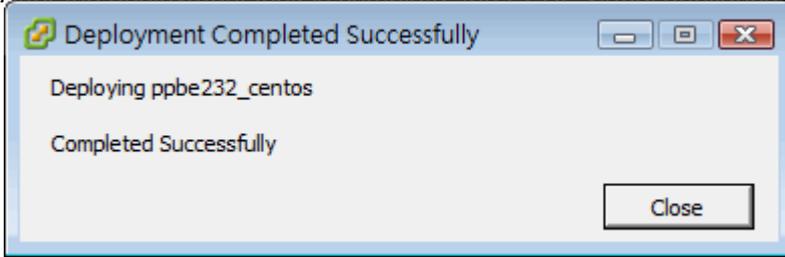
- Select the virtual disk format for the PPBE virtual appliance. Refer to [About Virtual Disk Provision Disk Policies](#) for further information about how to select virtual disk format.



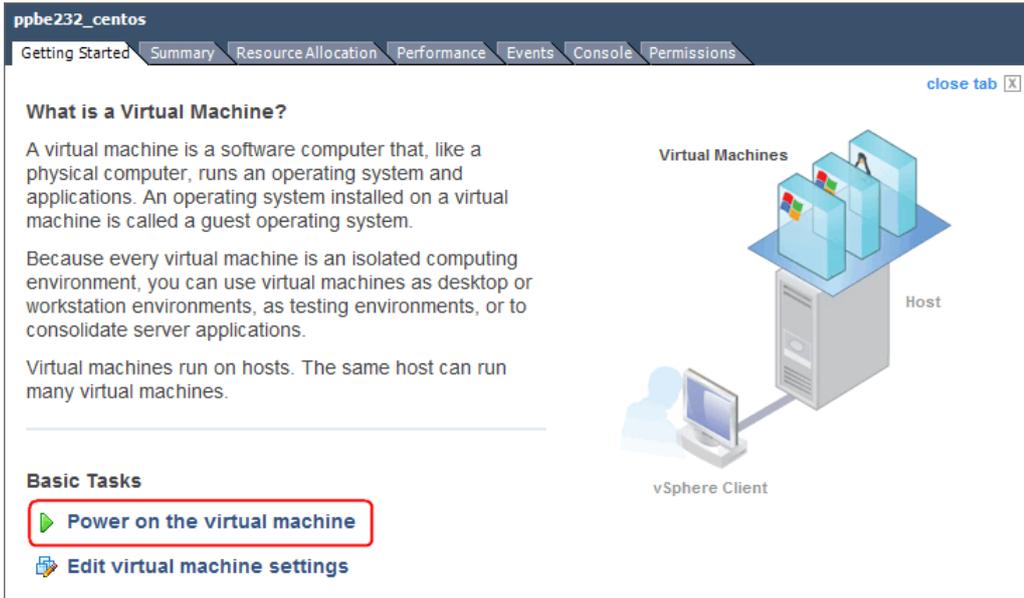
- A deployment detail is displayed. Click **Finish** to start the deployment task.



- 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

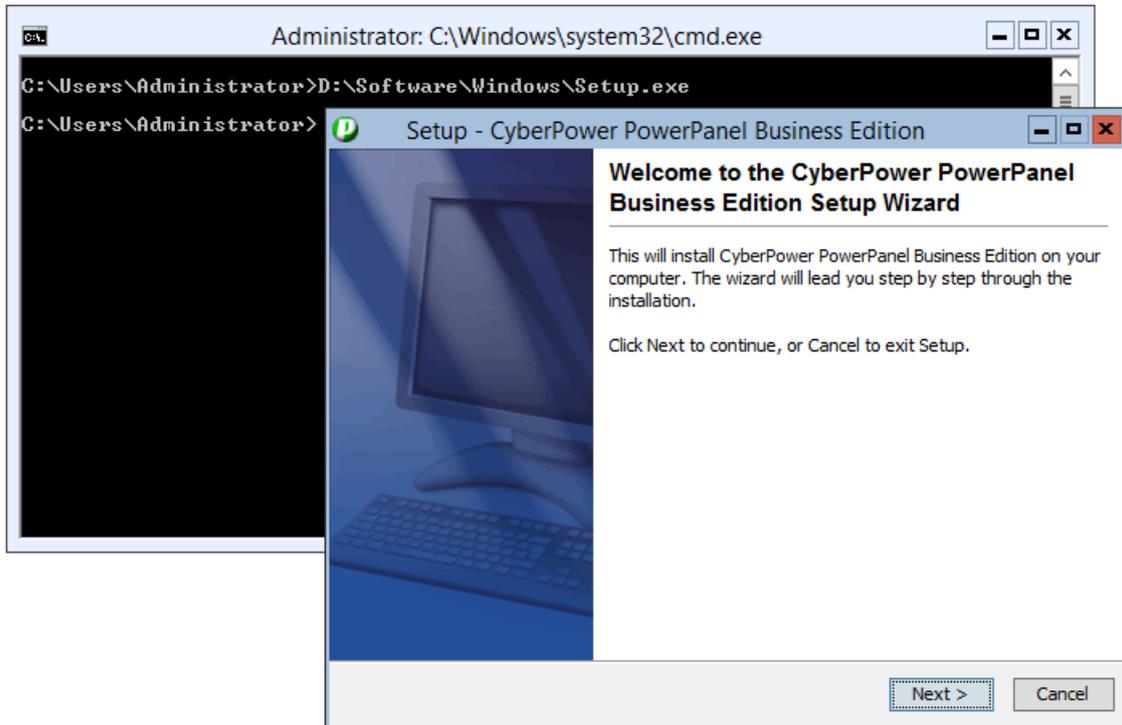
The installer requires root permission to install the PowerPanel® Business Edition. Mount CD by running `mount -t iso9660 /dev/cdrom /mnt/cdrom` as a root user (`/dev/cdrom` is the CD drive and `/mnt/cdrom` will be the mount point.). Browse the CD drive and run `./ppbe-linux-x86.sh` command to initiate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

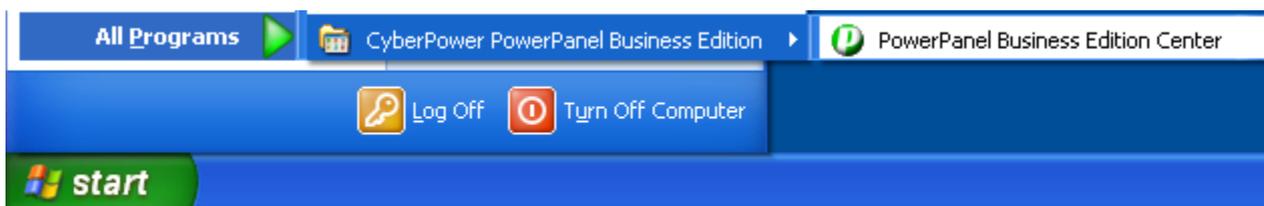
Use the PowerPanel® Business Edition installation CD to complete the installation on the target computer. Run the `<CD_Drive>\Software\Windows\setup.exe` of the command prompt such as below illustration to start the installation

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.



Quick Configuration

A **Welcome** screen will display at the first time to use Agent. The welcome screen will lead you to complete the quick configuration. You can decide whether to continue or ignore it. It is strongly recommended to complete the quick configuration. Inability to complete the quick configuration may put your computer in the extreme risk when power events occur. If you decide to ignore the quick configuration, click the **Exit** button. A popup confirm dialog will display and click the **Yes** button to ignore the quick configuration. Refer to [Import Profile](#) section for further details about completing the quick configuration.

Import Profile

The **Profile Import** screen provides a shortcut to import your own profile to complete the quick configuration. If you would like to import a profile, click the **Yes** option and click the **Next** button to import the profile. A popup dialog will ask you to assign the profile. After the profile import is complete, Agent will show the result on the **Finish** screen.

If you would like complete the quick configuration without profile, click the **No** option and click **Next** button to continue.

Ensure Agent Establishes Communication with UPS

When Agent has establishes communication with UPS, Agent can monitor the status and control UPS. The **UPS Information** screen will display an overview of UPS Information.

When Agent cannot establish or lose communication with UPS, a warning will inform you of communication loss. Make sure that the USB or serial connection between Agent computer and UPS is properly connected first. You must also ensure that the UPS is functioning. Click **Retry** button to ask Agent to detect UPS.

Configure Shutdown Settings

The **Shutdown Settings** screen allows you to specify the manner in which Agent computer is shut down before the UPS stops supplying power, set the duration which Client will take to shut down and determine whether to turn off the

UPS. Even if Client requires shutting down the VMware ESXi host, you can specify the root permission and the ESXi host address.

Setup Necessary Shutdown Time

The computer running the Agent 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 **Shutdown Settings** screen in the Agent.

Determine Whether to Turn off UPS

You can determine whether to turn off UPS after the Agent computer is shut down completely, If Yes option is selected, the UPS will be turned off after the Agent computer is shut down completely. 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.

Due to PowerPanel® Business Edition software is installed on the Service Console of ESX instead of vMA, the **Shutdown Settings** screen 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.

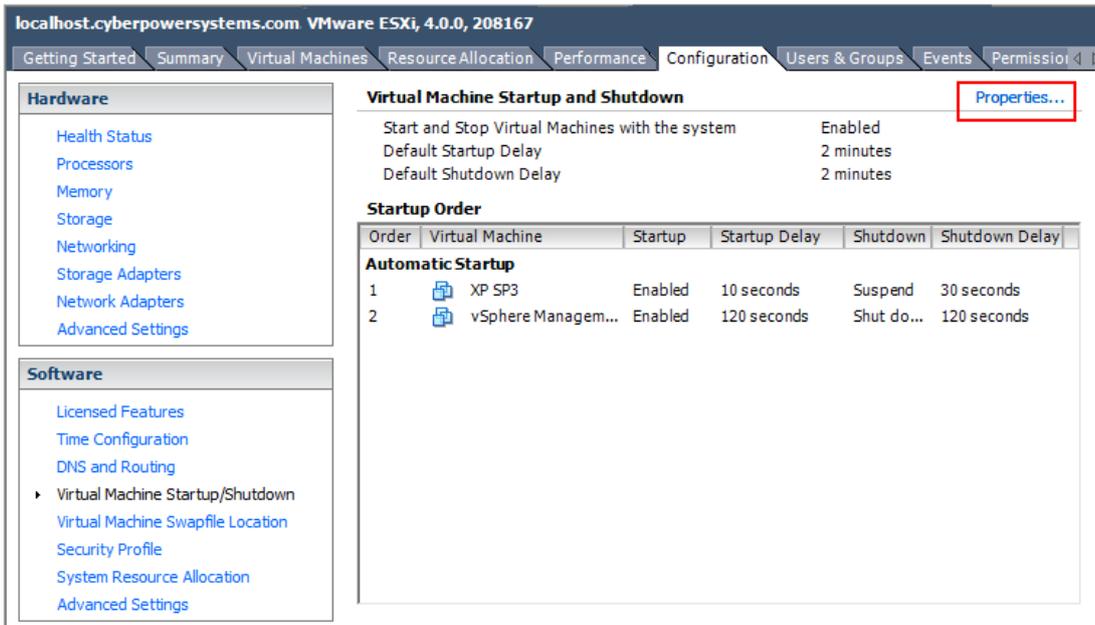
VM Host	
Host Address	192.168.100.200
Account	root
Password	*****

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.*

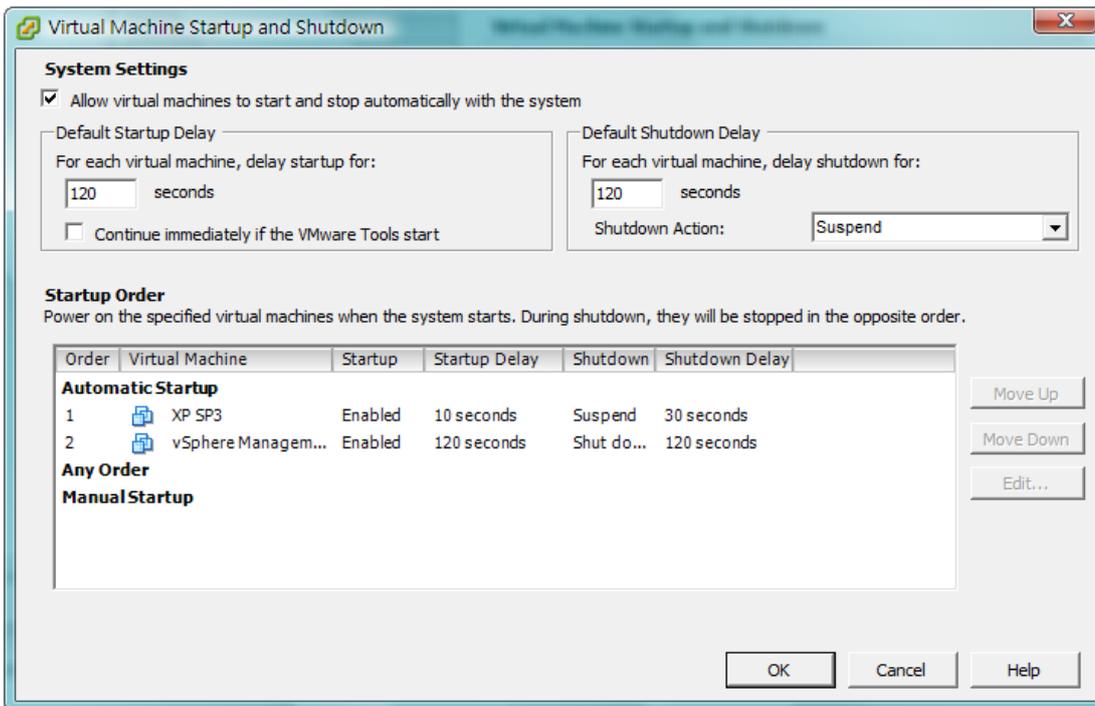
Configure Startup and Shutdown of Virtual Machines on ESX/ESXi

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.



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

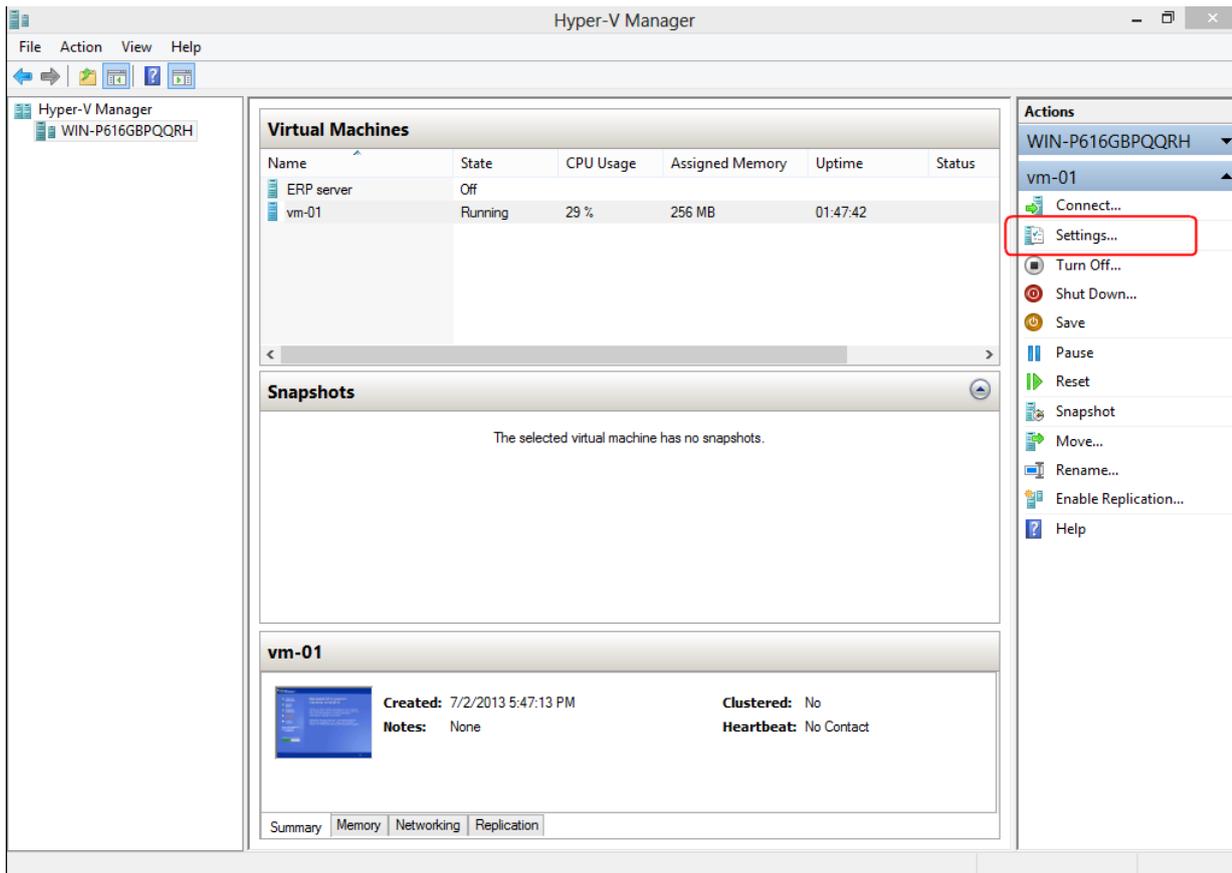


Configure Shutdown of Virtual Machines on Hyper-V Server

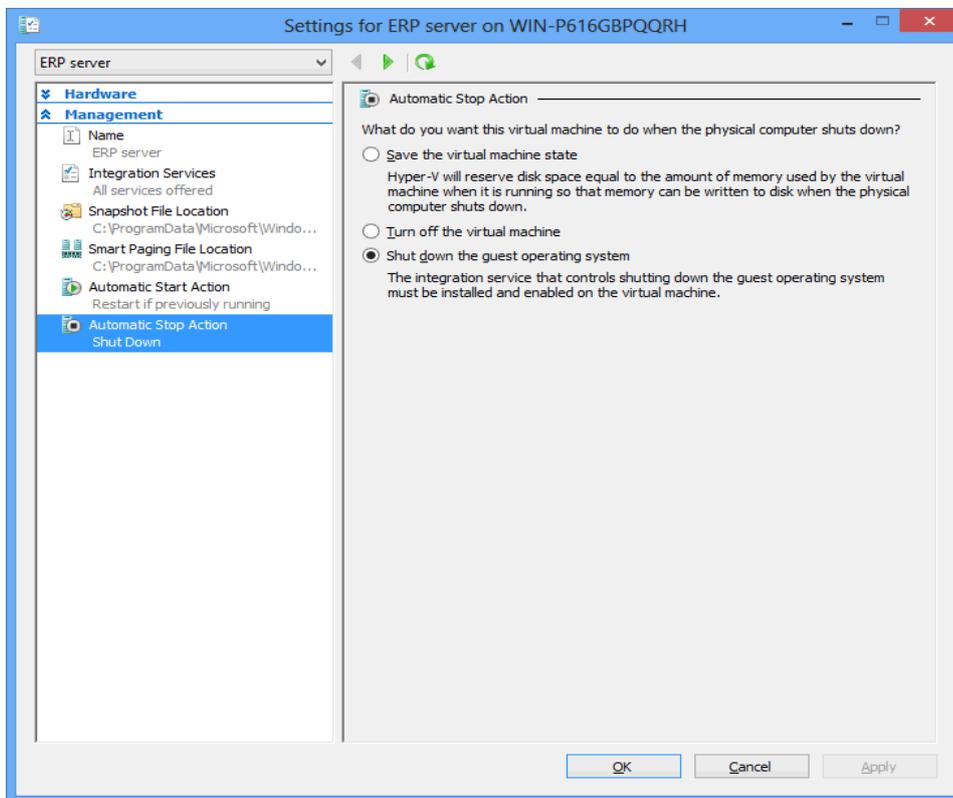
In order for the virtual machines to be shut down correctly when the Hyper-V host shuts down, users should configure a guest operating system shutdown on each virtual machine.

