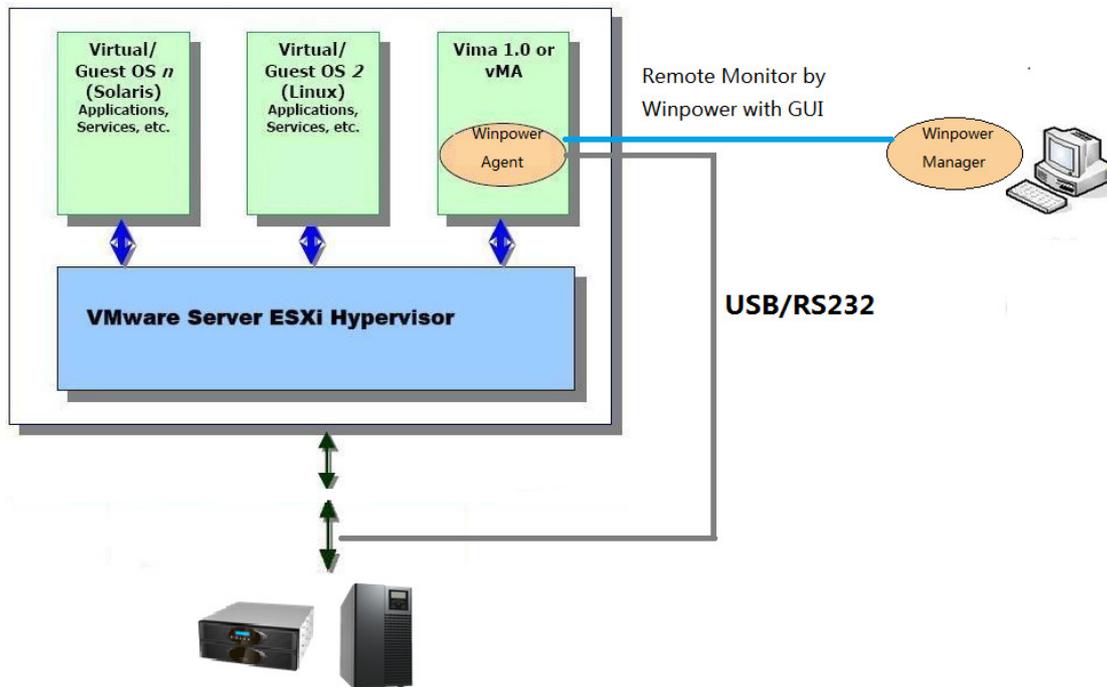


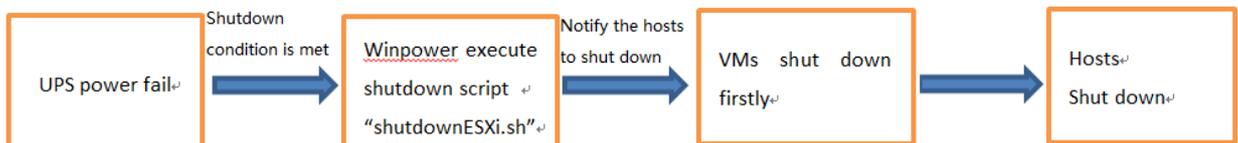
Installation and configuration for Winpower in the VMware ESXi (paid version)

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1 Overview



Shutdown Sequence



- The full name for the vMA is “vSphere Management Assistant”, it is released by the VMware company to manage the vSphere
- The script “shutdownESXi.sh” is used to notify the local ESXi host and the remote ESXi hosts to shut down.
If the script shutdownESXi.sh is executed on the general OS, the executed permission will be refused
- The Virtual Machine on the ESXi host are shut down automatically by the ESXi host with the “Allow virtual machines to start and stop automatically with the system” function, they are not shut down by the script “shutdownESXi.sh”
- When runs the “shutdownESXi.sh” to notify the ESXi hosts to shut down, it needs to provide the ESXi hosts username and password to pass through the verification.
- Run the config.pl to save the ESXi hosts IP address and corresponding username and password, the information is saved in the “hostlist”. Multi-ESXi hosts are supported.
- The ESXi hosts will accept the shutdown notification from vMA with right password and take effect to shut down

