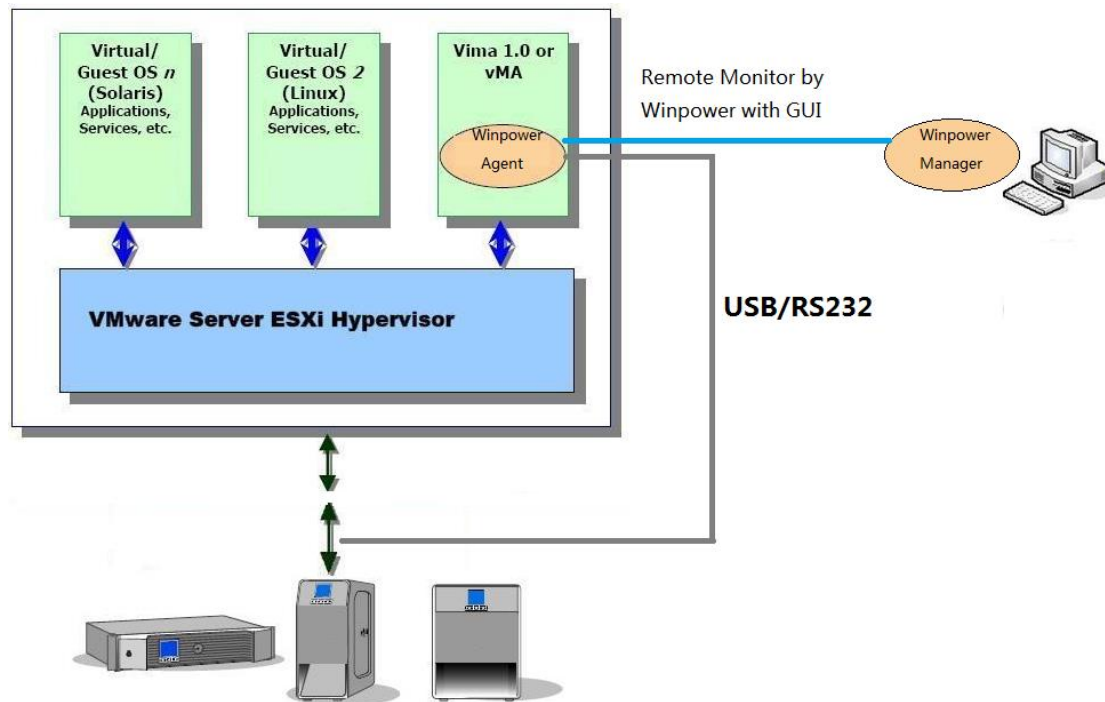


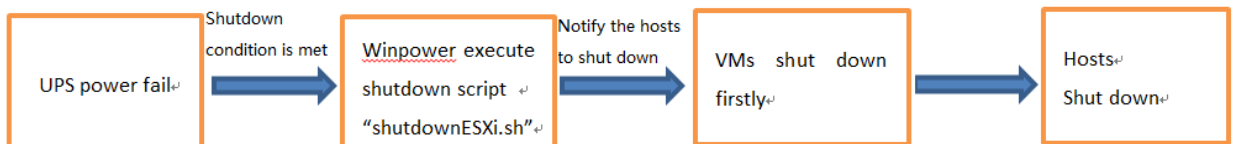
Installation and configuration for controlUNIT in the VMware ESXi (paid version)