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* 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.

Configure Actions for Essential Events

The **Event Action** screen lists the following critical events and action settings for each event according to actual power connection. Agent will generate actions in response to events when UPS encounter the power conditions.

- **Battery capacity is critically low.** *Battery capacity is critically low; power could be lost immediately.*
- **Output overload.** Power consumption exceeds the power rating of UPS. If the overload is sustained, the UPS will shut off
- **Network communication lost with UPS in a power event.** *Communication with the UPS has been lost after a power event occurred.* When the utility power becomes abnormal and the UPS is using the battery to supply power, loss of network communication between the Client and UPS causes the Client to generate a critical priority event because it cannot respond to changes in the status of utility and battery power.
- **The output power is going to stop soon.** *Output power will stop due to power event or user commands. The Client will shut down the hosted computer.*
- **Utility power failure.** *Utility power failure, battery power will be supplied.*

Note: Refer to PPBE user's manual for more details about more events which are not available in this screen.

In order to protect your computer when power events occur, you have to arrange the shutdown action for events. After the actions are configured properly, click **Next** to the next step.

Make Sure Power Configuration is Correct

The **Finish** screen lists all power configurations through entire quick configuration. In order to make sure that your computer can be protected when power events occur, you must review the power configuration. Click **Finish** button to complete the quick configuration if the power configuration is correct.

After the installation is complete, you should complete the quick configuration to protect the Client computers. You can refer to **PPBE Installation Guide for UPS with RMCARD** for further details to complete the quick configuration in Client.

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**.

```
installModule=agent
programGroupName=CyberPower PowerPanel Business Edition
installationDir=ppbe_installation_directory
profilePath=exported_zip_location
```

- Edit the **setup.varfile** to replace **installationDir** and **profilePath** 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*). **profilePath** indicates the absolute path of profile (e.g. *C:/import/profile.zip* or */import/profile.zip*).

Note. If the installation module is **Center** and **Agent**, this should be **agent¢er**; if the installation module is **Center** and **Client**, this should be **client¢er**.

- 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
```

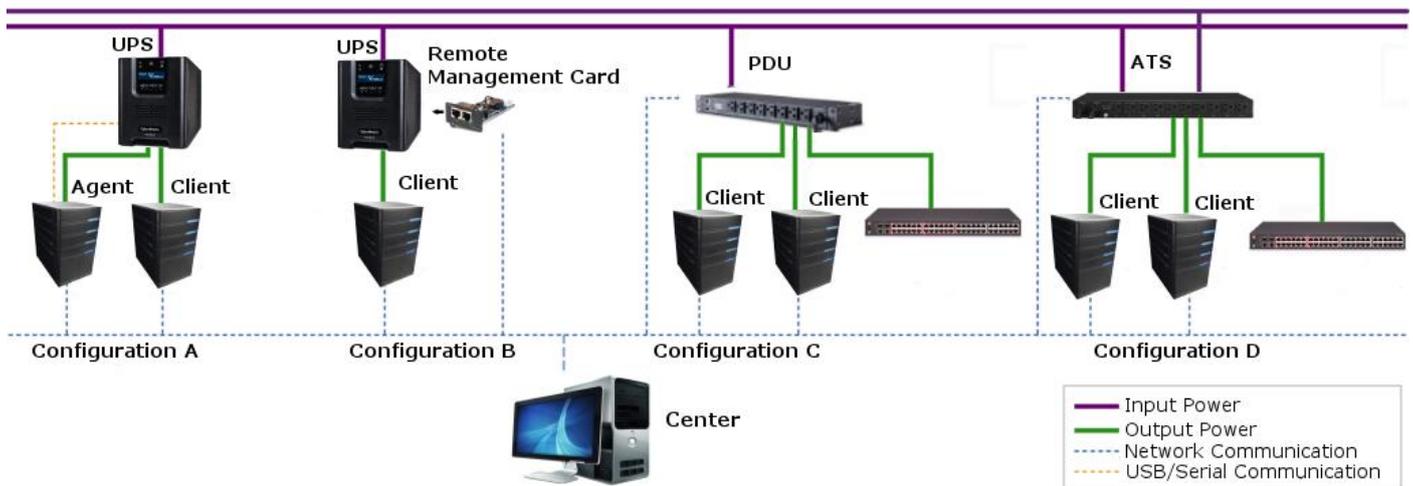
Note. When you would like to upgrade the pre-installed Agent or Client during the unattended installation, set the **installationDir** parameter blank. The installer will automatically detect where preinstallation PPBE directory locates and attempt to complete the upgrade installation.

Computers which never installed Agent or Client can be installed the PPBE by assigning a valid path. Assigning a blank path to the **installationDir** parameter during the unattended installation will allow the installer to use the default path as the installation directory. **C:/Program Files/CyberPower PowerPanel Business Edition/** will be the default installation directory in Windows systems. **/opt/ppbe** or **/usr/local/ppbe** will be the default installation directory in most Linux distributions.

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.

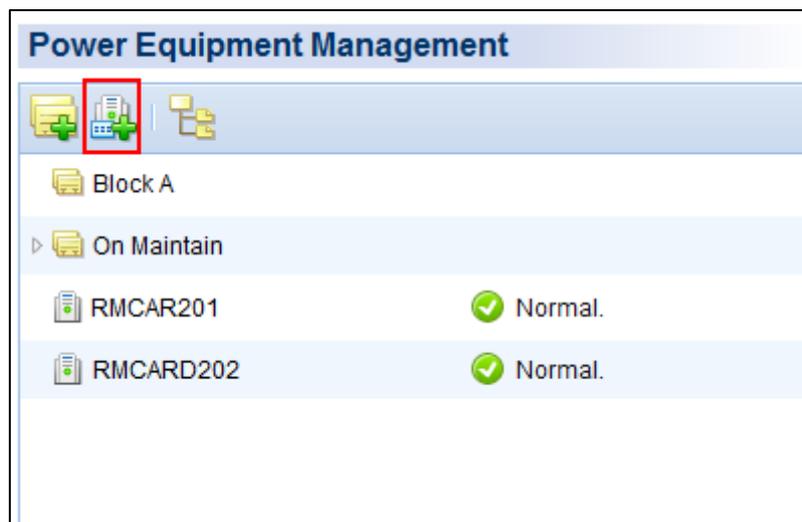
The Center can also establish communication with the multiple PDUs and UPS units with Remote Management Card. Monitored PDUs and UPS units will relay the state to the Center and notify Center what power event occurs.



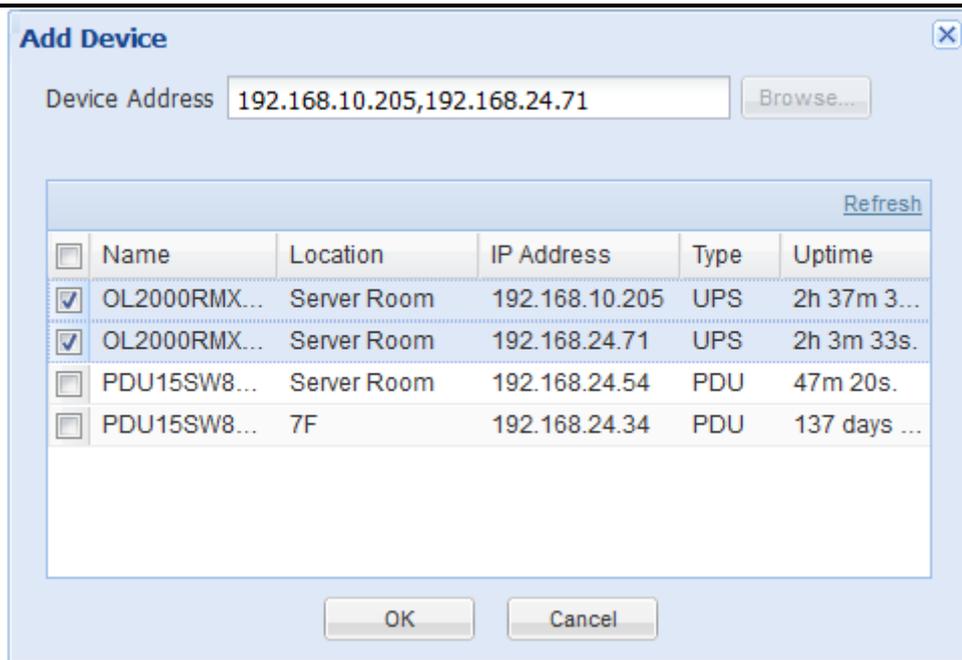
Add UPS Units

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.



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.



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.*



PowerPanel[®] Business Edition
Installation Guide
For
Power Distribution Unit

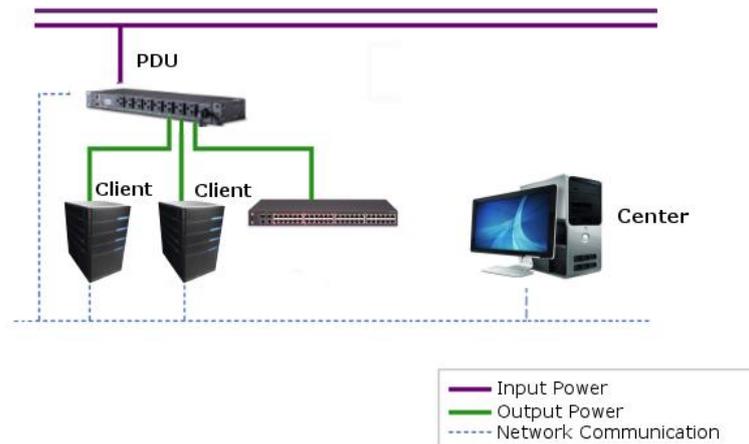
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Introduction

A **Power Distribution Unit (PDU)** provides power output controls for individual outlets to your connected equipment. The PDU can establish communication with PowerPanel® Business Edition Center via the network. It can relay its state to Center and accepts commands to turn off or turn on the outlets. When the PDU turns off an outlet, any connected computers running PowerPanel® Business Edition Client are shut down in an orderly fashion, preventing data loss or a system crash due to an immediate power loss. Refer to the illustration below.



PowerPanel® Business Edition Center allows the administrator to simultaneously monitor the status and events from multiple PDUs. Center establishes communication with multiple PDUs via the network and sends commands to each PDU to turn off or turn on the outlets. The powered computers which have installed the Client will initiate shutdown sequences prior to turning off outlets.

PowerPanel® Business Edition software can be installed on various platforms including Windows, Linux, Citrix XenServer and VMware ESX/ESXi. Following sections describe conditions specific to these platforms individually.

Hardware Installation

Before installing PowerPanel® Business Edition software, make sure that the following hardware installations are configured properly:

- Verify the computer's power is connected to the PDU outlet properly.
- Verify the computer's network is connected.
- Verify the PDU's network is connected.

Please refer to the **Power Distribution Unit User's Manual** for a proper hardware installation.

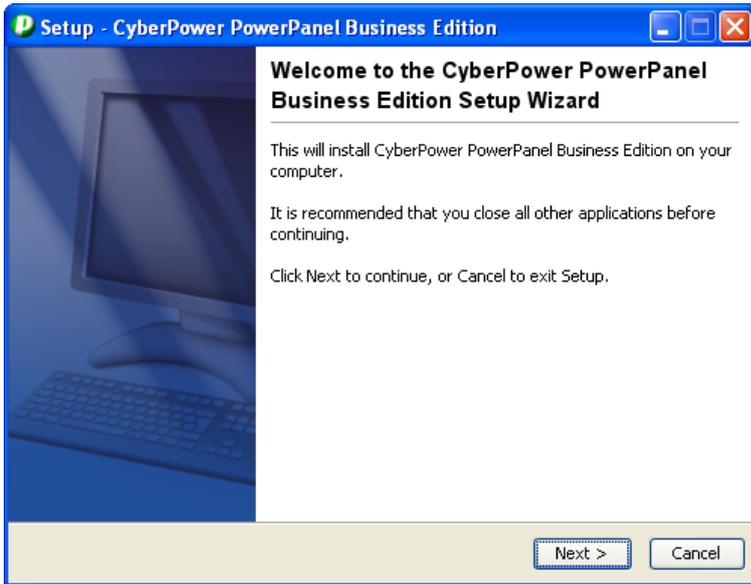
Install PowerPanel® Business Edition Software

Installation on Windows

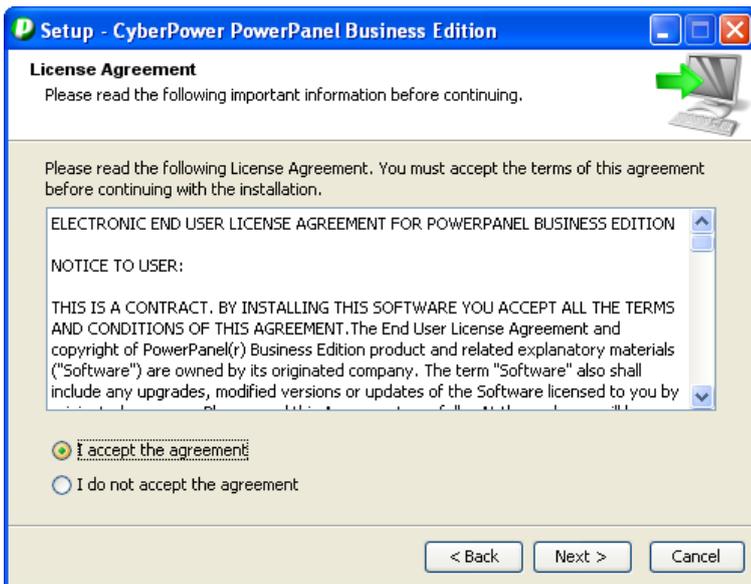
A popup page will be displayed automatically when inserting the PowerPanel® Business Edition installation CD. Users can click the **Install PowerPanel Business Edition software** shortcut on the popup page to initiate the installation procedure. If the popup page is not displayed when inserting the CD,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

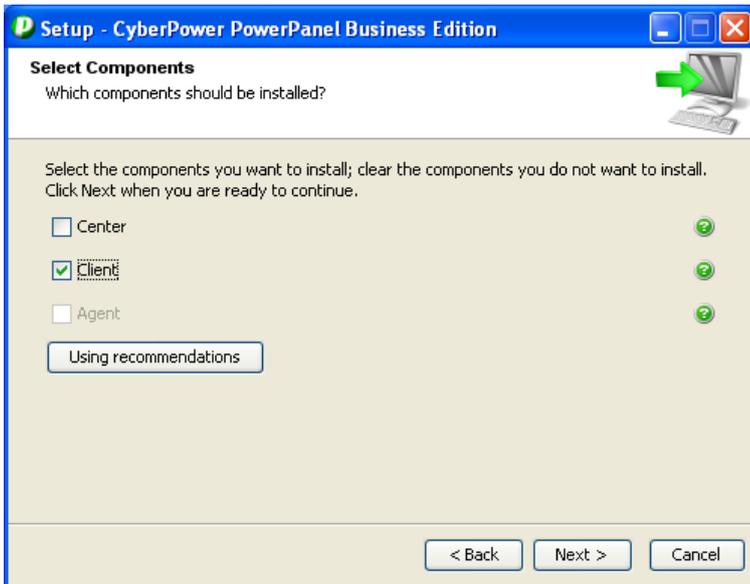


- Accept the license agreement.

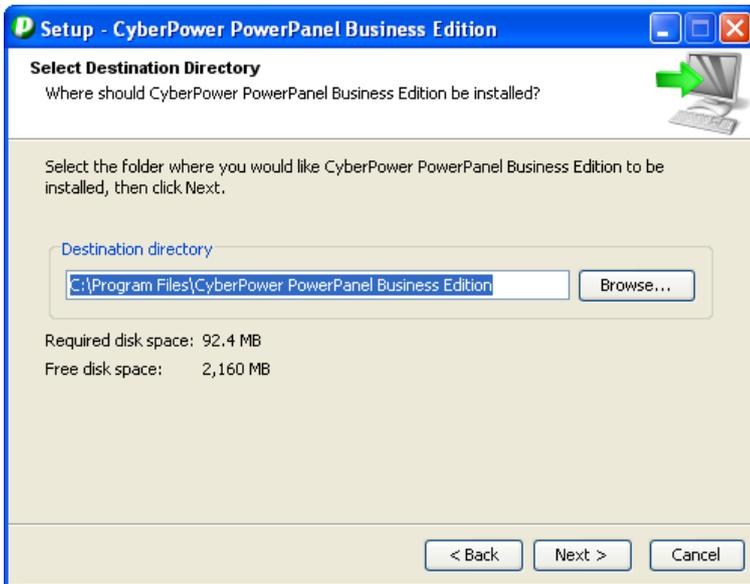


- **Choose the component.** In order to monitor multiple PDUs, Center should be installed. In order to monitor on a single computer powered by the PDU, Client should be installed.

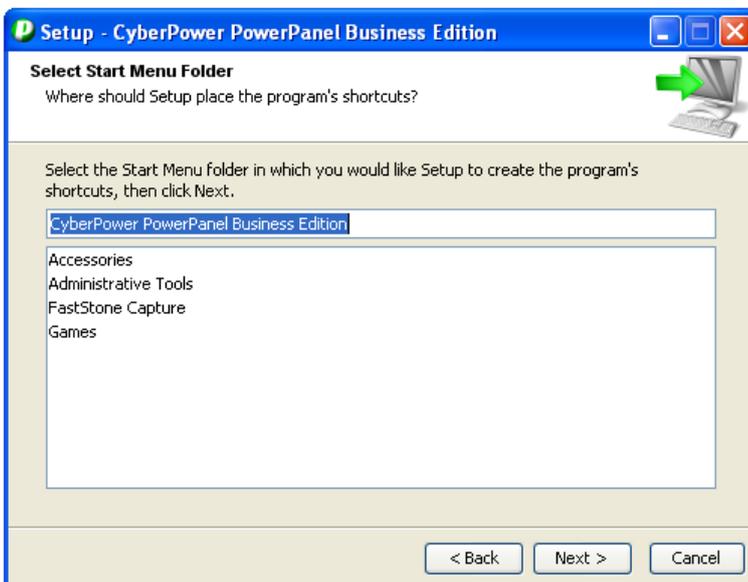
Note: Agent should not be selected because of ability to access to UPS instead of PDU.



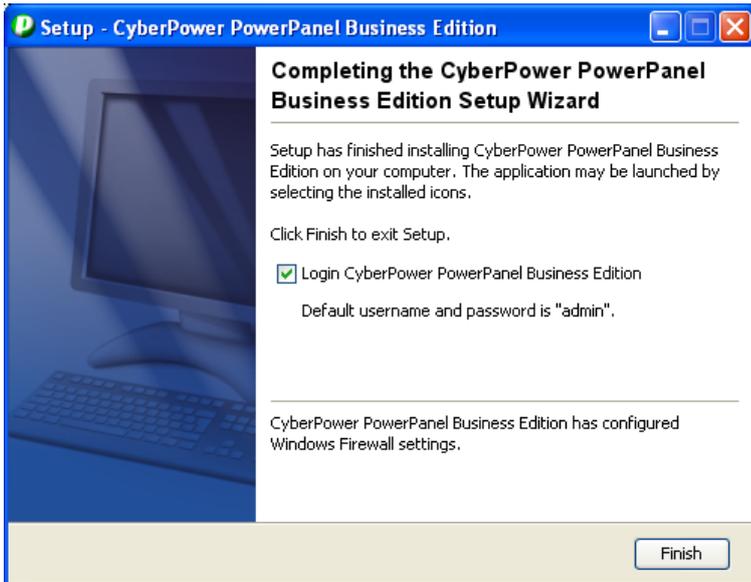
- Choose the destination directory.



- Choose the start menu folder.



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



Installation on Linux

The installer requires root permission to install the Client. The installation wizard will guide users to complete the installation. Initiate an installation wizard by running the **./ppbe-linux-x86.sh** command or double clicking **ppbe-linux-x86.sh** from the desktop on 32-bit systems. Initiate an installation wizard by running the **./ppbe-linux-x64.sh** command or double clicking **ppbe-linux-x64.sh** from desktop on 64-bit systems.

*Note: On Linux systems, users may mount the CD by use the mount command. Execute **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.** In order to simultaneously monitor multiple PDU, the Center should be installed. If one single computer which is powered by the PDU requiring protection, the Client should be installed. *Note: Agent should not be selected because of ability to access to UPS instead of PDU.*



- Choose the destination directory.



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



Installation in 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]
```