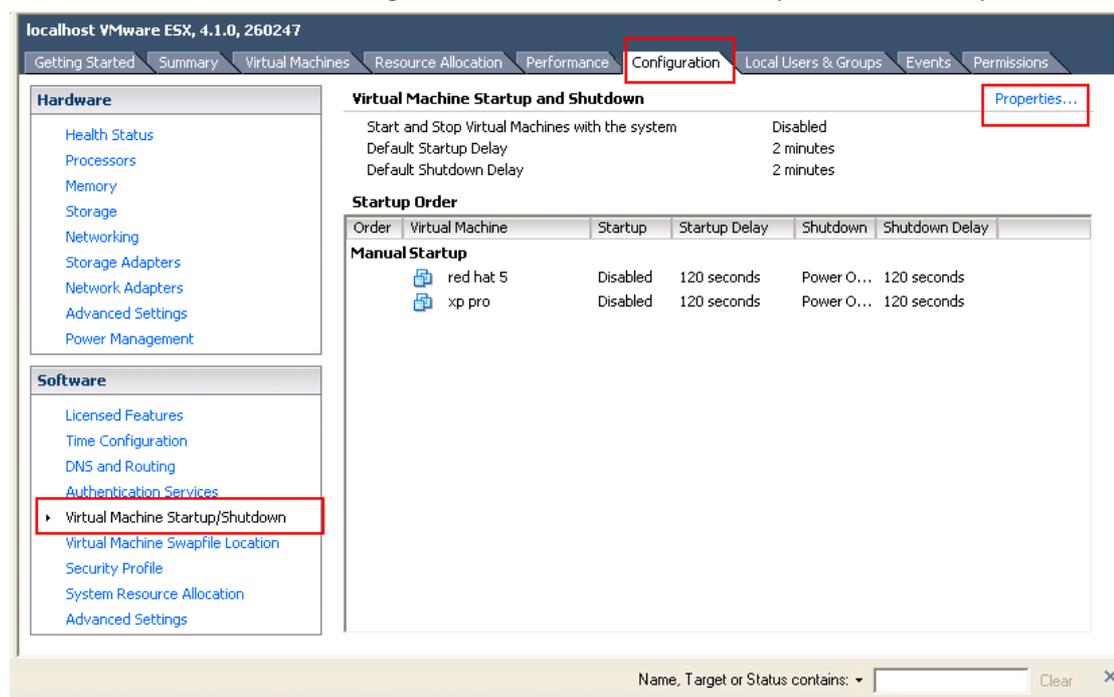
2 Configuring for VMware ESXi

2.1 Installing and configuring the vMA

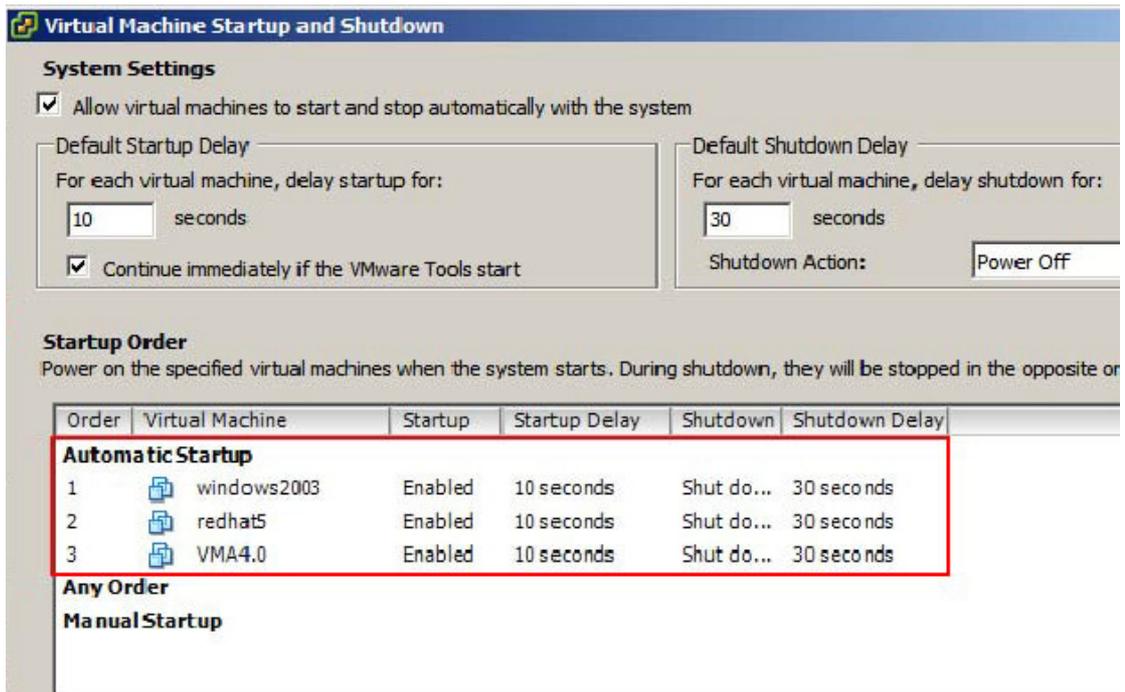
- Go to the website :<http://www.vmware.com/support/developer/vima/>
Download the vMA, and extract it, the format for the VMA document is *.OVF.
- Start the VMware Client, select “File” > “Deploy OVF Template”, Click the browse button, select the OVF document.
- Start vMA, the default user name is vi-admin. Set the password for the first login.

2.2 Configuring VMs startup/shutdown automatically

- Start VMware Client, select Configuration -> Virtual Machine Startup/Shutdown->Properties



- Select “**Allow virtual machines to start and stop automatically with the system**” checkbox.
Move up the virtual machines to the “**Automatic Startup**” list
The virtual machines will start/stop when the host start/shutdown automatically.