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1 Over viewer



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

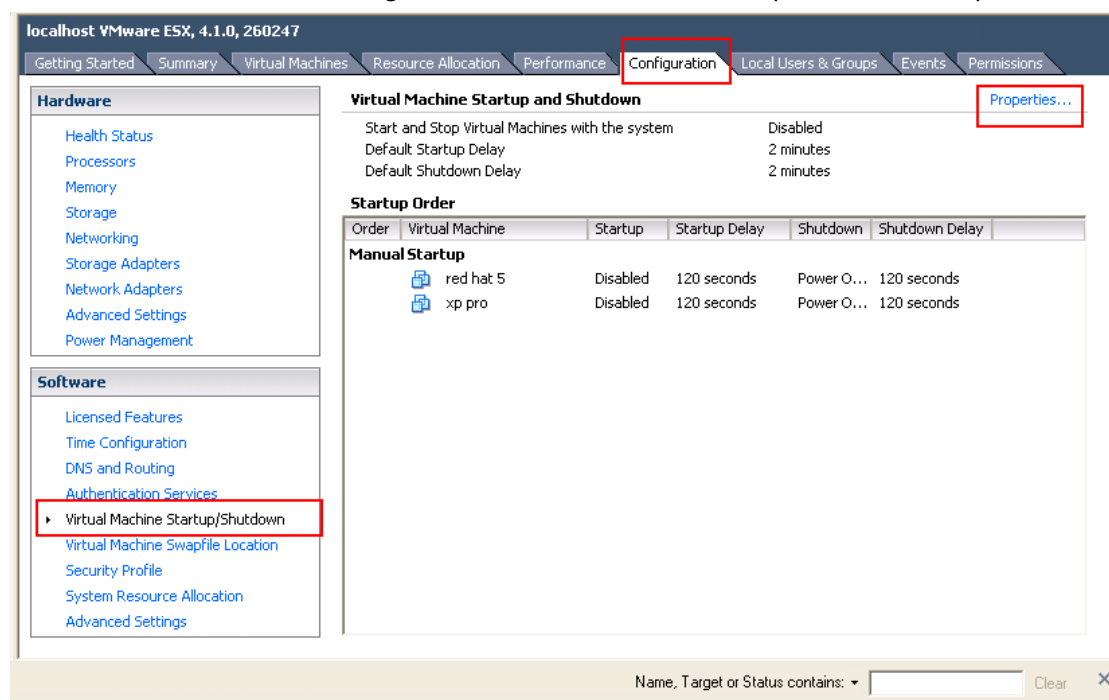
2 Configuring for VMware ESXi

2.1 Installing and configuring the vMA

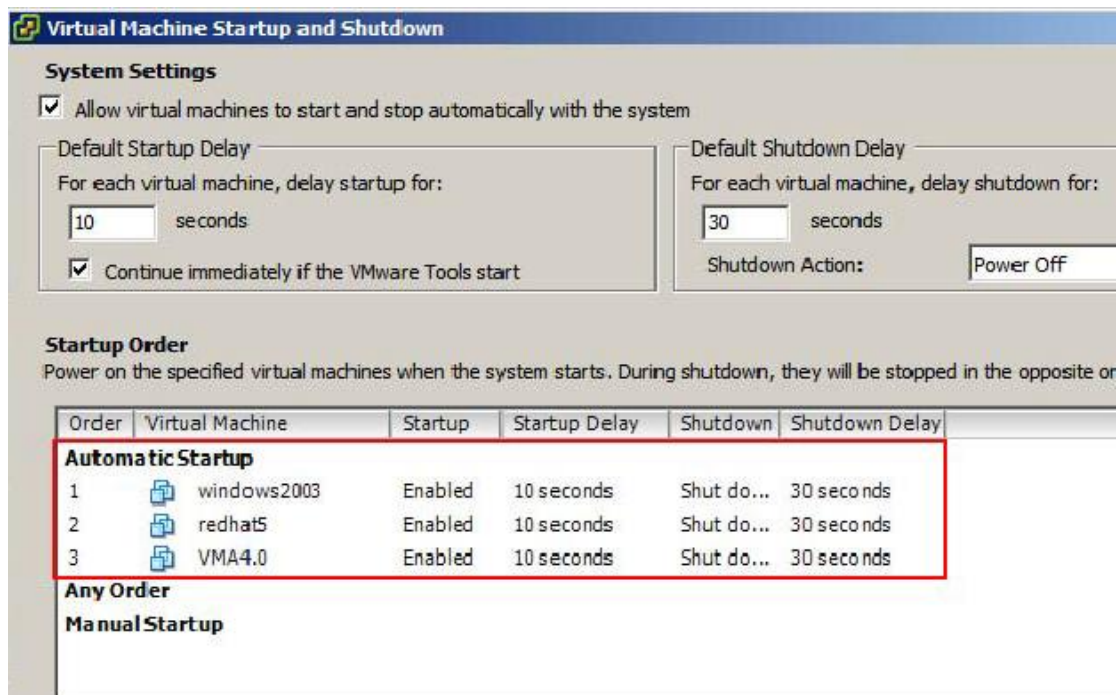
- Go to the website : <http://www.vmware.com/support/developer/vima/>
Download the vMA, and extract it, the format for the VMA document is *.OVF.
- Start the VMware Client, select “File” > “Deploy OVF Template”, Click the browse button, select the OVF document.
- Start vMA, the default user name is vi-admin. 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.
For each virtual machine, set delay startup for 10 seconds
For each virtual machine, set delay shutdown for 30 seconds
Move up the virtual machines to the “Automatic Startup” list
The virtual machines will start/stop when the host start/shutdown automatically.