- Determine to use recommendation before selecting the components. Select **n** to ignore the recommendation.

```
Select the components you want to install; clear the components you do not  
want to install. Click Next when you are ready to continue.  
Using recommendations  
Yes [y, Enter], No [n]
```

- **Choose the component.** In order to simultaneous monitor multiple PDU, Center should be installed. If one single computer which is powered by the PDU requiring protection, Client should be installed.

Note: *Agent should be not selected because of ability to access to UPS instead of PDU.*

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

- **Choose the destination location.**

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

- Installation procedure starts and once finished. It will end automatically.

```
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 Mac

File folder will be displayed automatically when inserting the PowerPanel[®] Business Edition installation CD. Find the installer in the **/Software/Mac** folder, and double click the file named **Setup.dmg**, then in the same way double click the file named **CyberPower PowerPanel Business Edition Installer** to initiate the wizard. The installation wizard will guide users in completing the installation.

Note: *If PPBE service stopped in unexpected conditions and the OS X version is 10.6 or earlier. Please update Java to the latest version via **Software Update**, then execute **restartService.sh** to restart PPBE service, the default file path is **/Applications/ppbe/bin/restartService.sh**.*



Note: *Cyberpower PowerPanel® Business Edition software is a third-party application. At the first time to launch the PPBE installer on the Mac OS X 10.8(or later version), you should do following:*

1. *Right-click the Installer and choose “Open”.*
2. *Choose “Open” again at the dialog to open it.*

To install follow these steps:

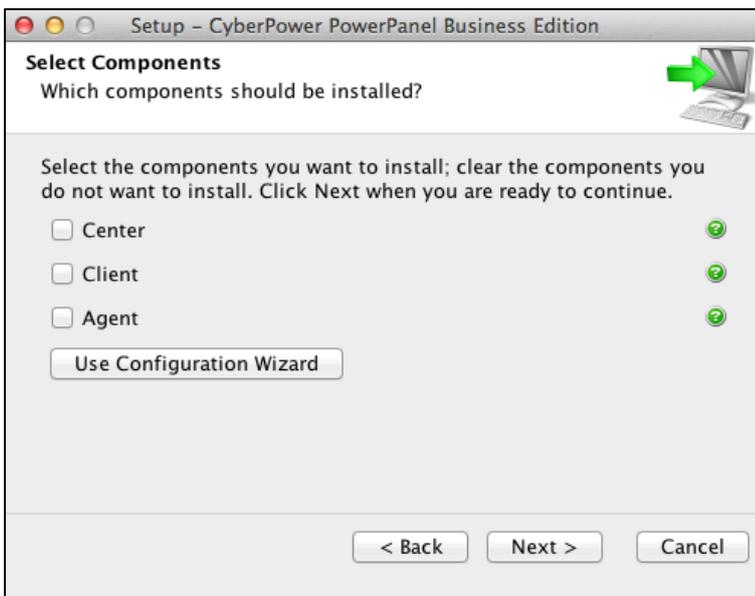
- Click the **Next** button to start an installation.



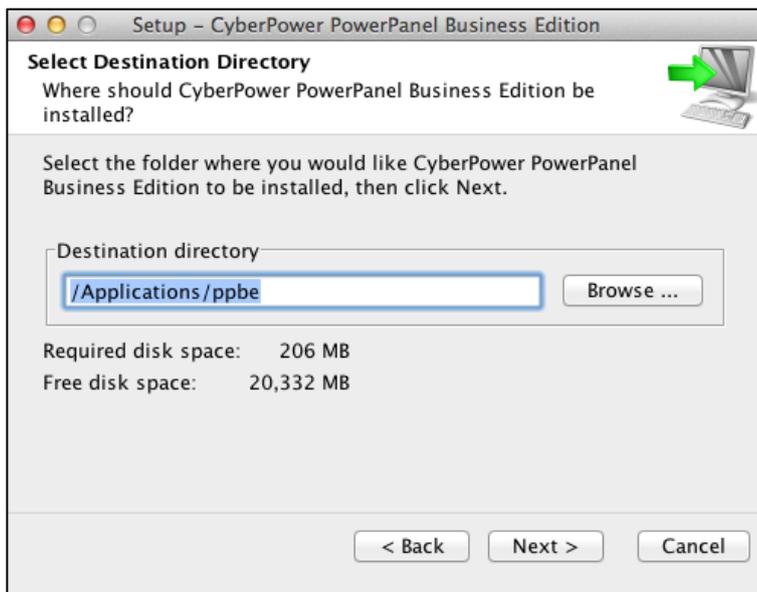
- Accept the license agreement.



- **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/PDU/ATs, equipment and computers on a local network, Center should be installed.



- Choose the destination directory.



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

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. Refer to [Installation on Text Mode](#) section to complete the installation.

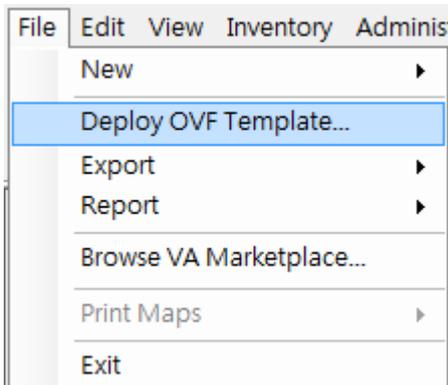
Virtual Appliance Deployment on ESXi

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.

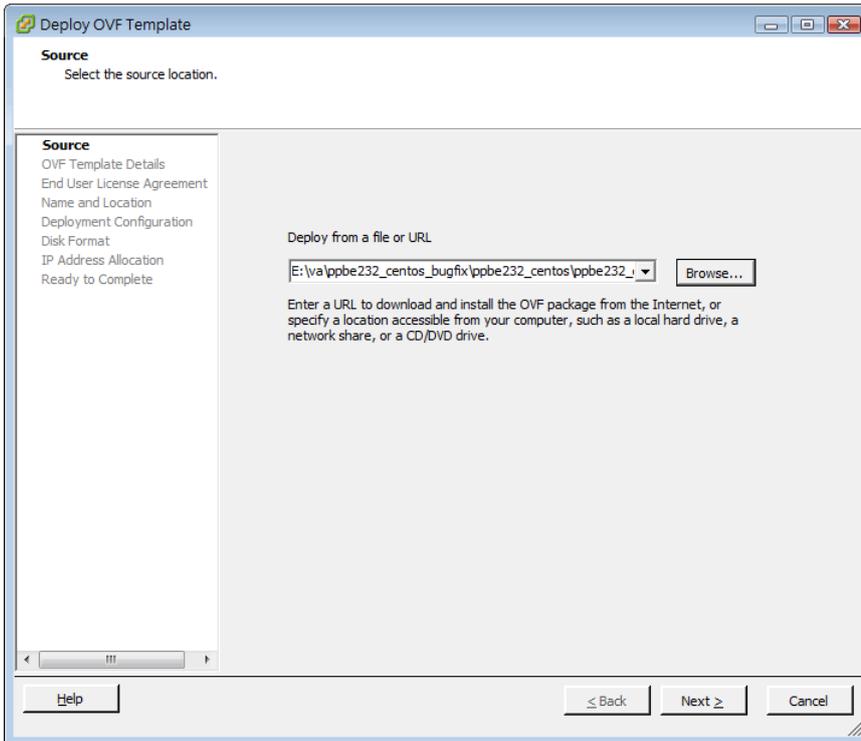
Download the PPBE virtual appliance which is pre-installed Client from [CyberPower](#). In order to deploy the PPBE virtual appliance on VMware ESXi host, users must install **vSphere Client** tool first on another remote computer. To download the **vSphere Client** installer, users can enter the ESXi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

The deployment procedure will be initiated as below steps:

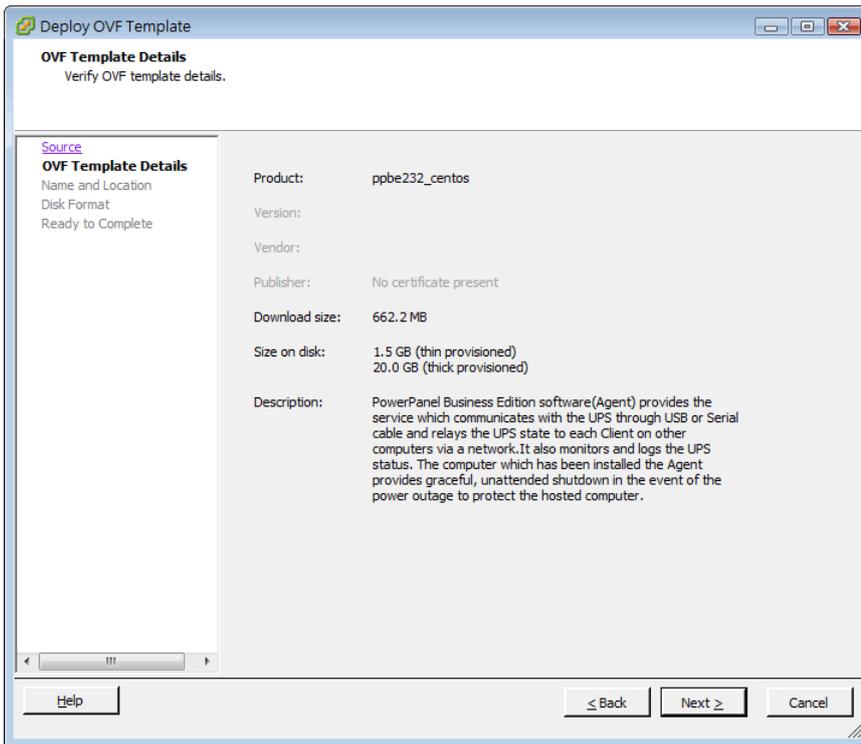
- Launch the vSphere Client. Open the **Deploy OVF Template** window from **File > Deploy OVF Template...** item.



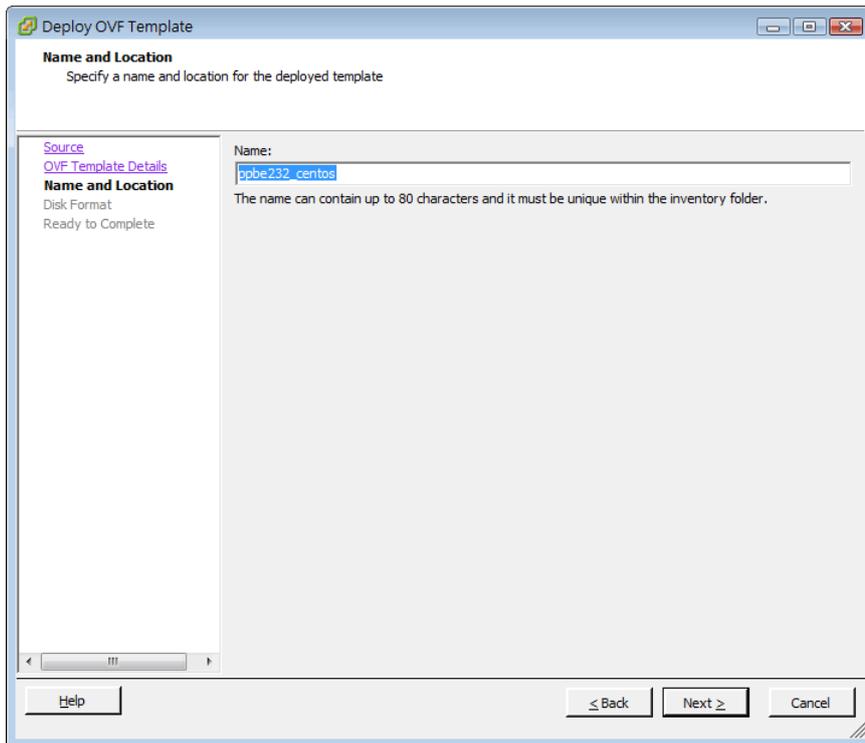
- Click **Browse** to import the **ppbeXXX_centos.ovf** extracted from the download zip file. Click **Next** to start a deployment task.



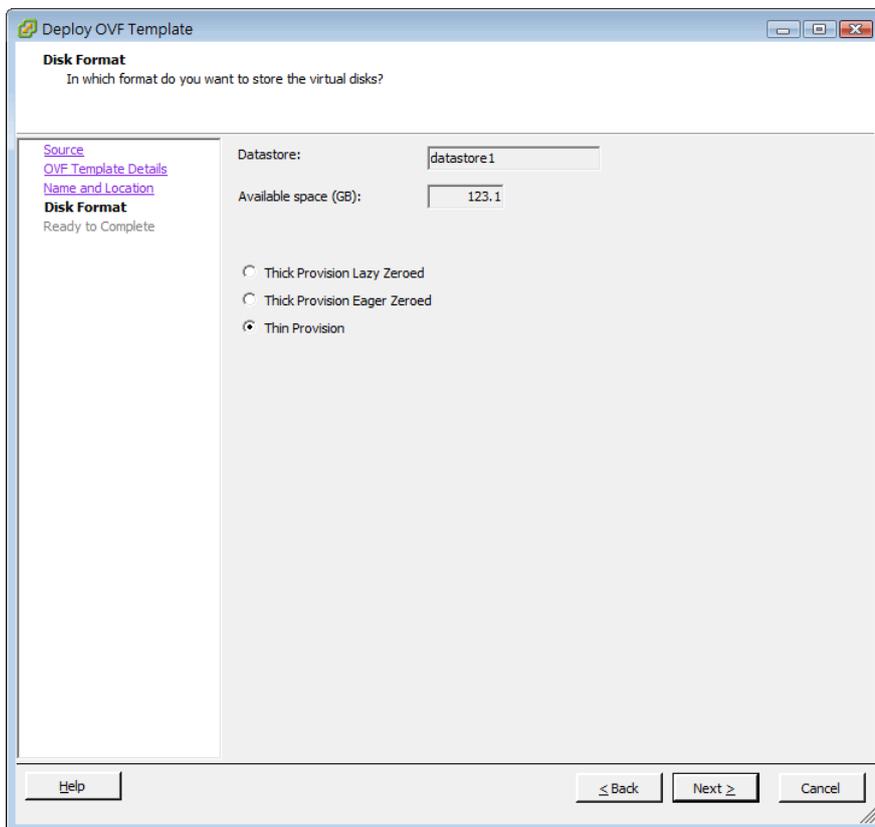
- The OVF template detail is displayed. Click **Next** to continue.



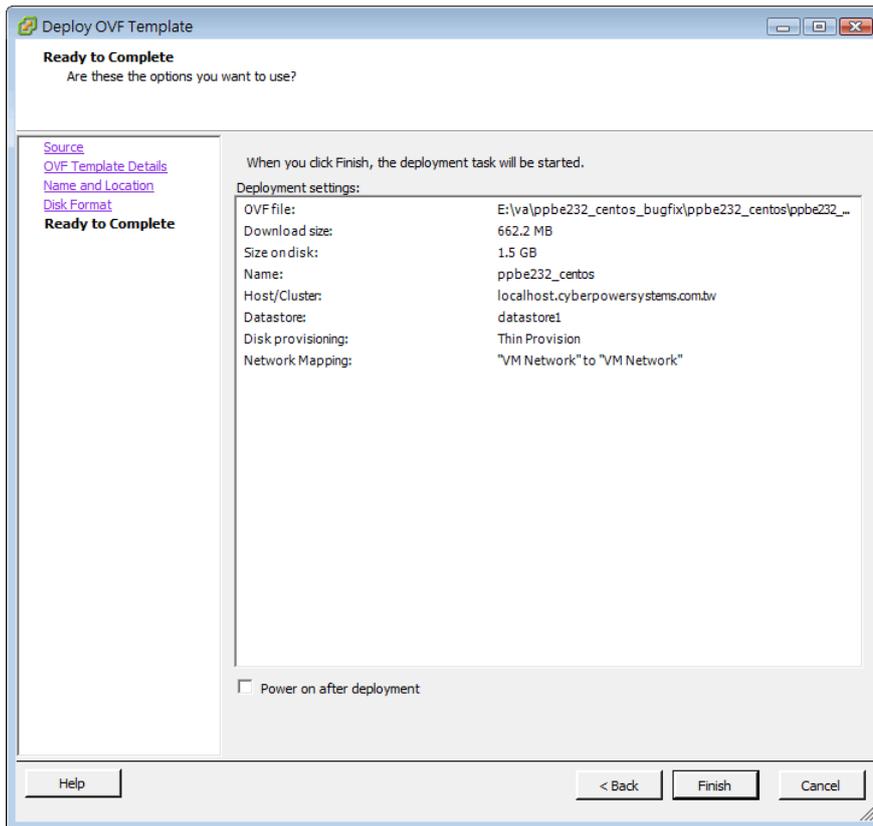
- Enter the name for the deployed PPBE virtual appliance. This name should be unique within the inventory.



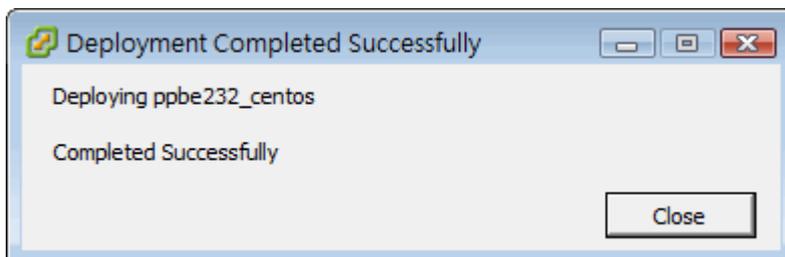
- Select the virtual disk format for the PPBE virtual appliance. The default option is **Thin Provision**. Refer to [About Virtual Disk Provision Disk Policies](#) for further information about how to select virtual disk format.



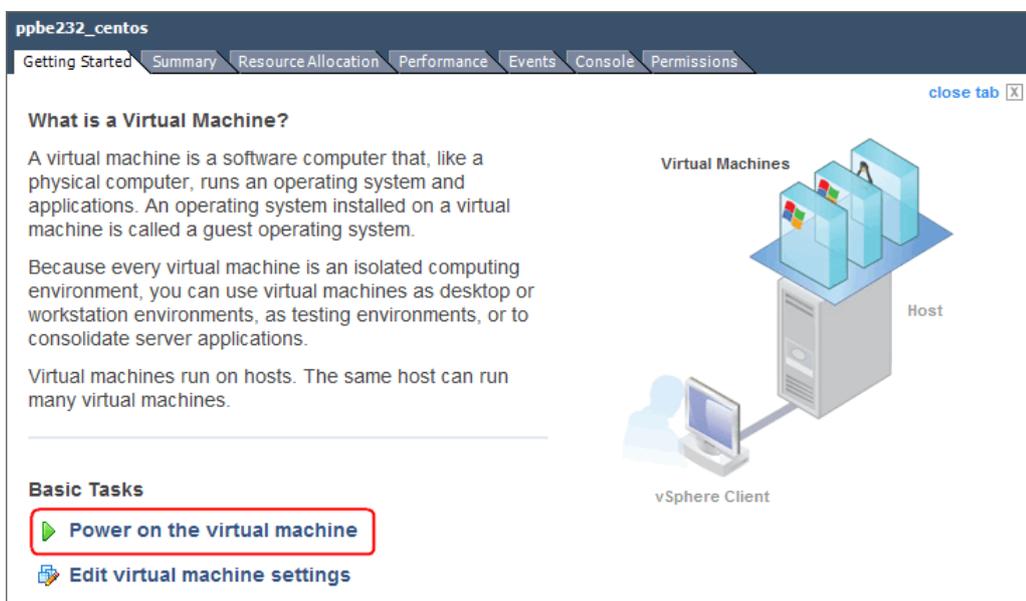
- A deployment detail is displayed. Click **Finish** to start the deployment task.



- 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 Agent.



- 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`.

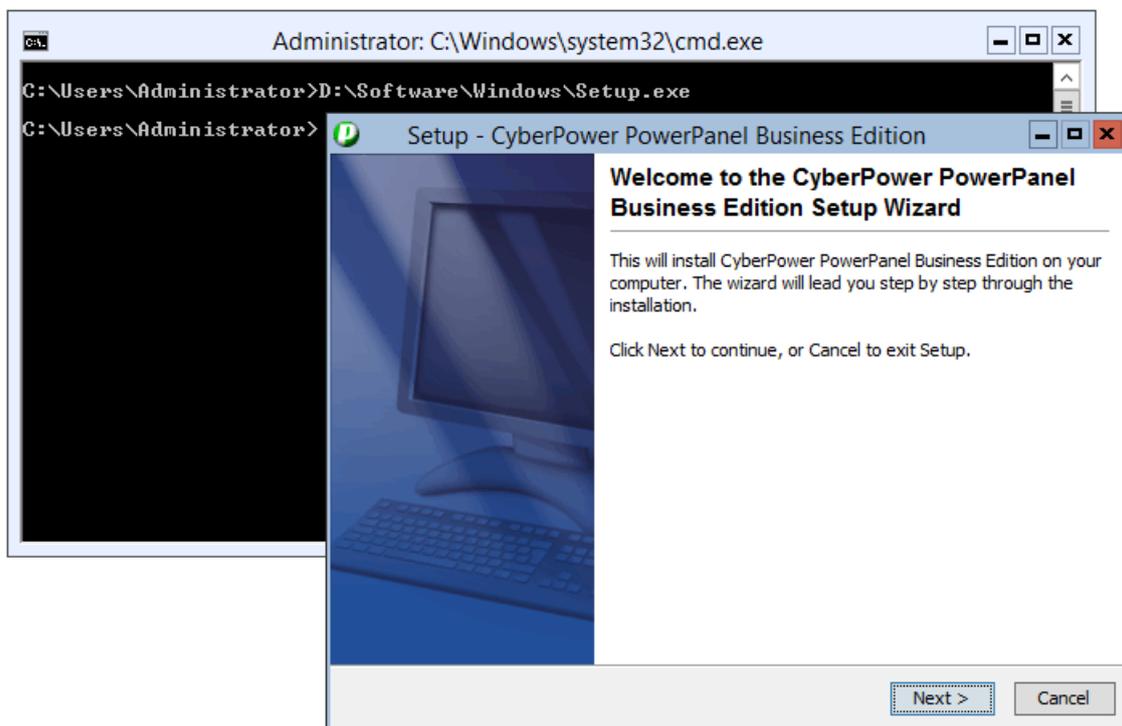
Installation on XenServer

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**. Refer to [Installation on Text Mode](#) section to complete the installation.

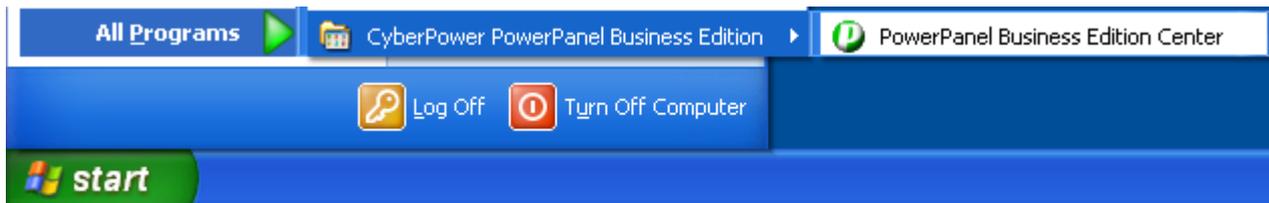
Installation on Hyper-V Server

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



On Linux, users can also 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://hosted_computer_ip_address:3052/** in the address of the web browser to access the interface from a remote computer. **hosted_computer_ip_address** is the IP address of the computer which has the PowerPanel® Business Edition installed. For vMA on the ESX or ESXi, **hosted_computer_ip_address** is the IP address of the vMA (**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 purposes, it is recommended you 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.



Quick Configuration

A Welcome screen will display at the first time to use Client. The welcome screen will lead you to complete the quick configuration. You can decide whether to continue or ignore it. It is strongly recommended to complete the quick configuration. Inability to complete the quick configuration may put your computer in the extreme risk when power events occur. If you decide to ignore the quick configuration, click the Exit button. A popup confirm dialog will display and click the Yes button to ignore the quick configuration. Refer to [Import Profile](#)

section for further details about completing the quick configuration. **Configure Power**

Protection for Computer

In order to ensure the computers which connect to the PDU have sufficient time to complete the shutdown prior to the outlets turning off, the Client should be installed. The Client will establish communication with the PDU and receive

commands from the PDU to initiate a complete shutdown and avoid data loss or a system crash.

Import Profile