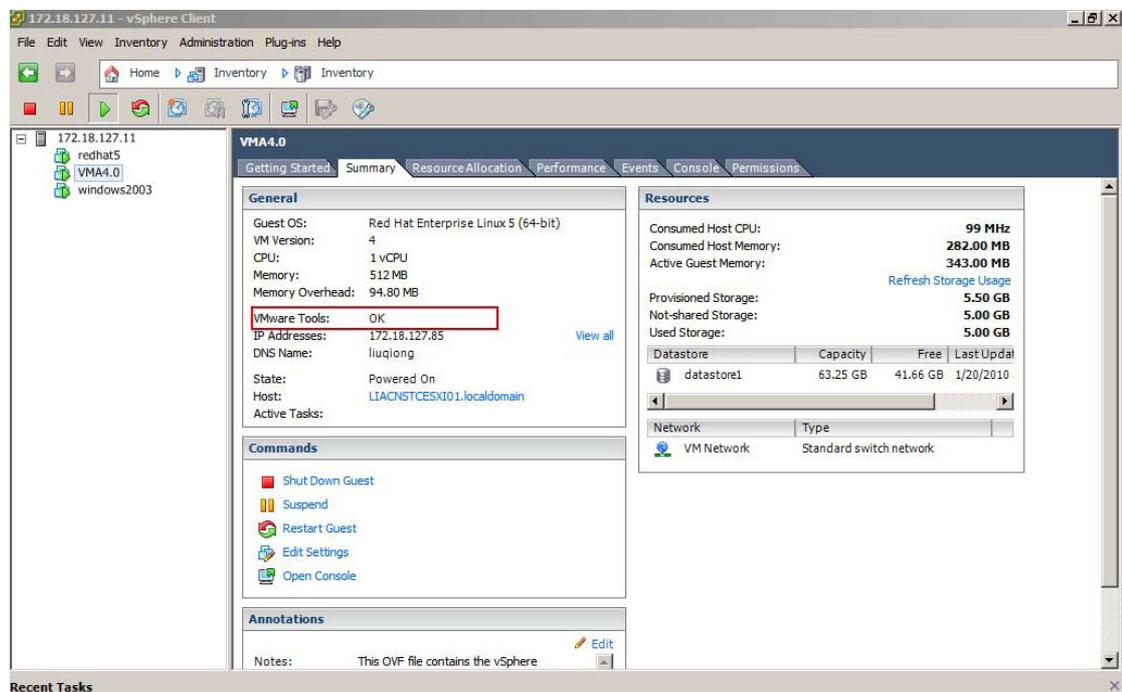


Note: if the “shutdown” is selected in the “Shutdown Action”, make sure the VMware tools are installed for each virtual machine.

Please refer to the official website for more VMware tools information.

If the OS is Windows, right click one of the VMs, click **Guest -> Install/Upgrade VMware Tools**

After the VMware tools installation, the VMware tools status will be changed to “OK” from the Summary



2.3 Configuring the port

- The Winpower use UDP 2198/2199/2200 for the remote communication. All the ports are opened as default.
- Open the UDP ports by the following command if the ports are disabled:
For example, open the UDP port 2199:
iptables -I INPUT -p udp --dport 2199 -j ACCEPT
iptables -I OUTPUT -p udp --dport 2199 -j ACCEPT

3 Configuring for Winpower

3.1 Winpower installation and start

- Start the vMA guest operating system from VMware client.
- Download the software (Winpower_setup_LinuxAMD64.tar.gz) from the Web site or from the CD attached. Upload the software from Windows to vMA using WinSCP tools.
- Extract the software, there are two files including LinuxAMD64 and InstallerData. Enter the following commands to access the LinuxAMD64 and InstallerData files:
sudo chmod -R 777 LinuxAMD64
sudo chmod -R 777 InstallerData
- Enter the Linux path and then enter the following command to install the software:
cd Linux
sudo ./setup_console.bin
- Go to the installation path and enter the following command to start the Winpower agent:
cd /opt/MonitorSoftware (or /opt/Winpower)
sudo ./agent start
Note: The Winpower agent will be running automatically when the vMA start up

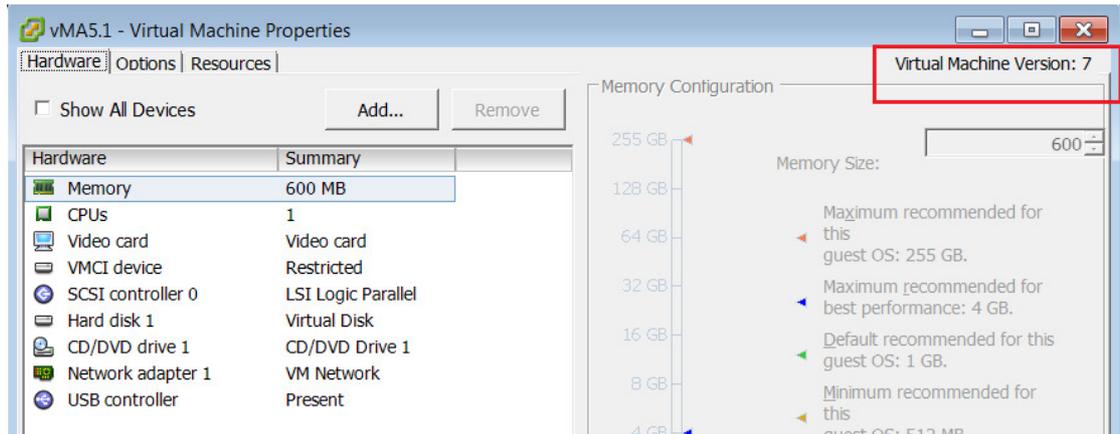
3.2 Winpower Communication Configuration