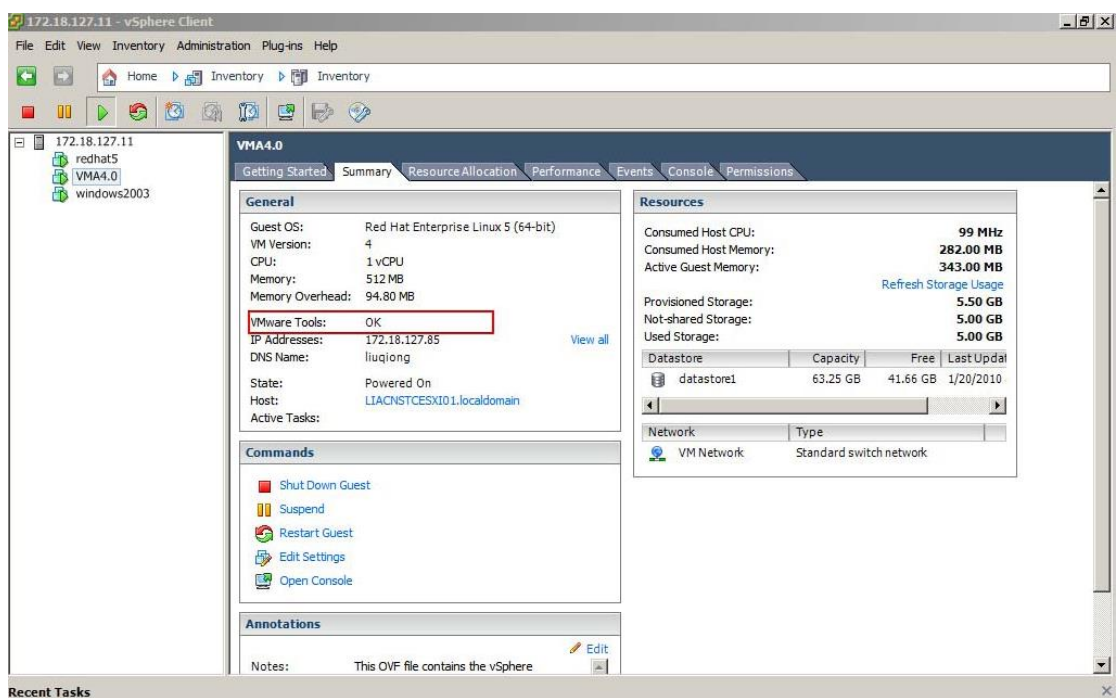


Note: if the “shutdown” is selected in the “Shutdown Action”, make sure the VMware tools are installed for each virtual machine.

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 controlUNIT 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 controlUNIT

3.1 controlUNIT installation and start

- Start the vMA guest operating system from VMware client.
- Download the software (controlUNIT_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 controlUNIT agent:
cd /opt/MonitorSoftware
sudo ./agent start
Note: The controlUNIT agent will be running automatically when the vMA start up