The **Profile Import** screen provides a shortcut to import your own profile to complete the quick configuration. If you would like to import a profile, click the **Yes** option and click the **Next** button to import the profile. A popup dialog will ask you to assign the profile. After the profile import is complete, Client will show the result on the **Finish** screen.

If you would like complete the quick configuration without profile, click the **No** option and click **Next** button to continue.

Configure Authentication

In order to secure and protect the network communication with Client and PDU, the security settings must be configured properly in the **Authentication** screen. The settings are used for authenticating the network communication between the Client and PDU.

The Secret Phrase is configured on the **General/Identification** page of the PDU web. The SNMP settings are configured on the **Network Service/SNMPv1 Service** and **Network Service/SNMPv3 Service** pages of the PDU web. Click **Next** to the next step.

Assign PDU's IP Address and Connected Outlet in Client

Communication can be established through the network by assigning the IP address of the PDU in Client. The IP address of the PDU can be assigned at the *Address* field on the **Power Source Assignment** screen in Client. To identify IP address of PDU, users can pick an address from the device list which shows all devices on the local network. In order to ensure the PDU can respond to the Client normally, the secret phrase or SNMP communities must be setup properly. Assign the PDU output outlet which supplies power to Client computer. Click **Apply** button to save changes to take effect.

Configure Shutdown Settings

The **Shutdown Settings** screen allows you to specify the manner in which Client computer is shut down prior to a PDU outlet powering off, set the duration which Client will take to shut down. Even if Client requires shutting down the VMware ESXi host, you can specify the root permission and the ESXi host address.

Setup Necessary Shutdown Time

Each computer running the Client requires a sufficient time to shut down completely before the PDU turns off the connected outlet for any reason. Therefore users can set up this sufficient time at the *Necessary shutdown time* option on the **Shutdown Settings** screen in the Client.

When the PDU outlet powering to a computer running the Client is going to be turned off, the outlet should not be turned off by the PDU until the Client computer is shut down completely. The Client will detect whether the off-delay time is sufficient for the Client computer to shut down gracefully and give a warning to users that the computer running the Client may be shut down improperly due to insufficient time. Click the **Setup** button in the warning block to set up a sufficient time for the *Delay Off Time* setting on the connected outlet of the PDU. Users can also set up a sufficient time

on the *Delay Off Time* manually in the PDU web interface.

Configure Shutdown Action for ESXi

In order to ensure the ESXi server 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 the root user for the host shutdown from vMA. Because PowerPanel® Business Edition software must be installed on the Service Console of ESX instead of vMA, Event Action/Settings page don't provides these shutdown settings for user to configure. Fill in the *Host Address*, *Account* and *Password* fields with actual username and password for ESXi host.

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

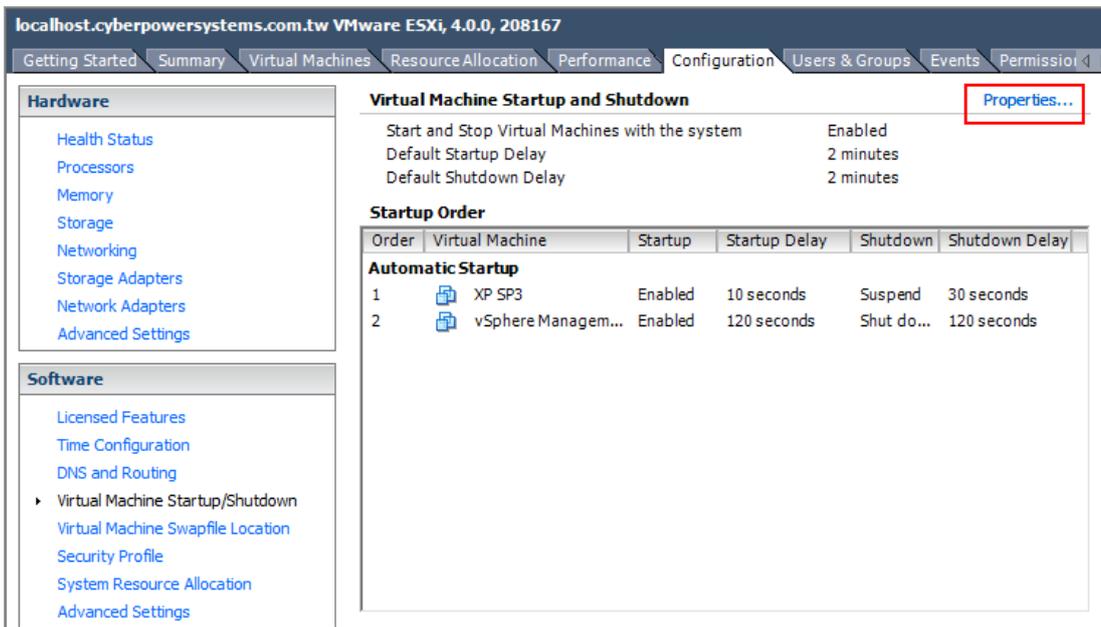
VM Host	
Host Address	192.168.100.200
Account	root
Password	*****

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

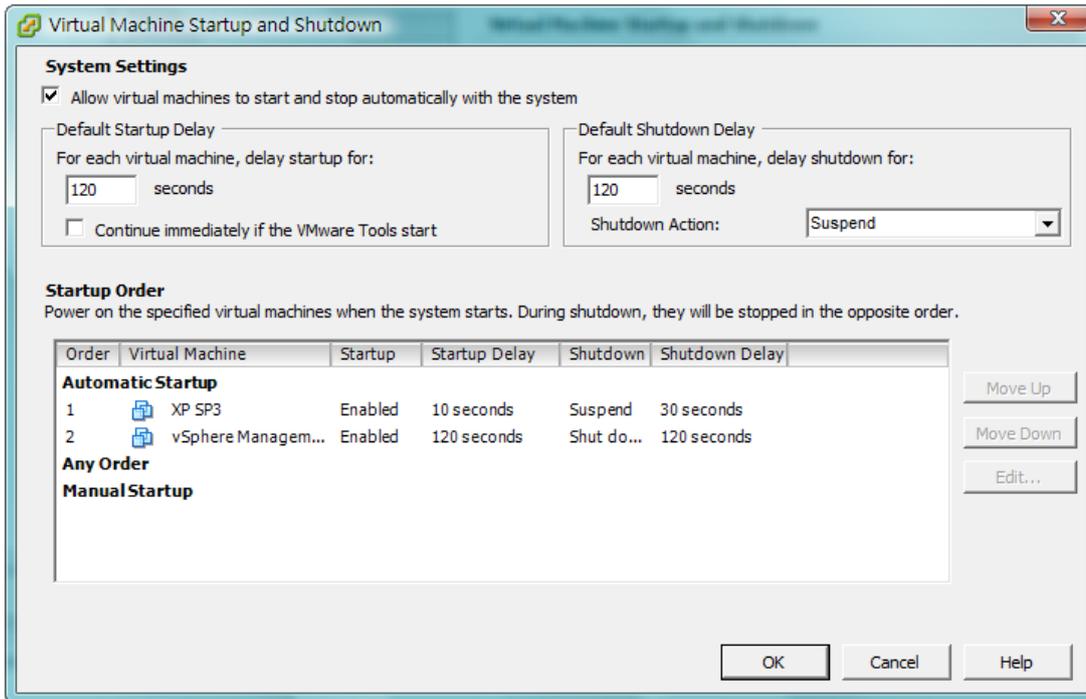
Configure Startup and Shutdown of Virtual Machines on ESX/ESXi

In order to ensure that all virtual machines and the VMware ESX/ESXi server host can be shut down and restart gracefully:

- 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** of the vSphere Client.



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

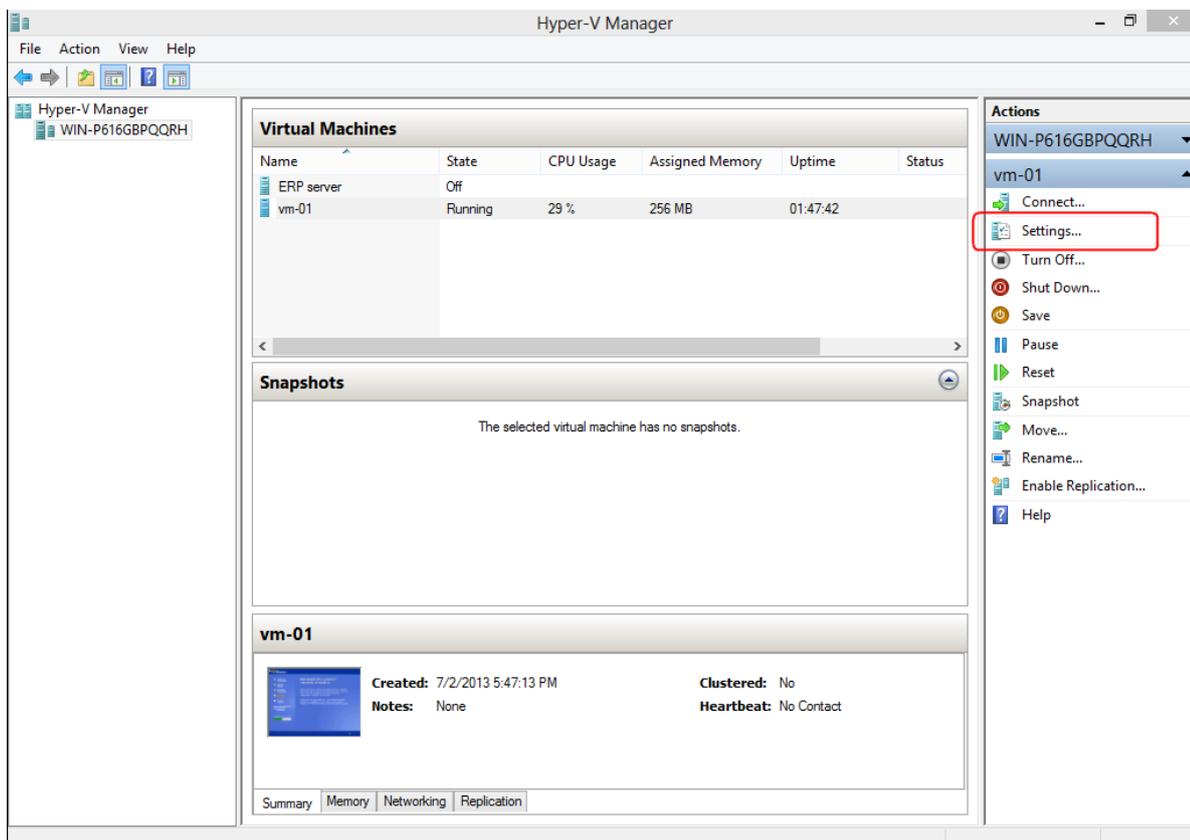


Configure Shutdown of Virtual Machines on Hyper-V Server

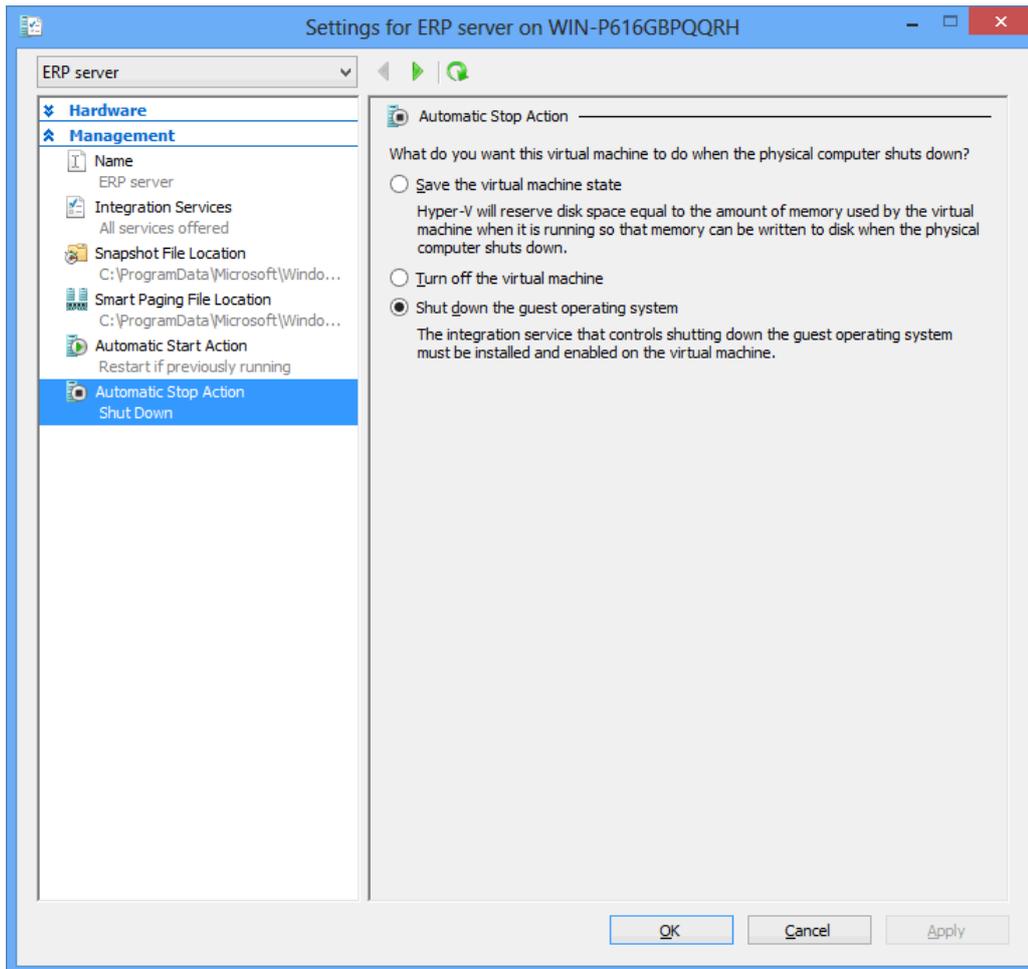
In order for the virtual machines to be shut down correctly when the Hyper-V host shuts down, users should configure a guest operating system shutdown on each virtual machine.

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* 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 install the Linux integration service for Hyper-V.

Configure Actions for Essential Events

The **Event Action** screen lists the following critical events and action settings for each event according to actual power connection. Client will generate actions in response to events when PDU encounter the power conditions.

- **Input is overloaded.** A PDU is in an overload condition. The maximum safe load has been exceeded and the PDU is in an overload condition.
- **Shutdown time is insufficient.** System shutdown time is insufficient. After communication with the PDU is established and the outlet assignment is set up, the Client will detect whether the connected outlet has sufficient time to allow for a shutdown. A sufficient shutdown time for the Client computer requires at least the sum of the *Necessary shutdown time* option and shutdown delay time as configured in the *The output power is going to stop*

soon event.

- **The output power is going to stop soon.** *Output power will stop due to power event or user commands.* When a PDU is about to stop supplying the power to a Client computer, the Client will be notified. The Client will shut down the hosted computer.

Note: Refer to PPBE user's manual for more details about more events which are not available in this screen.

In order to protect your computer when power events occur, you have to arrange the shutdown action for events. After the actions are configured properly, click **Next** to the next step.

Make Sure Power Configuration is Correct

The **Finish** screen lists all power configurations through entire quick configuration. In order to make sure that your computer can be protected when power events occur, you must review the power configuration. Click **Finish** button to complete the quick configuration if the power configuration is correct.

Mass Deployment

In order to install Client 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**.