3.2.1 USB Communication

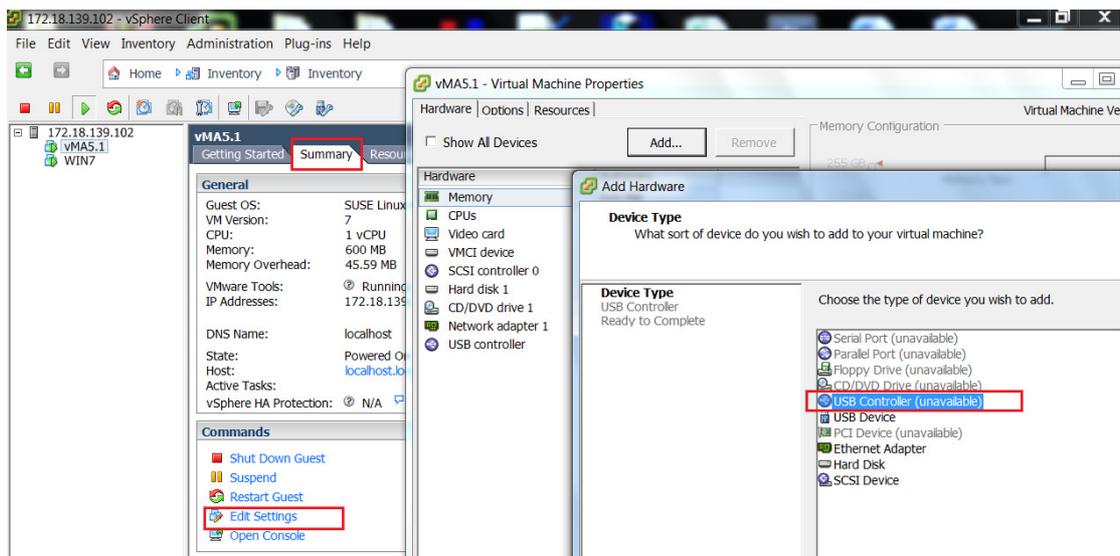
For the USB pass through is available for the VMware ESXi 4.1 (The Virtual Machine Version should be 7 or later, otherwise update the VM version firstly)

For more information refer to the website:

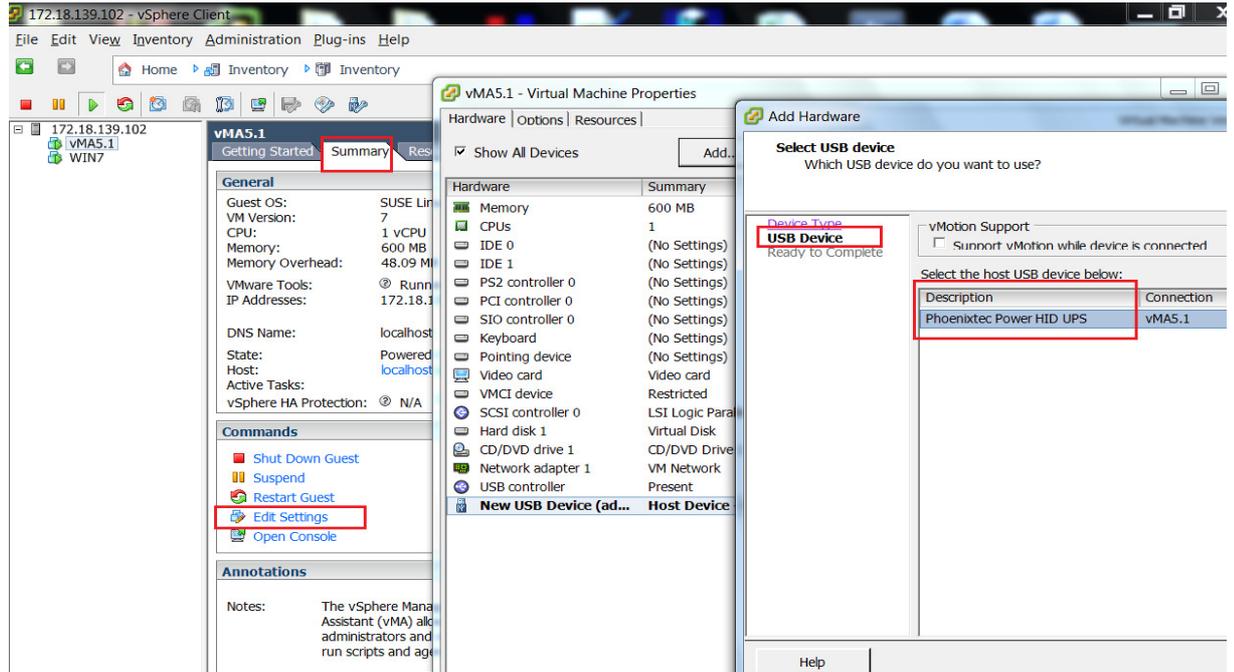
http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1010675



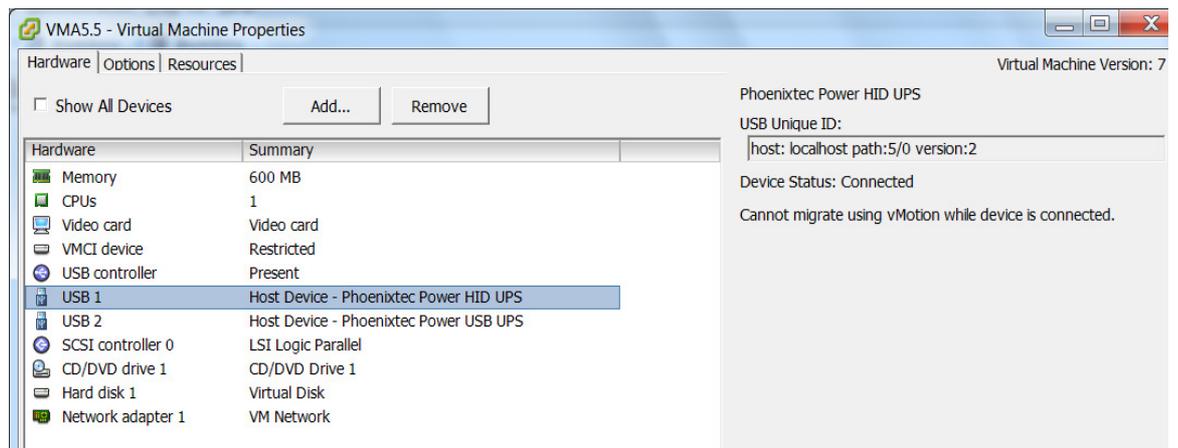
- Power off the vMA, right click it, choose the option “**Upgrade Virtual Hardware**”, update the Virtual Machine Version
- Choose vMA, add the USB controller by the “**Summary**”->“**Edit setting**”->“**add**”->“**USB Controller**”