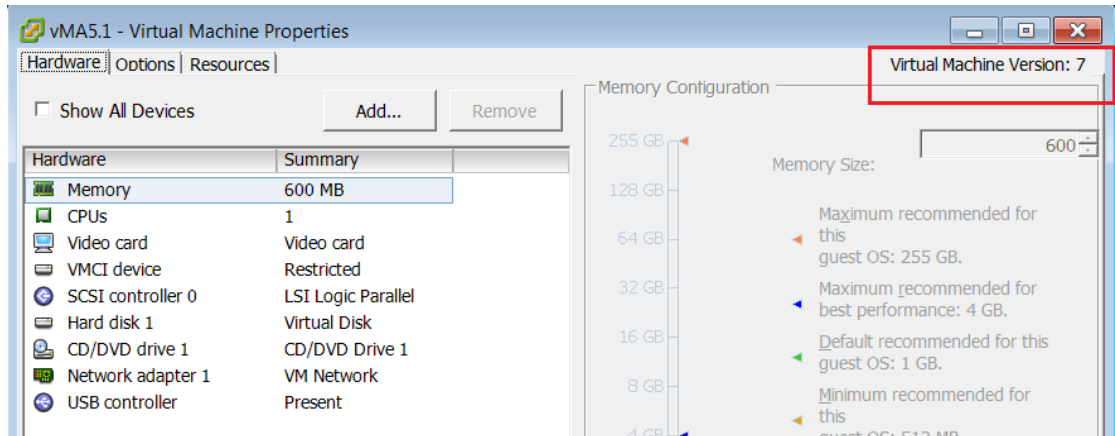
3.2 controlUNIT Communication Configuration

3.2.1 USB Communication

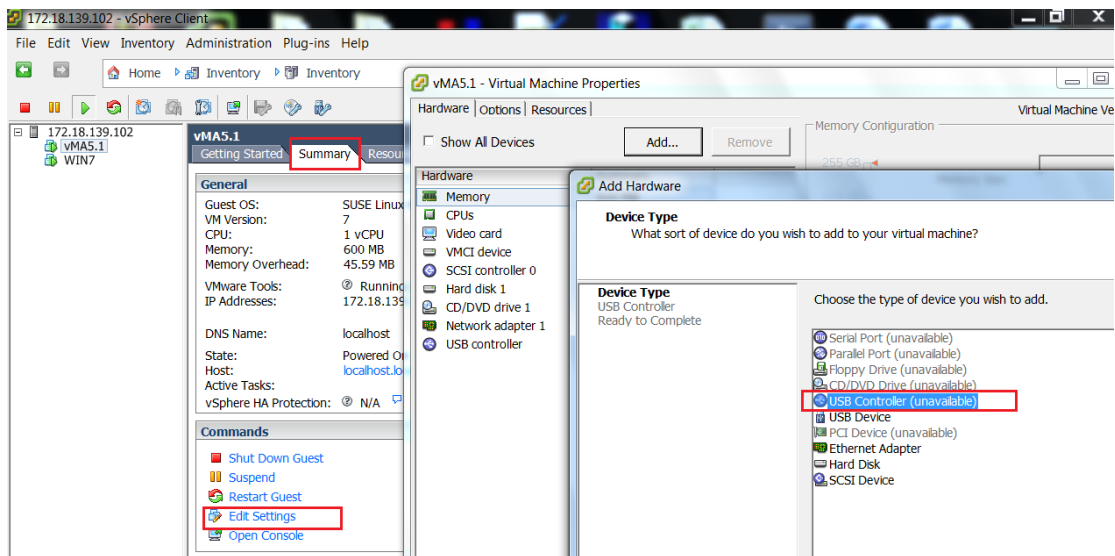
For the USB pass through is available for the vmware esxi 4.1 (The Virtual Machine Version should be 7 or later, otherwise update the VM version firstly)

For more information refer to the website:

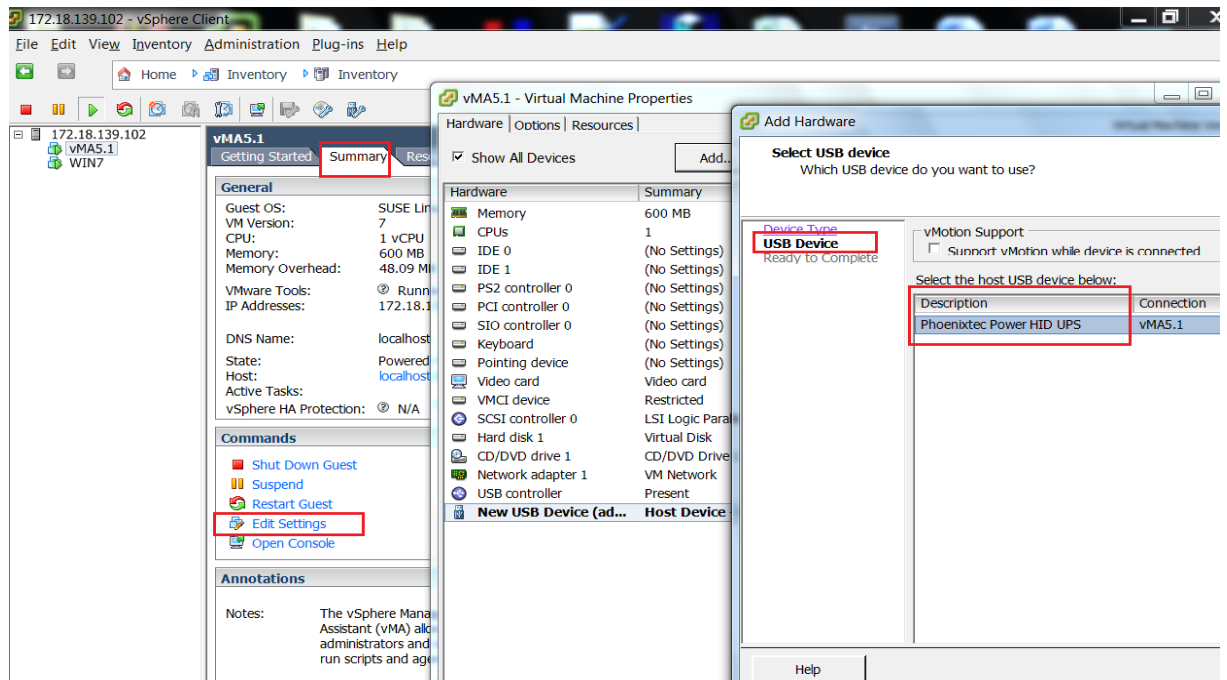
http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1010675



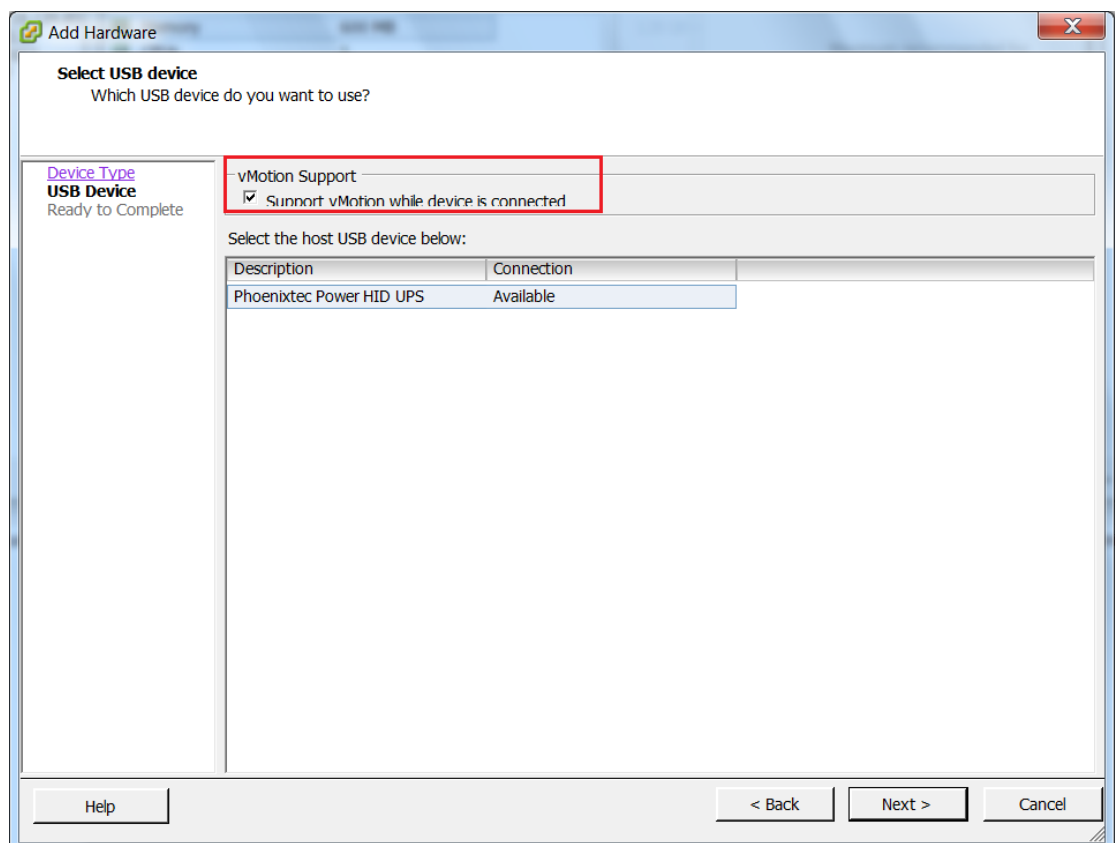
- The Virtual Machine Version should be 7 or later, otherwise update the VM version firstly:
Power off the vMA, right click it, choose the option “**Upgrade Virtual Hardware**”, update the Virtual Machine Version
- Choose vMA, Add the USB controller by the “**Summary**”->“**Edit setting**”->“**add**”->“**USB Controller**”