```
installModule=client
programGroupName=CyberPower PowerPanel Business Edition
installationDir=ppbe_installation_directory
profilePath=exported_zip_location
```

- Edit the **setup.varfile** to replace **installationDir** and **profilePath** 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*). **profilePath** indicates the absolute path of profile (e.g. *C:/import/profile.zip* or */import/profile.zip*).
- **Note.** If the installation module is **Center** and **Agent**, this should be **agent¢er**; if the installation module is **Center** and **Client**, this should be **client¢er**.
- 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
```

Note. When you would like to upgrade the pre-installed Agent or Client during the unattended installation, set the **installationDir** parameter blank. The installer will automatically detect where preinstallation PPBE directory locates and attempt to complete the upgrade installation.

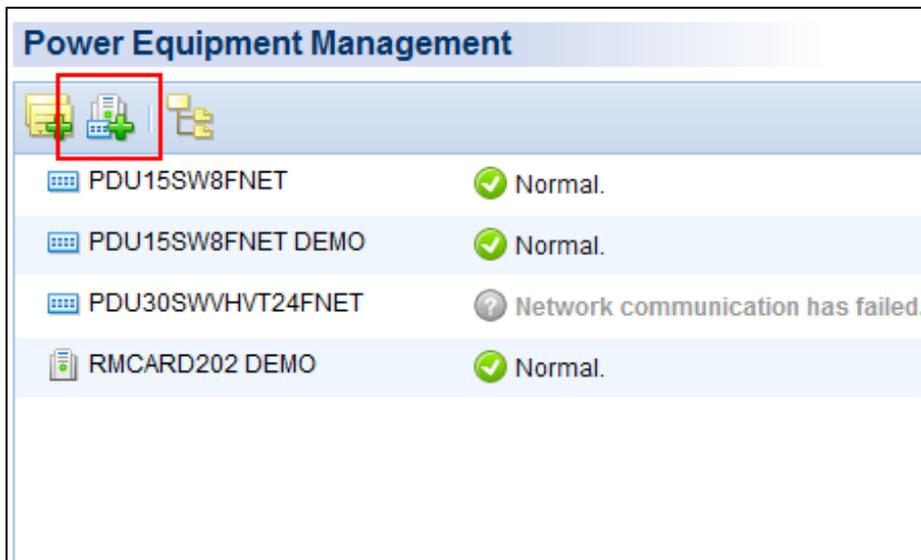
Computers which never installed Agent or Client can be installed the PPBE by assigning a valid path. Assigning a blank path to the **installationDir** parameter during the unattended installation will allow the installer to use the default path as the installation directory. **C:/Program Files/CyberPower PowerPanel Business Edition/** will be the default installation directory in Windows systems. **/opt/ppbe** or **/usr/local/ppbe** will be the default installation directory in most Linux distributions.

Manage PDUs in Center

Add PDUs

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

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



Either enter the PDU's IP address on the *Device Address* field or click the **Browse** button to display the device list and select the PDU address from this list. Click **OK** to proceed and add the selected PDU.

Add Device [X]

Device Address: 192.168.24.54,192.168.24.34 [Browse...]

<input type="checkbox"/>	Name	Location	IP Address	Type	Uptime
<input type="checkbox"/>	OL2000LCD...	Server Room	192.168.10.205	UPS	2h 37m 3...
<input type="checkbox"/>	OL2000LCD...	Server Room	192.168.24.71	UPS	2h 3m 33s.
<input checked="" type="checkbox"/>	PDU15SW8...	Server Room	192.168.24.54	PDU	47m 20s.
<input checked="" type="checkbox"/>	PDU15SW8...	7F	192.168.24.34	PDU	137 days ...

[Refresh]

[OK] [Cancel]

Note: If multiple PDUs need to be added to Center, repeat aforementioned steps.

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



**PowerPanel[®] Business Edition
Installation Guide**

For

Automatic Transfer Switch

Rev. 5

2015/12/2

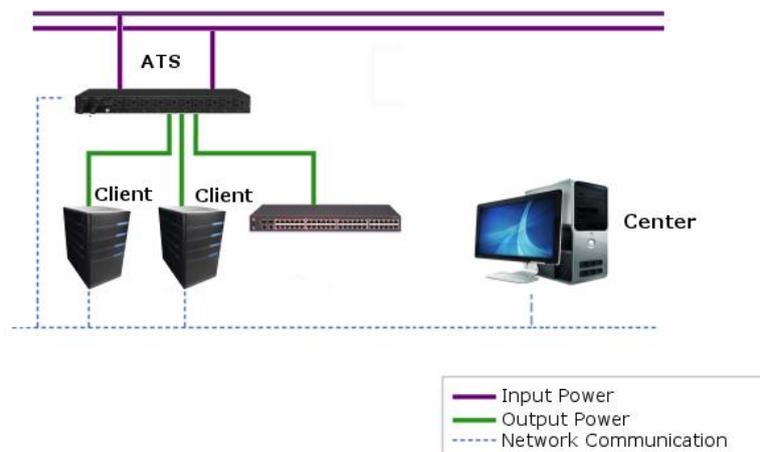
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Introduction

An **Automatic Transfer Switch (ATS)** has dual input power to supply the reliable power to your connected equipment. The dual input power cords are divided into primary and secondary power sources. If the primary power source fails or is unstable, the ATS will seamlessly switch to the secondary power source without interrupting loads until the primary power source restores or become stable.

The PowerPanel® Business Edition Client can interact with ATS and receive the ATS state via the network. It also provides the power output control to individual outlets and accepts commands to turn off or turn on outlets. When an ATS turns off an outlet or the power source fails, any connected computer running Client is shut down in an orderly fashion, preventing data loss or a system crash due to an immediate power loss. Refer to the illustration below.



PowerPanel® Business Edition Center allows the administrator to simultaneously monitor the status and events from multiple ATS. The Center establishes communication with multiple ATS via the network and sends commands to each ATS to turn off or turn on the outlets. The computers which have been installed the Client will initiate the shutdown prior to turning off outlets.

PowerPanel® Business Edition software can be installed on various platforms including Windows, Linux, Citrix XenServer and VMware ESX/ESXi. Following sections describe conditions specific to these platforms individually.

Hardware Installation

One single ATS can provide the reliable power to computers. When the power source fails or becomes unstable, ATS can seamlessly provide the power from another power source to computers able to continue functioning well.

Before installing the PowerPanel® Business Edition software, please refer to the **Automatic Transfer Switch User's Manual** to make sure that the following hardware installations are configured properly:

- Verify the computer's power is connected to the ATS outlet properly.
- Verify the computer's network is connected.
- Verify the ATS's network is connected.

The ATS whose power sources connect with an UPS will be protected by UPS. In the event of power failure or blackout, UPS will provide the battery power to ATS.

When **ATS connects one of power sources with the UPS**, this power source can be assigned as the primary input power which is being supplied to the computers can be protected. In case of UPS power failure or blackout, ATS can continue providing power from another power source to keep the computers running.

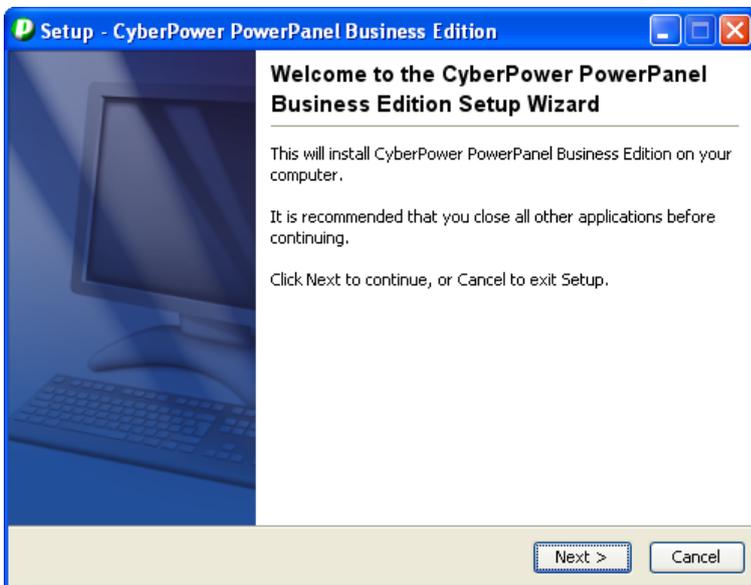
When **ATS connects two power sources with different UPS**, the computers can continue running no matter which ATS power source is being supplying power. If one UPS power fails or becomes abnormal, ATS will switch to another power source from another UPS for the computers to function well. The computer will have sufficient time to complete the shutdown procedure.

Install PowerPanel® Business Edition Software

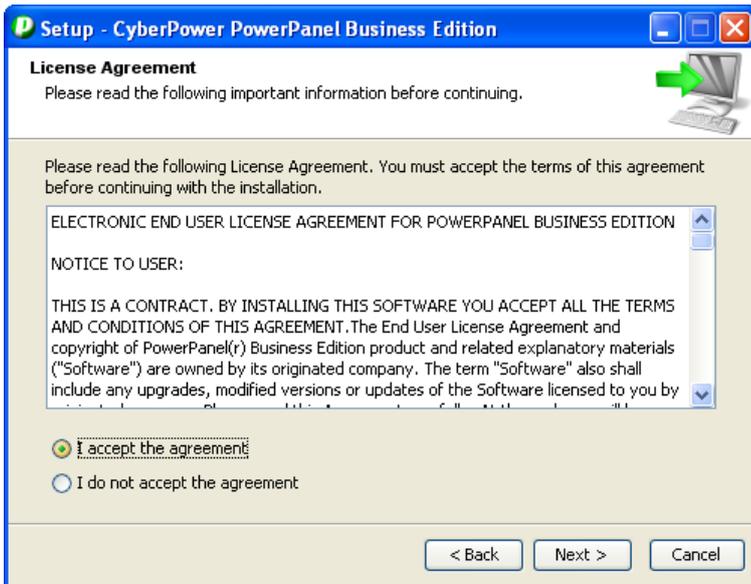
Installation on Windows

A popup page will be displayed automatically when inserting the installation CD. Users can click the **Install PowerPanel Business Edition software** 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 which locates at **/Software/Windows**, 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.