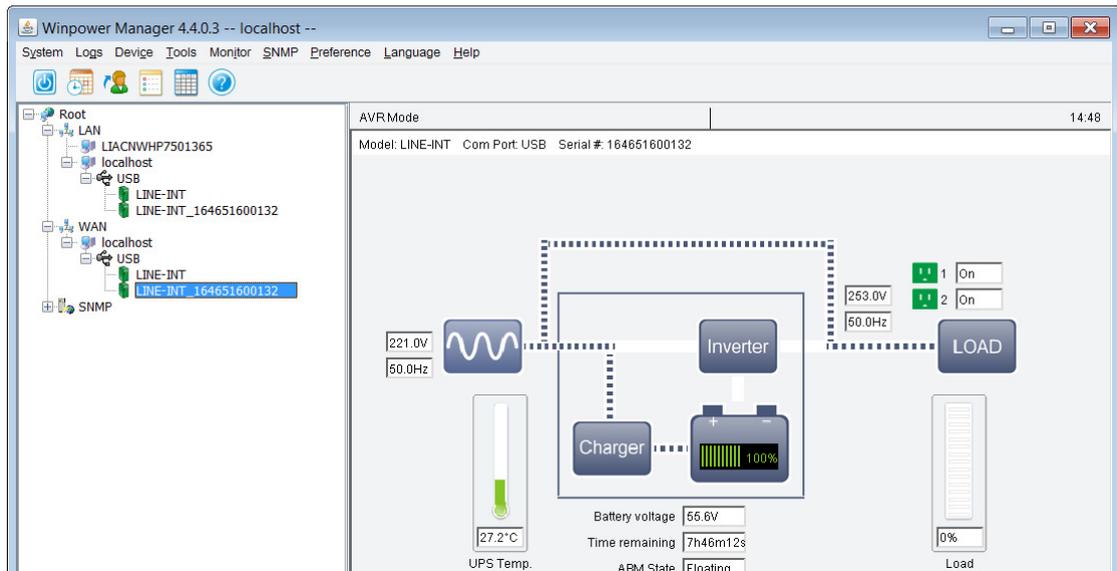
- Choose the vMA, add the USB device by the “**Summary**”->“**Edit setting**”->“**add**”->“**USB device**”, make sure the UPS is connected.



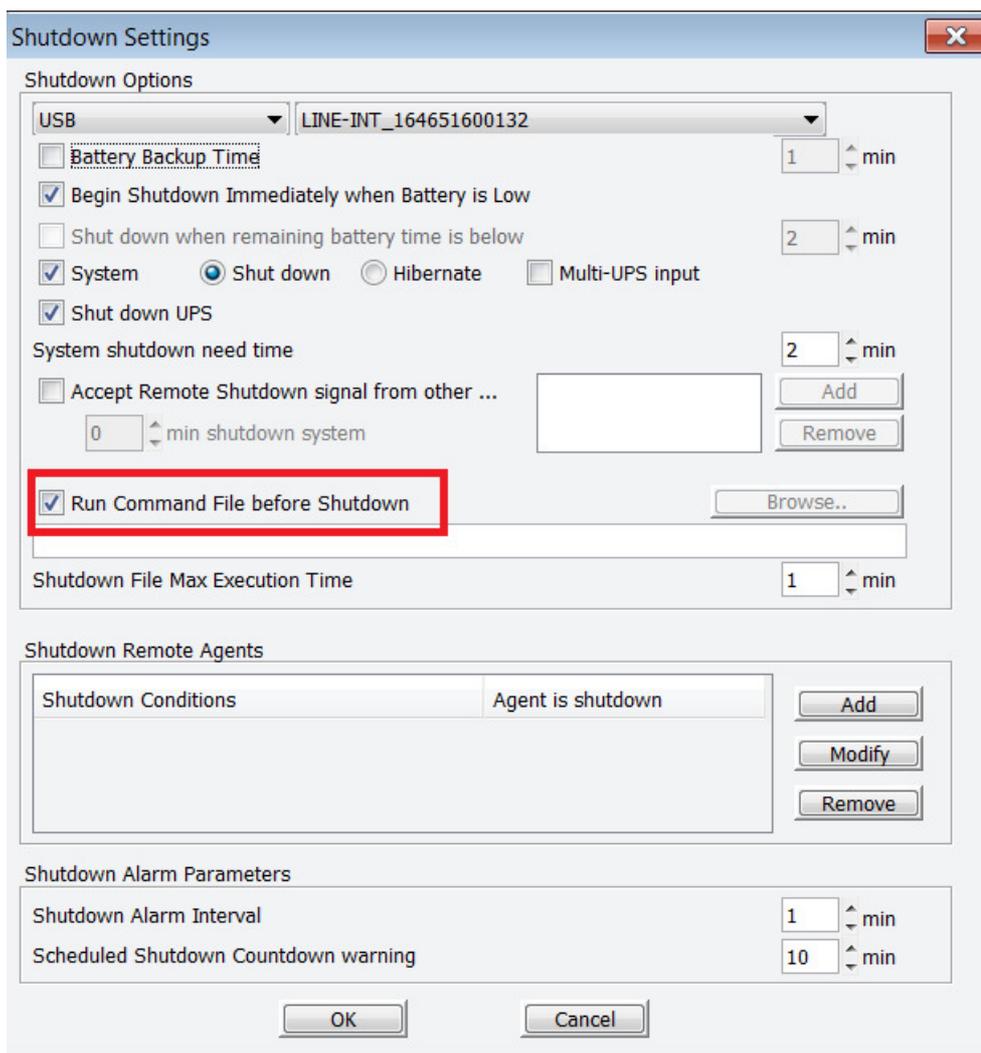
- The UPS USB can be added successfully as below image