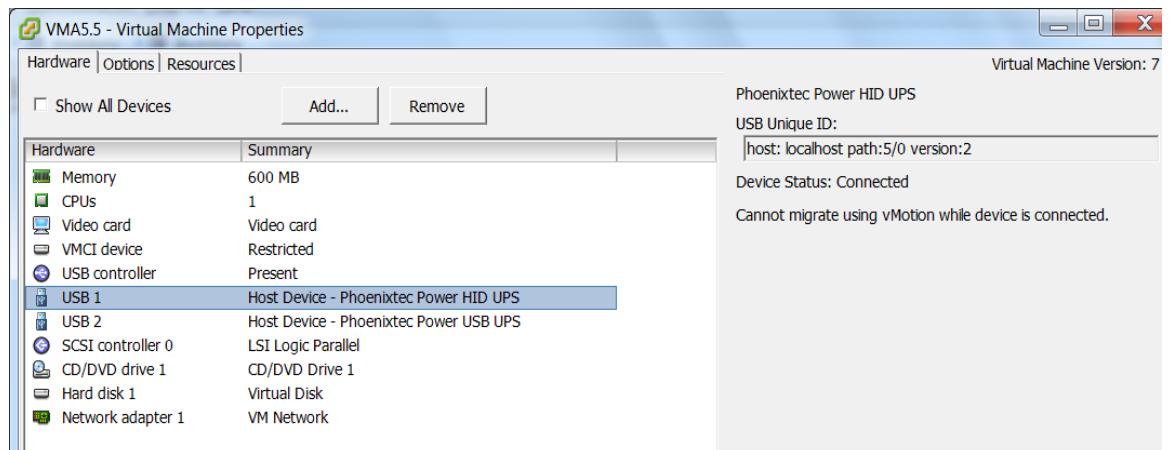
- Choose the vMA, Add the USB device by the “**Summary**”->“**Edit setting**”->“**add**”->“**USB device**”, make sure the UPS is connected.



- If the vMotion function is enable, select “Support vMotion while device is connected” checkbox