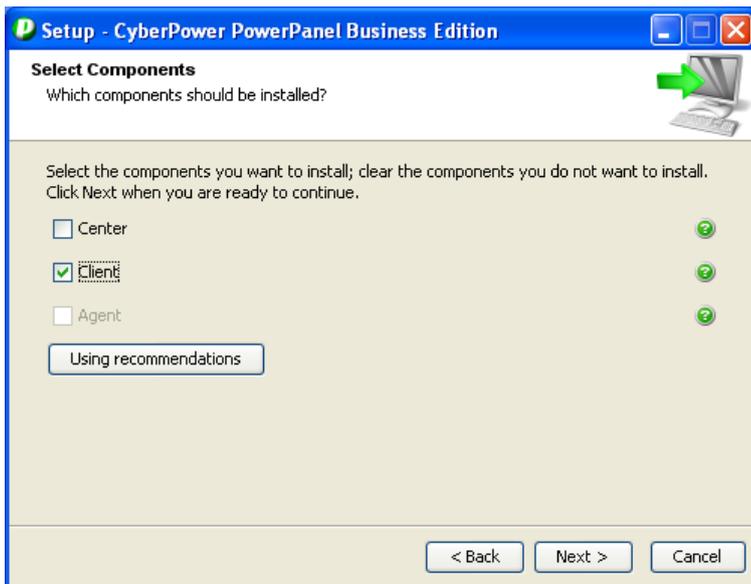


- Accept the license agreement.

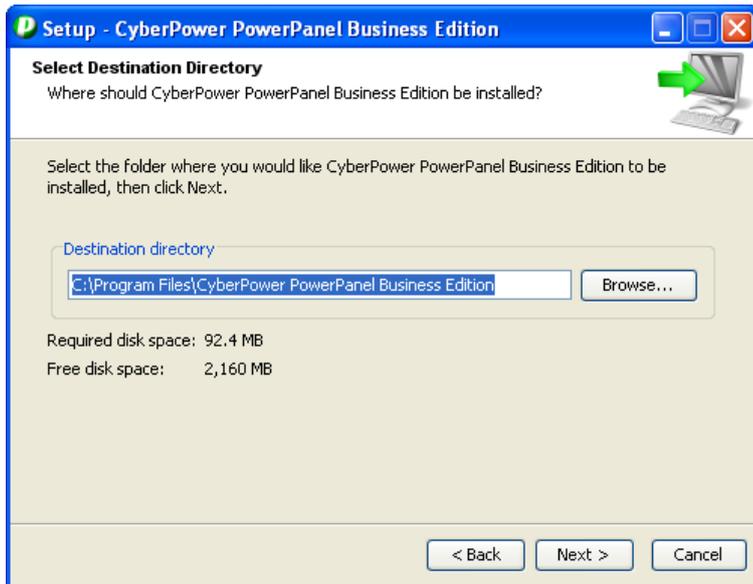


- **Choose the component.** In order to monitor multiple ATS units, Center should be installed. In order to monitor on a single computer powered by the ATS, Client should be installed.

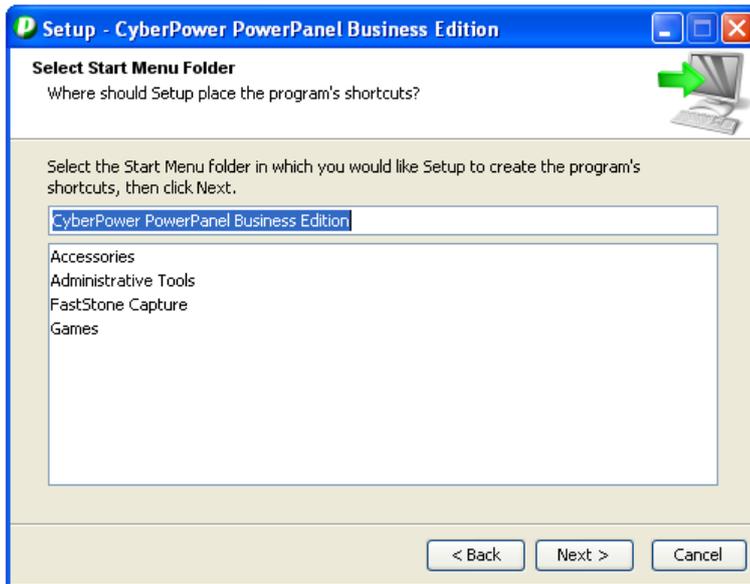
Note: Agent should not be selected because of ability to access to UPS instead of ATS.



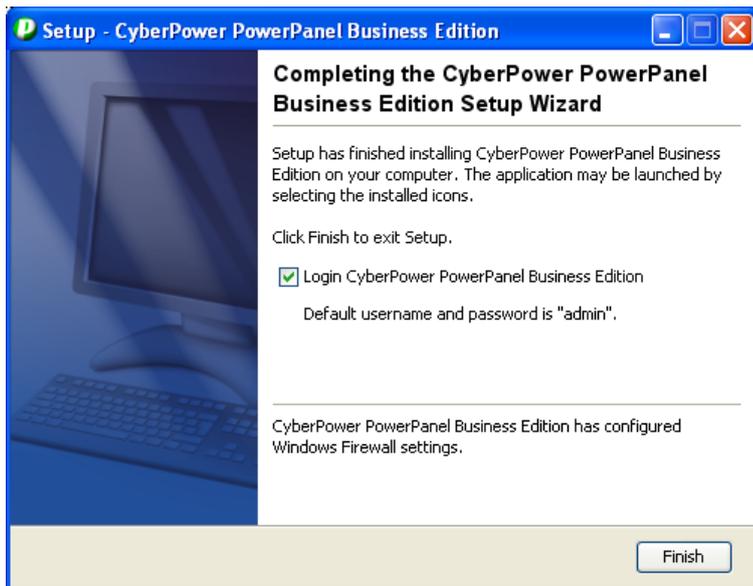
- Choose the destination directory.



- Choose the start menu folder.



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



Installation on Linux

The installer requires root permission to install the Client. The installation wizard will guide users to complete the installation. Initiate an installation wizard by running the `./ppbe-linux-x86.sh` command or double clicking `ppbe-linux-x86.sh` from the desktop on 32-bit systems. Initiate an installation wizard by running the `./ppbe-linux-x64.sh` command or double clicking `ppbe-linux-x64.sh` from desktop on 64-bit systems.

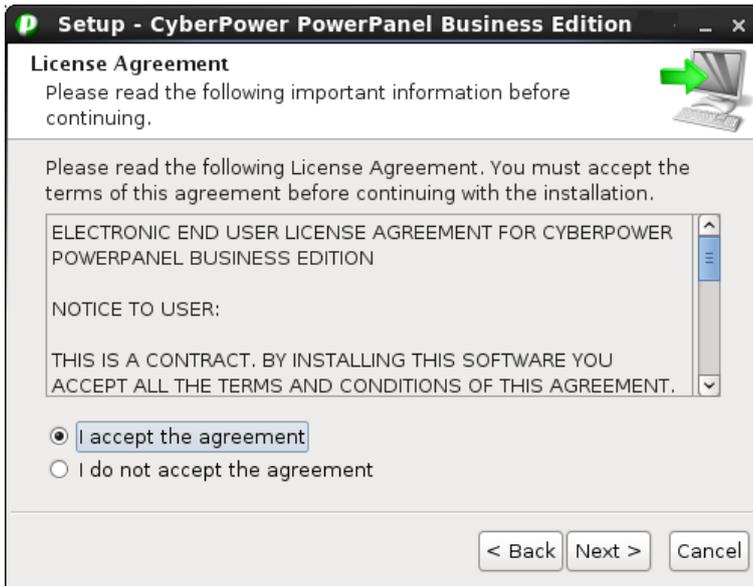
Note: On Linux systems, users may mount the CD by use the mount command. Execute `mount -t iso9660 /dev/cdrom /mnt/cdrom` as a root user. `/dev/cdrom` is the CD drive and `/mnt/cdrom` will be the mount point.

To install follow these steps:

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



- Accept the license agreement.



- **Choose the component.** In order to simultaneously monitor multiple ATS, the Center should be installed. If one single computer which is powered by the ATS requiring protection, the Client should be installed. *Note: Agent should not be selected because of ability to access to UPS instead of ATS.*



- Choose the destination directory.



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



Installation in 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]
```

- Determine to use recommendation before selecting the components. Select **n** to ignore the recommendation.

```
Select the components you want to install; clear the components you do not  
want to install. Click Next when you are ready to continue.  
Using recommendations  
Yes [y, Enter], No [n]
```

- **Choose the component.** In order to simultaneous monitor multiple ATS, Center should be installed. If one single computer which is powered by the ATS requiring protection, Client should be installed.

Note: Agent should be not selected because of ability to access to UPS instead of ATS.