- Restart the ESXi host after adding the USB controller and USB device
- Auto search the UPS via the remote Winpower manager on the Windows.
Choose the Winpower agent of the vMA under the LAN or WAN tree structure, Act as Administrator, click the "System"->"Auto Search Device". The UPS can be added under the LAN or WAN after searching. (The localhost is the host name of the vMA, it is the Winpower agent inside vMA)



- Choose the Winpower agent of the vMA, Act as Administrator, open the “Shutdown Parameter” dialog , and make sure the “Run Command File before shutdown” checkbox is chose.

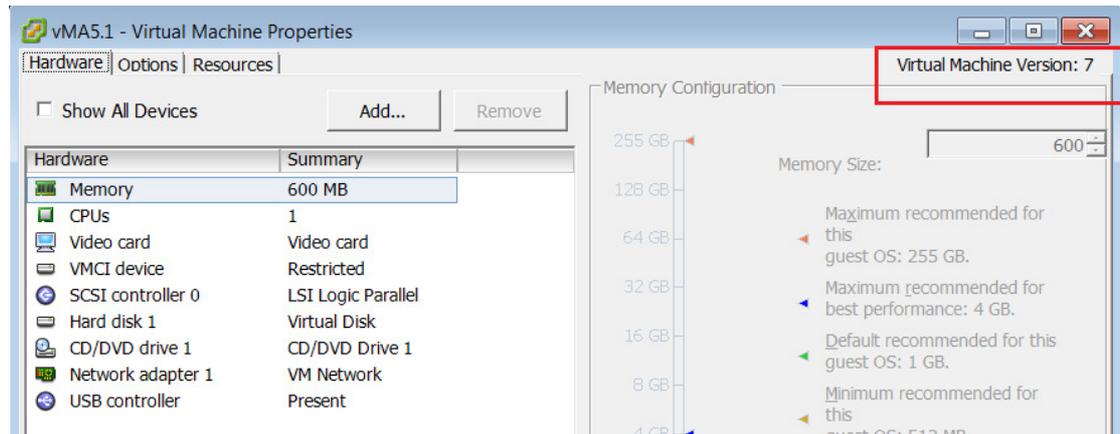


3.2.2 RS232 Communication

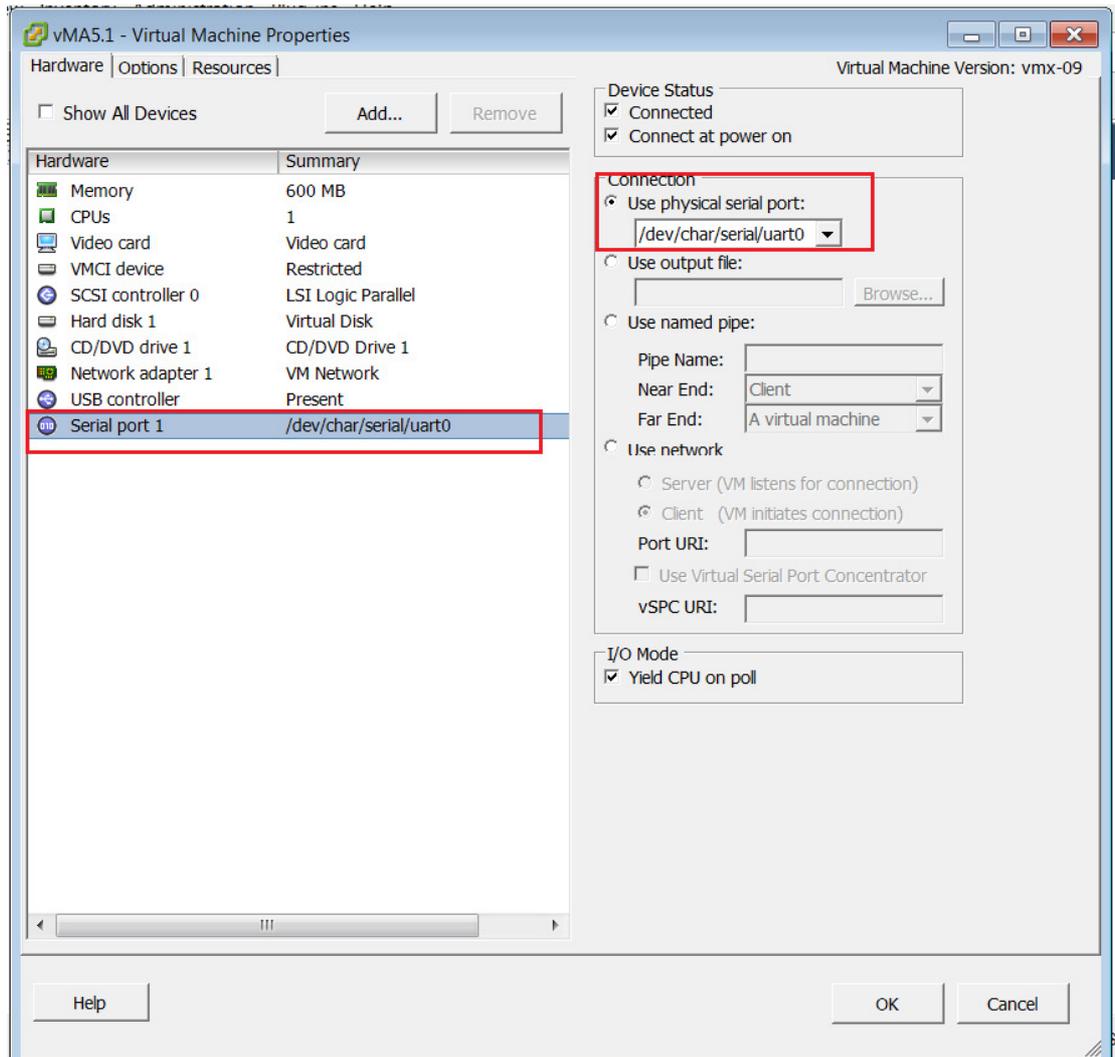
For the serial port pass through is available for the VMware ESXi 4.1 (The Virtual Machine Version should be 7 or later, otherwise update the VM version firstly)