```
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 and once finished. It will end automatically.

```
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 Mac

File folder will be displayed automatically when inserting the PowerPanel® Business Edition installation CD. Find the installer in the **/Software/Mac** folder, and double click the file named **Setup.dmg**, then in the same way double click the file named **CyberPower PowerPanel Business Edition Installer** to initiate the wizard. The installation wizard will guide users in completing the installation.

*Note: If PPBE service stopped in unexpected conditions and the OS X version is 10.6 or earlier. Please update Java to the latest version via **Software Update**, then execute **restartService.sh** to restart PPBE service, the default file path is **/Applications/ppbe/bin/restartService.sh**.*



Note: *Cyberpower PowerPanel® Business Edition software is a third-party application. At the first time to launch the PPBE installer on the Mac OS X 10.8(or later version), you should do following:*

1. *Right-click the Installer and choose “Open”.*
2. *Choose “Open” again at the dialog to open it.*

To install follow these steps:

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



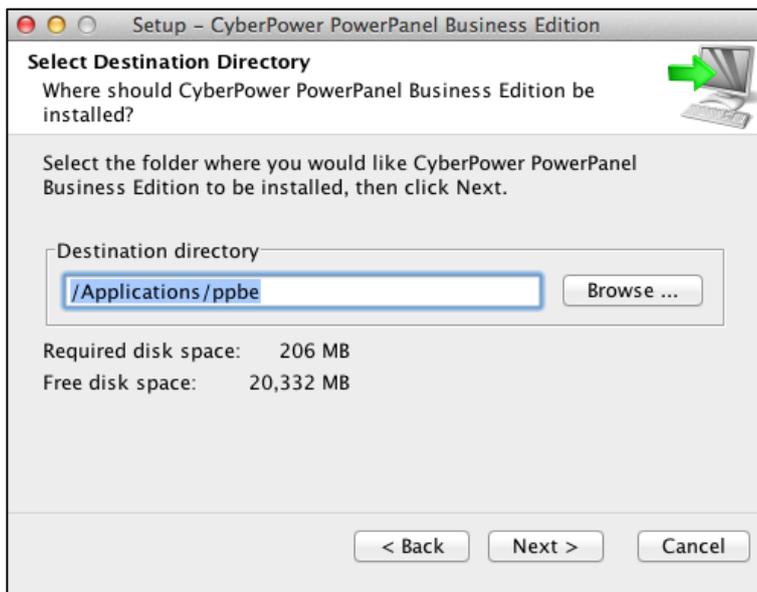
- Accept the license agreement.



- **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/PDU/ATs, equipment and computers on a local network, Center should be installed.



- Choose the destination directory.



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

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. Refer to Installation on Text Mode section to complete the installation.

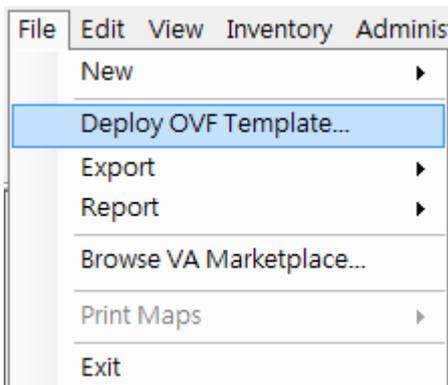
Virtual Appliance Deployment on ESXi

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.

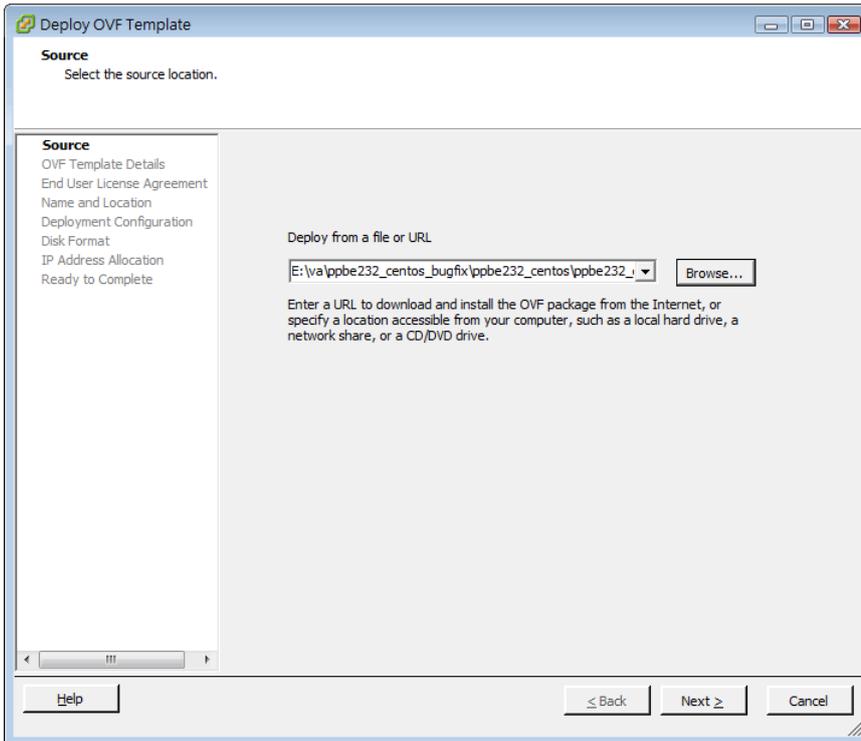
Download the PPBE virtual appliance which is pre-installed Client from [CyberPower](#). In order to deploy the PPBE virtual appliance on VMware ESXi host, users must install **vSphere Client** tool first on another remote computer. To download the **vSphere Client** installer, users can enter the ESXi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

The deployment procedure will be initiated as below steps:

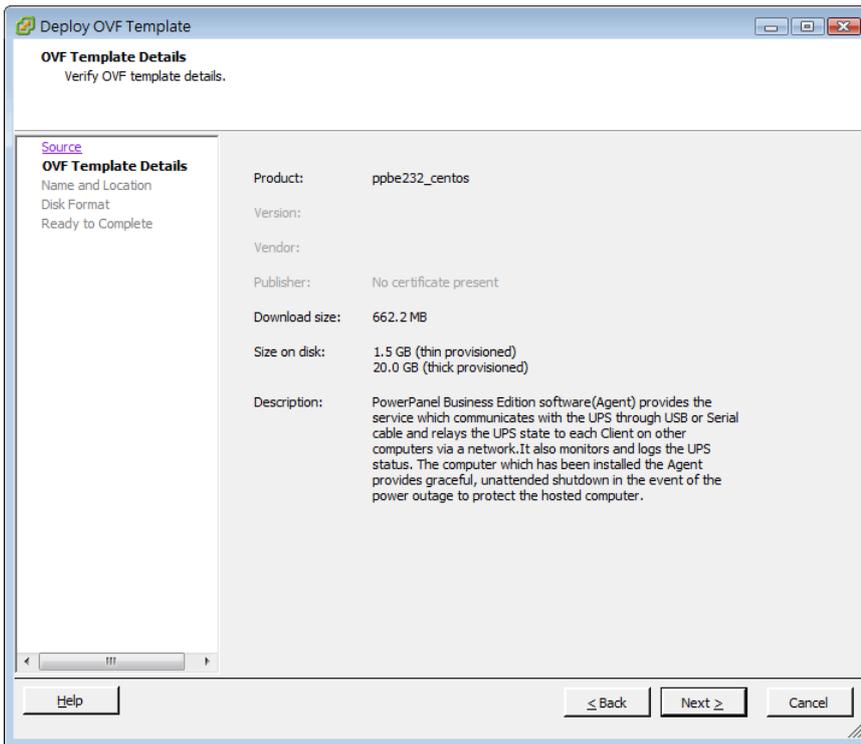
- Launch the vSphere Client. Open the **Deploy OVF Template** window from **File > Deploy OVF Template...** item.



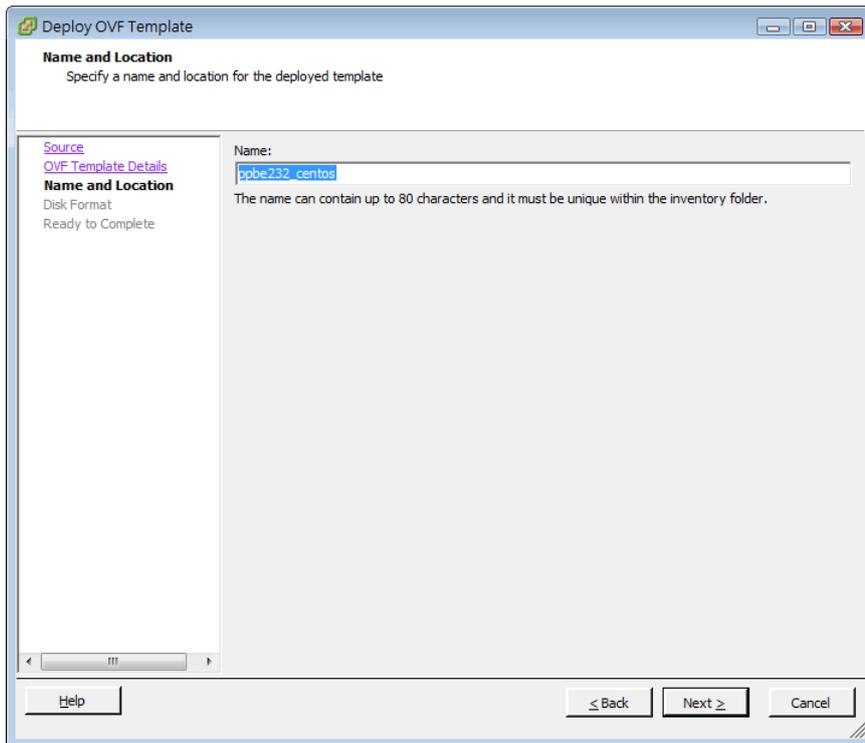
- Click **Browse** to import the **ppbeXXX_centos.ovf** extracted from the download zip file. Click **Next** to start a deployment task.



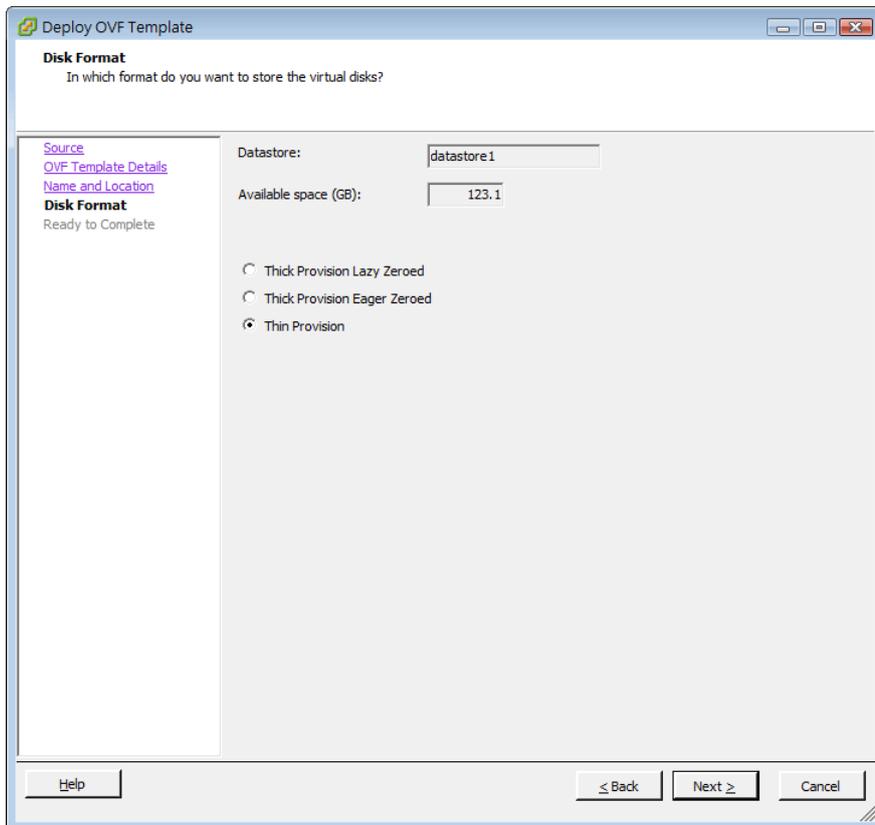
- The OVF template detail is displayed. Click **Next** to continue.



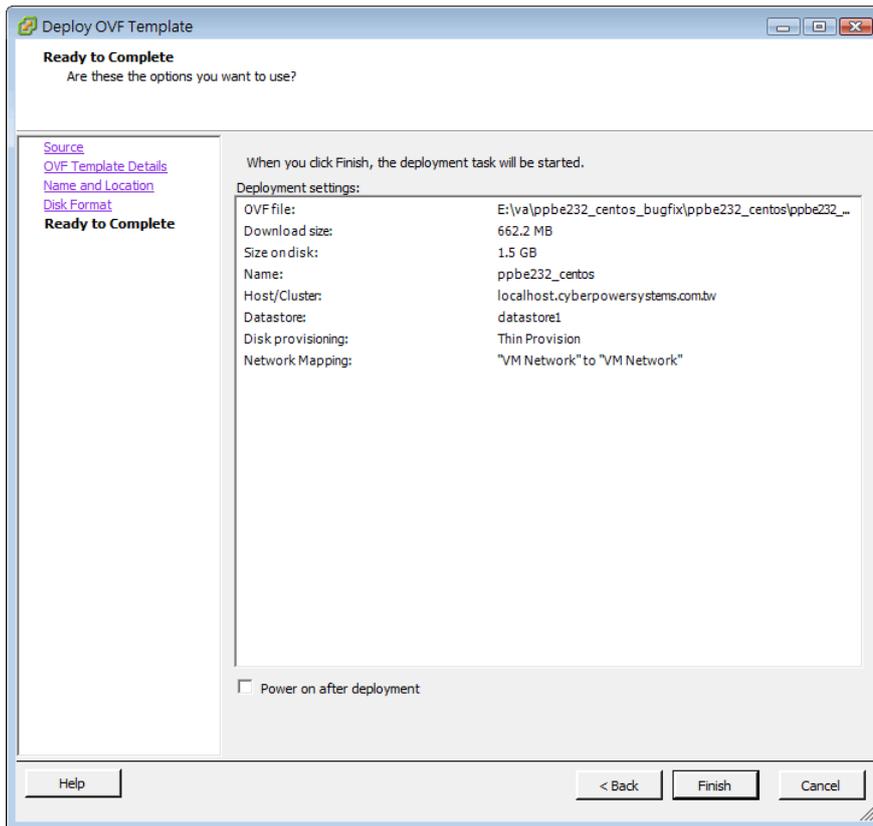
- Enter the name for the deployed PPBE virtual appliance. This name should be unique within the inventory.



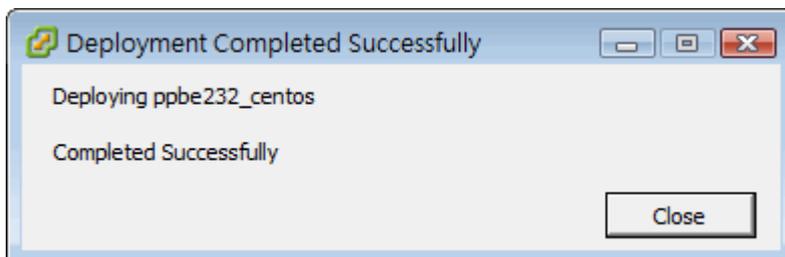
- Select the virtual disk format for the PPBE virtual appliance. The default option is **Thin Provision**. Refer to [About Virtual Disk Provision Disk Policies](#) for further information about how to select virtual disk format.



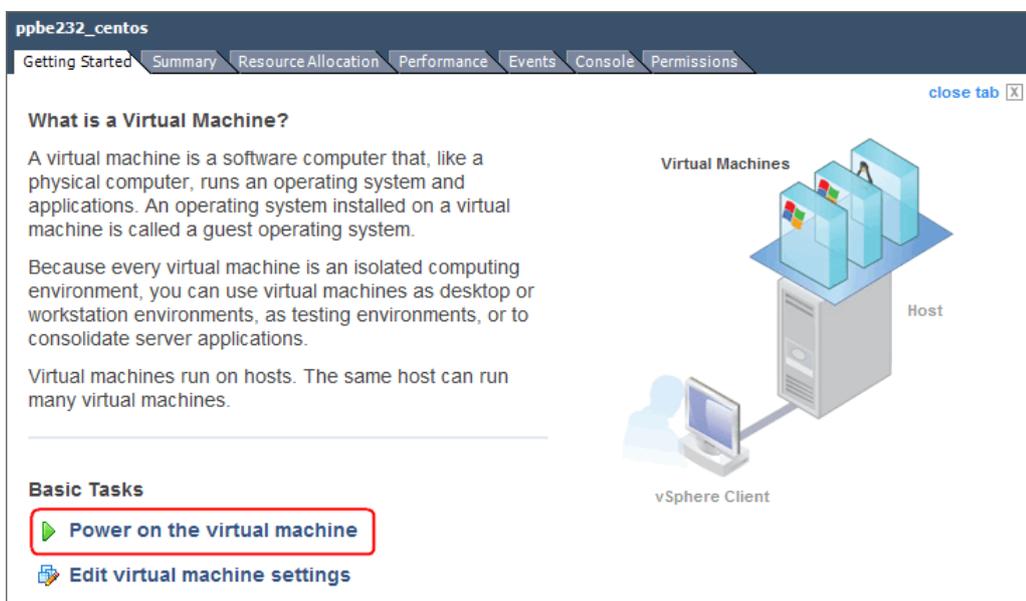
- A deployment detail is displayed. Click **Finish** to start the deployment task.



- 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 Agent.



- 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`.

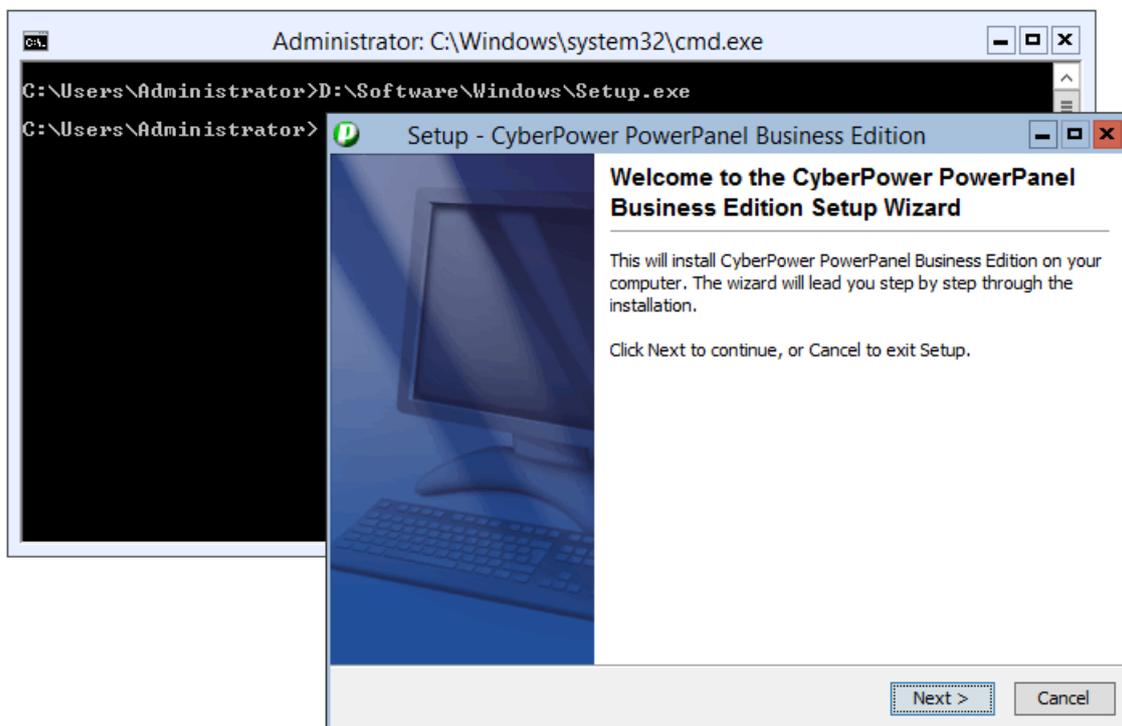
Installation on XenServer

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**. Refer to [Installation on Text Mode](#) section to complete the installation.

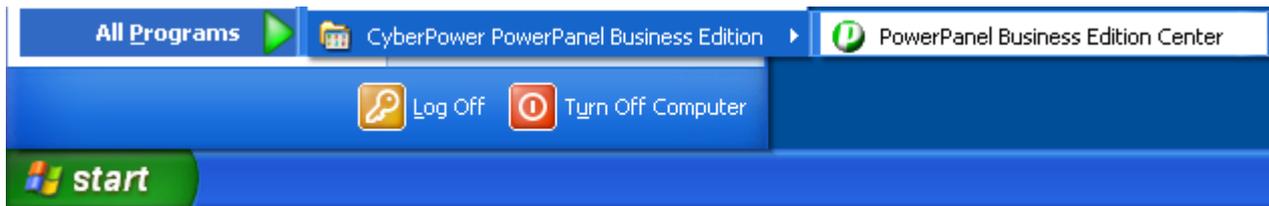
Installation on Hyper-V Server

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



On Linux, users can also 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://hosted_computer_ip_address:3052/** in the address of the web browser to access the interface from a remote computer. **hosted_computer_ip_address** is the IP address of the computer which has the PowerPanel® Business Edition installed. For vMA on the ESX or ESXi, **hosted_computer_ip_address** is the IP address of the vMA (**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 purposes, it is recommended you 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.



Quick Configuration

A Welcome screen will display at the first time to use Client. The welcome screen will lead you to complete the quick configuration. You can decide whether to continue or ignore it. It is strongly recommended to complete the quick configuration. Inability to complete the quick configuration may put your computer in the extreme risk when power events occur. If you decide to ignore the quick configuration, click the Exit button. A popup confirm dialog will display and click the Yes button to ignore the quick configuration. Refer to [Import Profile](#)

section for further details about completing the quick configuration. **Configure Power**

Protection for Computers

In order to ensure the computers which connect to the ATS have sufficient time to complete the shutdown prior to the outlets turning off, the Client should be installed. The Client will establish communication with the ATS and receive

commands from the ATS to initiate a complete shutdown and avoid data loss or a system crash.

Import Profile

The **Profile Import** screen provides a shortcut to import your own profile to complete the quick configuration. If you would like to import a profile, click the **Yes** option and click the **Next** button to import the profile. A popup dialog will ask you to assign the profile. After the profile import is complete, Client will show the result on the **Finish** screen.

If you would like complete the quick configuration without profile, click the **No** option and click **Next** button to continue.

Configure Authentication

In order to secure and protect the network communication with Client and ATS, the security settings must be configured properly in the **Authentication** screen. The settings are used for authenticating the network communication between the Client and ATS.

The Secret Phrase is configured on the **General/Identification** page of the ATS web. The SNMP settings are configured on the **Network Service/SNMPv1 Service** and **Network Service/SNMPv3 Service** pages of the ATS web. When ATS is the power extension of the UPS, the settings should match with ones in UPS web. Click **Next** to the next step.

Assign IP Address of ATS and Connected Outlet in Client

Communication can be established through the network by assigning the IP address of the ATS on the **Power Source Assignment** screen in Client. In order to ensure the ATS can respond to the Client normally, the secret phrase or SNMP communities must be setup properly. It is also important to assign the correct ATS outlet which supplies power to Client computer to assure the Client can shut down the computer prior the turning off the outlet.

The Client connects to the ATS which is being supplying power by one UPS.

Users should choose the *ATS* option of *Power Connection* field, assign the IP address of the ATS at the *ATS Address* field and the correct ATS outlet at the *ATS Outlet* field. The IP address of the UPS can be assigned at the according *UPS Address* field and assign *None* option at another *UPS Address* field. Click **Apply** to establish communication with the ATS between the UPS.

The Client connects to the ATS which is being supply power by two UPS.

Users should choose the *ATS* option of *Power Connection* field, assign the IP address of the ATS at the *ATS Address* field and the correct ATS outlet at the *ATS Outlet* field. The IP addresses of two UPS also should be assigned to the according *UPS Address* field. Click **Apply** to establish communication with the ATS between the two UPS.

Configure Shutdown Settings

The **Shutdown Settings** screen allows you to specify the manner in which Client computer is shut down prior to a ATS outlet powering off, set the duration which Client will take to shut down. Even if Client requires shutting down the VMware ESXi host, you can specify the root permission and the ESXi host address.

Setup Necessary Shutdown Time

Each computer running the Client requires a sufficient time to shut down completely before the ATS turns off the connected outlet for any reason. Therefore users can set up this sufficient time at the *Necessary shutdown time* option on the **Shutdown Settings** screen in the Client.

When the ATS outlet powering to a computer running the Client is going to be turned off, the outlet should not be turned off by the ATS until the Client computer is shut down completely. The Client will detect whether the off-delay time is sufficient for the Client computer to shut down gracefully and give a warning to users that the computer running the Client may be shut down improperly due to insufficient time. Click the **Setup** button in the warning block to set up a sufficient time for the *Delay Off Time* setting on the connected outlet of the ATS. Users can also set up a sufficient time on the *Delay Off Time* manually in the ATS web interface.

Configure Shutdown Action for ESXi

In order to ensure the ESXi server 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 the root user for the host shutdown from vMA. Because PowerPanel® Business Edition software must be installed on the Service Console of ESX instead of vMA, Event Action/Settings page don't provides these shutdown settings for user to configure. Fill in the *Host Address*, *Account* and *Password* fields with actual username and password for ESX/ESXi host.

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

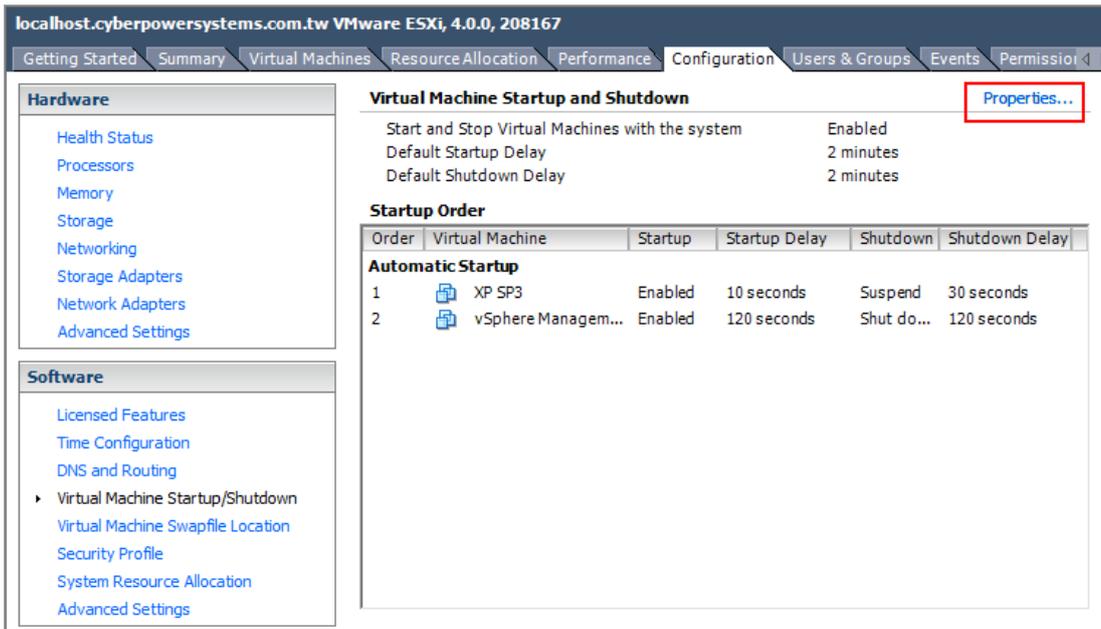
VM Host	
Host Address	192.168.100.200
Account	root
Password	*****

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

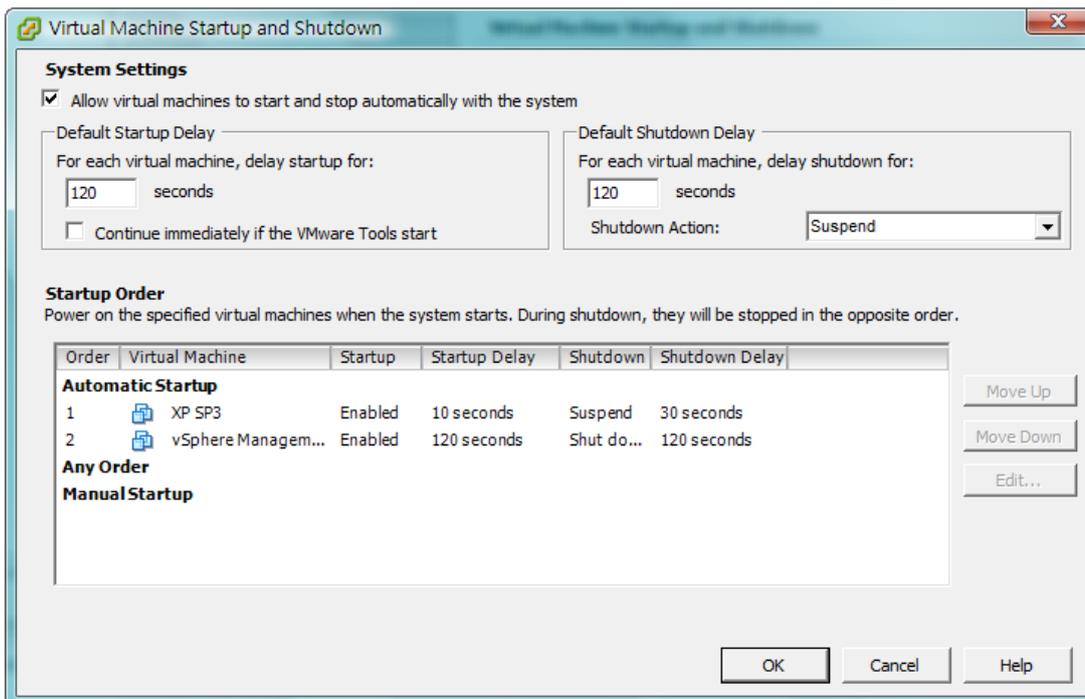
Configure Startup and Shutdown of Virtual Machines on ESX/ESXi

In order to ensure that all virtual machines and the VMware ESX/ESXi server host can be shut down and restart gracefully:

- 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** of the vSphere Client.



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

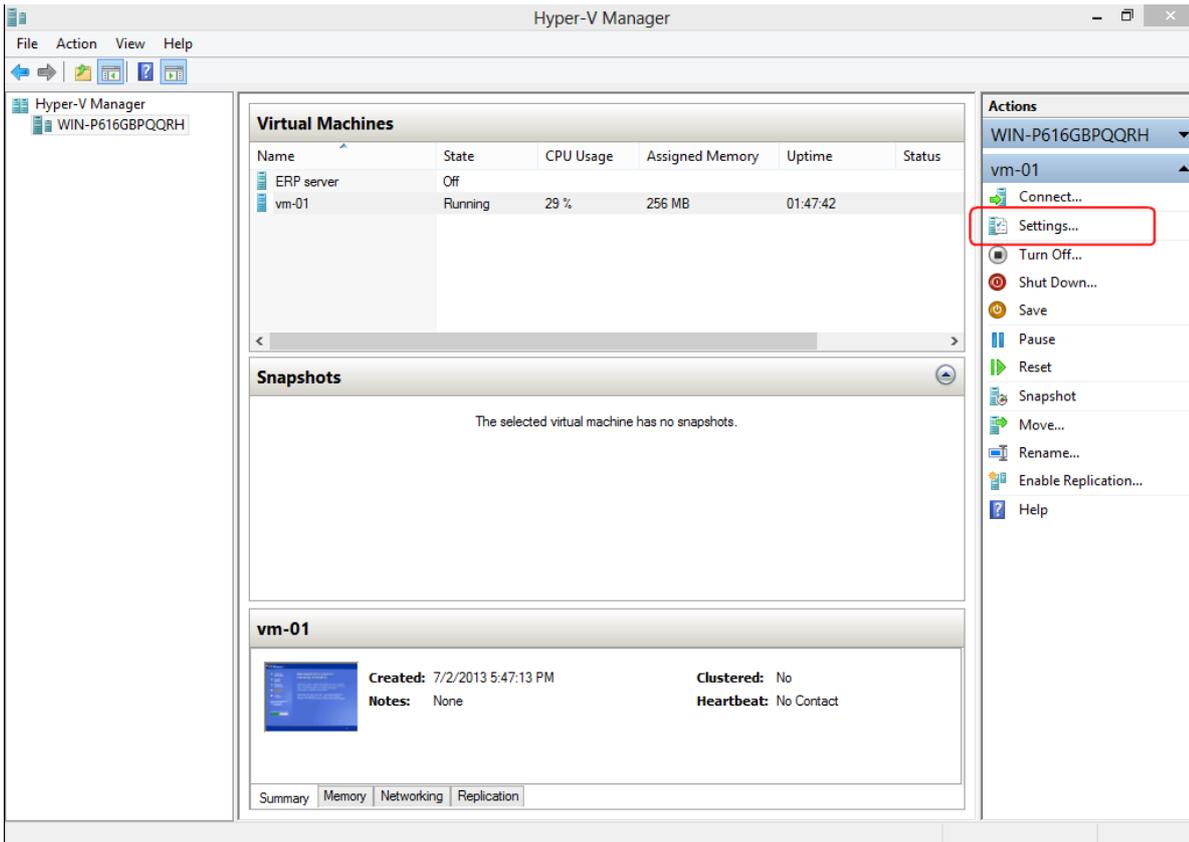


Configure Shutdown of Virtual Machines on Hyper-V Server

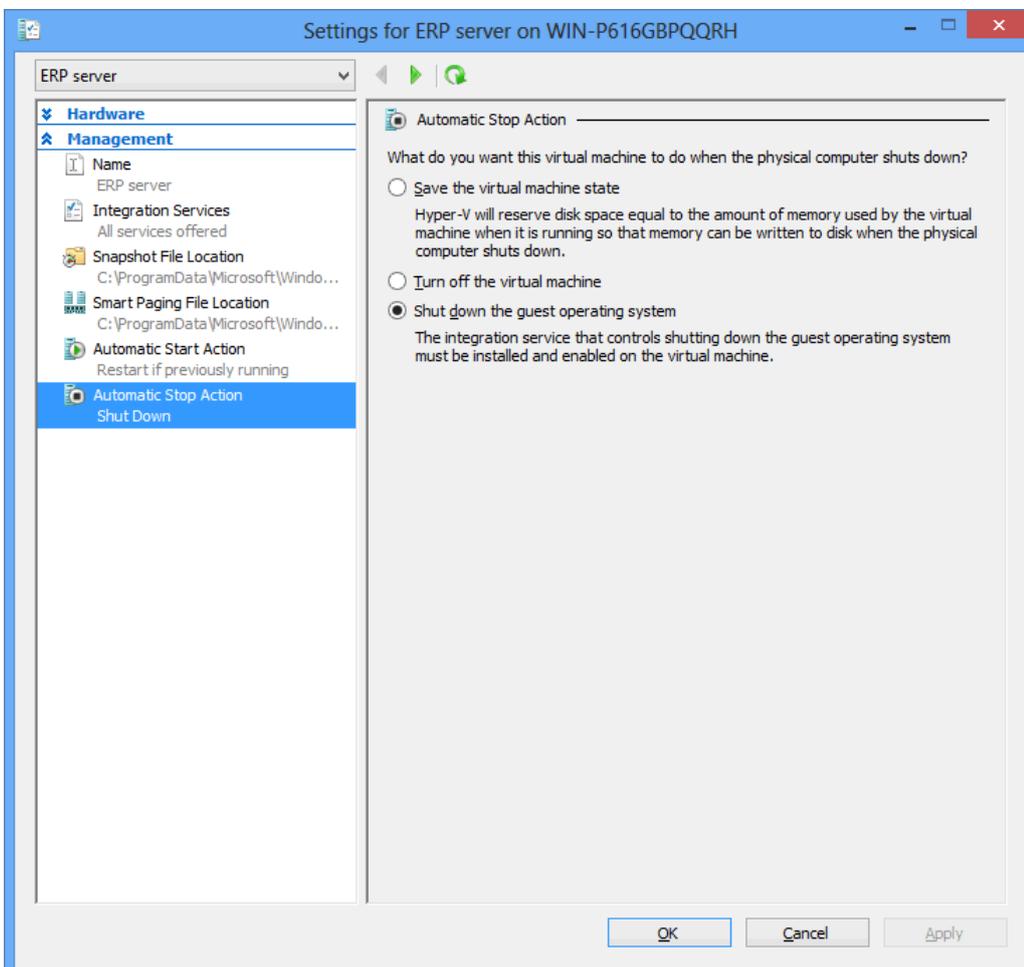
In order for the virtual machines to be shut down correctly when the Hyper-V host shuts down, users should configure a guest operating system shutdown on each virtual machine.

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* 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 install the Linux integration service for Hyper-V.

Configure Actions for Essential Events

The **Event Action** screen lists the following critical events and action settings for each event according to actual power connection. Client will generate actions in response to events when ATS and UPS encounter the power conditions.

ATS Events

- **Both input sources have power loss, ATS will not change input source.** *ATS will not switch from one input source to another because both are experiencing power failures.*
- **Switch to redundant input source of ATS automatically.** *When the current source of ATS is power failure and another redundant source is functioning well, ATS will switch to the redundant source to afford the power to its load.*

UPS Events

- **Battery capacity is critically low.** *Battery capacity is critically low; power could be lost immediately.*
- **Output overload.** *Power consumption exceeds the power rating of UPS. If the overload is sustained, the UPS will shut off*
- **Network communication lost with UPS in a power event.** *Communication with the UPS has been lost after a power event occurred. When the utility power becomes abnormal and the UPS is using the battery to supply power, loss of network communication between the Client and UPS causes the Client to generate a critical priority event because it cannot respond to changes in the status of utility and battery power.*
- **The output power is going to stop soon.** *Output power will stop due to power event or user commands. The Client will shut down the hosted computer.*
- **Utility power failure.** *Utility power failure, battery power will be supplied.*

Note: Refer to PPBE user's manual for more details about more events which are not available in this screen.

In order to protect your computer when power events occur, you have to arrange the shutdown action for events according to below conditions:

The Client connects to the ATS which is being supplying power by one UPS.

You should arrange the shutdown action of ATS events. When the ATS encounters the power condition, the shutdown will be initiated.

The Client connects to the ATS which is being supply power by two UPS.

You should arrange the shutdown action of UPS events instead of ATS events. When both power sources of ATS which are providing power by two UPS encounter power failure, the UPS event will occur and initiate a shutdown.

After the actions are configured properly, click **Next** to the next step.

Make Sure Power Configuration is Correct

The **Finish** screen lists all power configurations through entire quick configuration. In order to make sure that your computer can be protected when power events occur, you must review the power configuration. Click **Finish** button to complete the quick configuration if the power configuration is correct.

Mass Deployment

In order to install Client 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**.