For more information refer to the website:

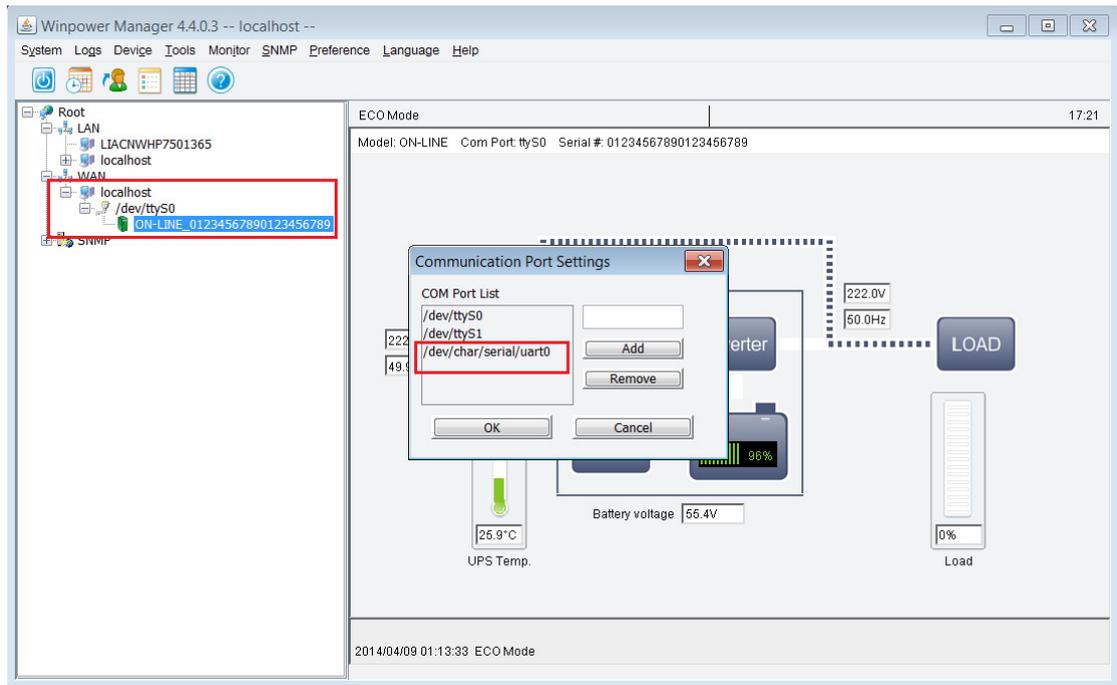
http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1010675



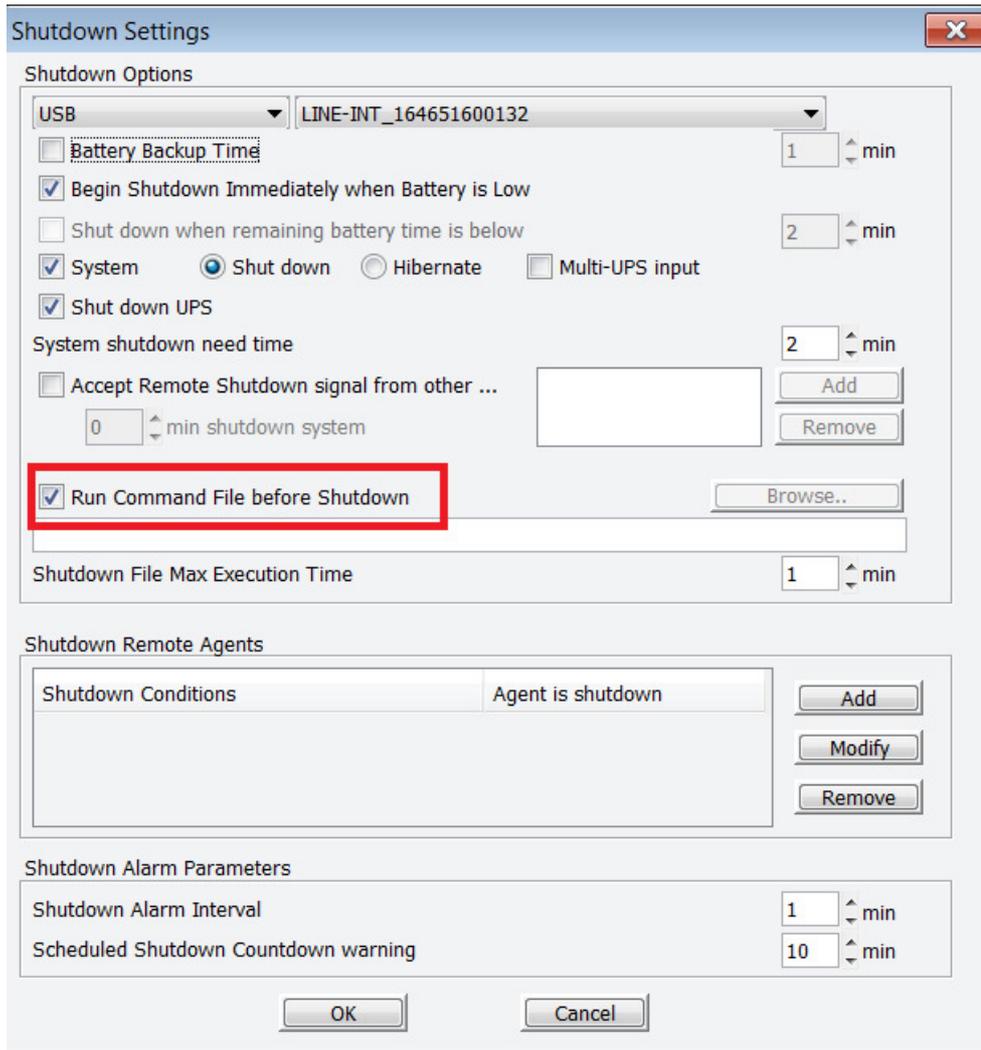
- Power off the vMA, right click it, choose the option “Upgrade Virtual Hardware”
- Power off the vMA ,Add the serial port by the “**Summary**”->“**Edit setting**”->“**add**”->“**Serial Port**”->“**Use physical serial port**”, the serial port name is “/dev/char/serial/uart0” as default.