```
installModule=client
programGroupName=CyberPower PowerPanel Business Edition
installationDir=ppbe_installation_directory
profilePath=exported_zip_location
```

- Edit the **setup.varfile** to replace **installationDir** and **profilePath** 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*). **profilePath** indicates the absolute path of profile (e.g. *C:/import/profile.zip* or */import/profile.zip*).
- **Note.** If the installation module is **Center** and **Agent**, this should be **agent¢er**; if the installation module is **Center** and **Client**, this should be **client¢er**.
- 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
```

Note. When you would like to upgrade the pre-installed Agent or Client during the unattended installation, set the **installationDir** parameter blank. The installer will automatically detect where preinstallation PPBE directory locates and attempt to complete the upgrade installation.

Computers which never installed Agent or Client can be installed the PPBE by assigning a valid path. Assigning a blank path to the **installationDir** parameter during the unattended installation will allow the installer to use the default path as

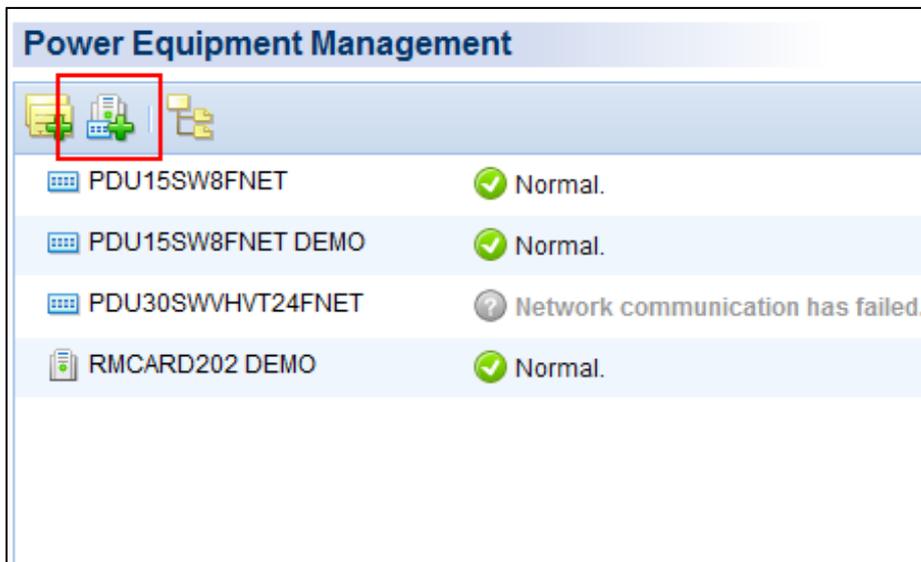
the installation directory. **C:/Program Files/CyberPower PowerPanel Business Edition/** will be the default installation directory in Windows systems. **/opt/ppbe** or **/usr/local/ppbe** will be the default installation directory in most Linux distributions.

Manage ATS in Center

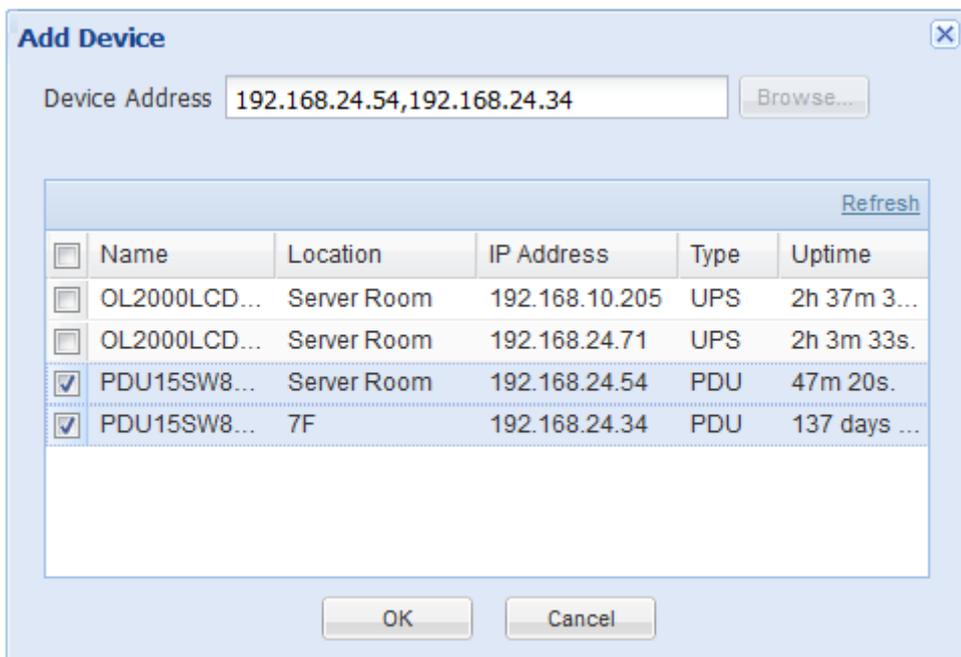
Add ATS units

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

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



Either enter the ATS's IP address on the *Device Address* field or click the **Browse** button to display the device list and select the ATS address from this list. Click **OK** to proceed and add the selected ATS.



Note: If multiple ATS units need to be added to Center, repeat aforementioned steps.

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