- Restart the ESXi host after adding the serial port
- Auto search the UPS via the remote Winpower manager on the Windows.
- Choose the Winpower agent of the vMA under the LAN or WAN tree structure, Act as Administrator ,open the **“System”->“Com Port Setting”**, add the serial port name. The serial port name is **“/dev/char/serial/uart0”** as default.
- Click the **“System”->“Auto Search Device”**, the UPS can be added under the localhost after searching (The localhost is the host name of the vMA, it is the Winpower agent inside vMA)



- Choose the Winpower agent of the vMA, Act as Administrator, open the “Shutdown Parameter” dialog, and make sure the “Run Command File before shutdown” checkbox is chose



3.3 Configuration for shutdown script

The config.pl is used to add the hosts to be shutdown.

Enter the command: **sudo ./config.pl**

Input the target VMware ESXi physical host IP(or hostname), username, password.

For example: 172.18.127.125 and 172.18.127.110 will be added:

```
vi-admin@localhost:/opt/MonitorSoftware> sudo ./config.pl
Enter your target host ip or hostname:
172.18.127.110
Enter your host username:
root
Enter your host password:
: command not found:
vi-admin@localhost:/opt/MonitorSoftware> sudo ./config.pl
Enter your target host ip or hostname:
172.18.127.125
Enter your host username:
root
Enter your host password:
: command not found:
```

Note:

Winpower supports multi-hosts shutdown, but the other ESXi hosts should be set refer to section "2.2 Configuring VMs startup/shutdown automatically"

The VMware host information will be saved in hostlist document.

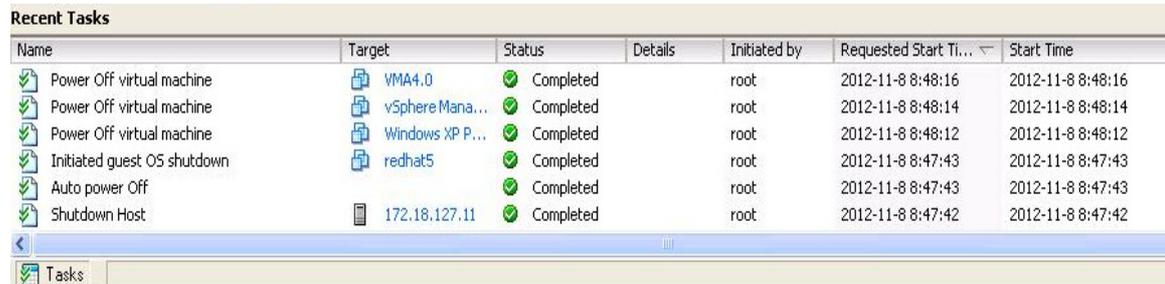
Enter the command: **cat hostlist**, get the input hosts information

Note: The password will be encrypted.

```
vi-admin@localhost:/opt/MonitorSoftware> cat hostlist
172.18.127.110      root      UGEkJHdPcmQ=
172.18.127.125      root      bmlkaGhpcw==
```

4 Shutdown Sequence

After the correct configuration, when the UPS need to shut down the system, the VMware will act as following sequence example, the guest OS will also shutdown properly.



The screenshot shows the 'Recent Tasks' window in vSphere. It contains a table with the following data:

Name	Target	Status	Details	Initiated by	Requested Start Time	Start Time
Power Off virtual machine	VMA4.0	Completed		root	2012-11-8 8:48:16	2012-11-8 8:48:16
Power Off virtual machine	vSphere Mana...	Completed		root	2012-11-8 8:48:14	2012-11-8 8:48:14
Power Off virtual machine	Windows XP P...	Completed		root	2012-11-8 8:48:12	2012-11-8 8:48:12
Initiated guest OS shutdown	redhat5	Completed		root	2012-11-8 8:47:43	2012-11-8 8:47:43
Auto power Off		Completed		root	2012-11-8 8:47:43	2012-11-8 8:47:43
Shutdown Host	172.18.127.11	Completed		root	2012-11-8 8:47:42	2012-11-8 8:47:42