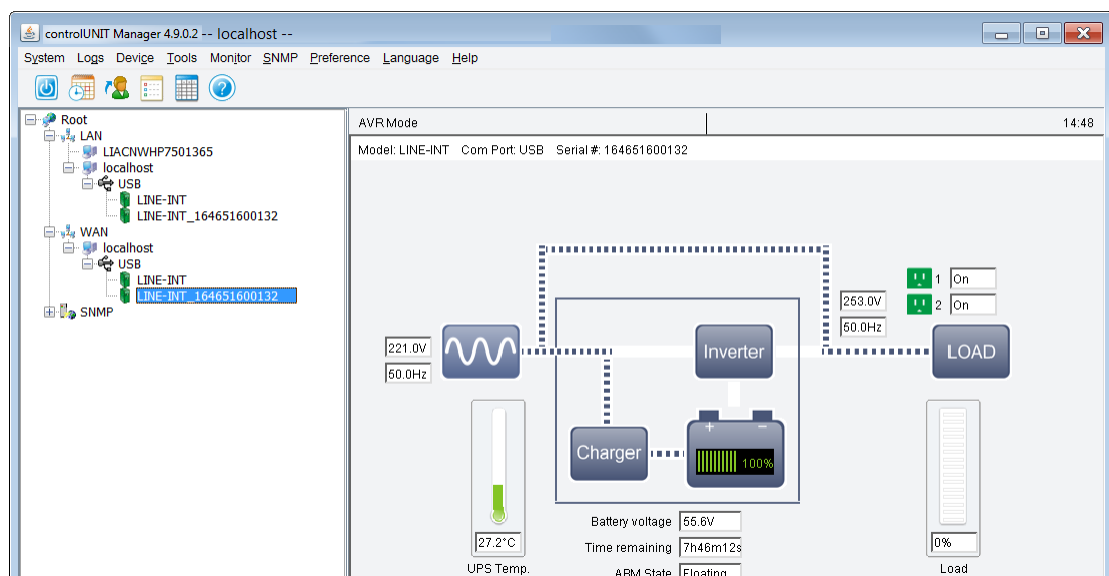


- The UPS USB can be added successfully as below image



- Restart the vMA after adding the USB controller and USB device
- Auto search the UPS via the remote controlUNIT manager on the windows

Choose the controlUNIT agent of the vMA under the LAN or WAN tree structure(The localhost is the host name of the vMA, it is the controlUNIT agent of vMA), Act as Administrator, click the **“System”->“Auto Search Device”**. The UPS can be added under the LAN or WAN after searching



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

Shutdown Settings

Shutdown Options

USB | LINE-INT_164651600132

☐ Battery Backup Time | 1 min

☒ Begin Shutdown Immediately when Battery is Low

☐ Shut down when remaining battery time is below | 2 min

☒ System | ☒ Shut down | ☐ Hibernate | ☐ Multi-UPS input

☒ Shut down UPS

System shutdown need time | 2 min

☐ Accept Remote Shutdown signal from other ... | Add | Remove

0 min shutdown system

☒ Run Command File before Shutdown | Browse..

Shutdown File Max Execution Time | 1 min

Shutdown Remote Agents

Shutdown Conditions	Agent is shutdown	
		Add
		Modify
		Remove

Shutdown Alarm Parameters

Shutdown Alarm Interval | 1 min

Scheduled Shutdown Countdown warning | 10 min

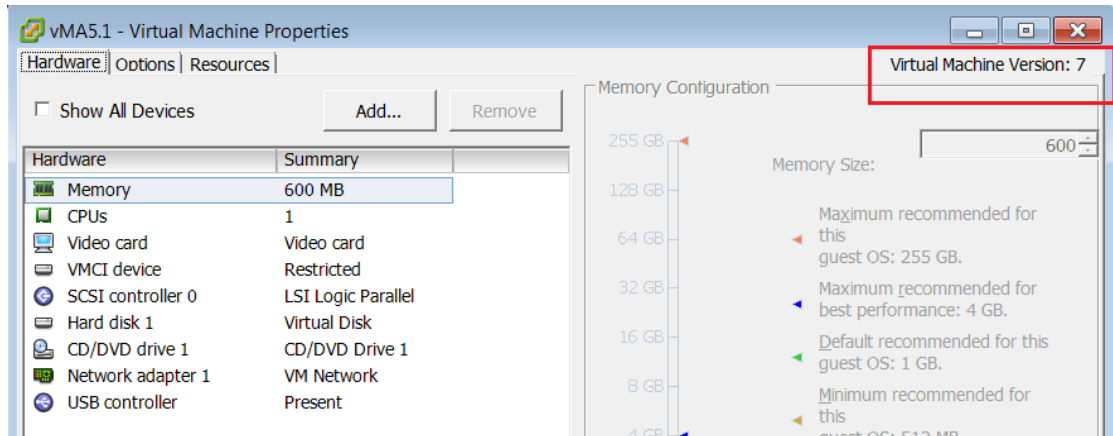
OK | Cancel

3.2.2 RS232 Communication

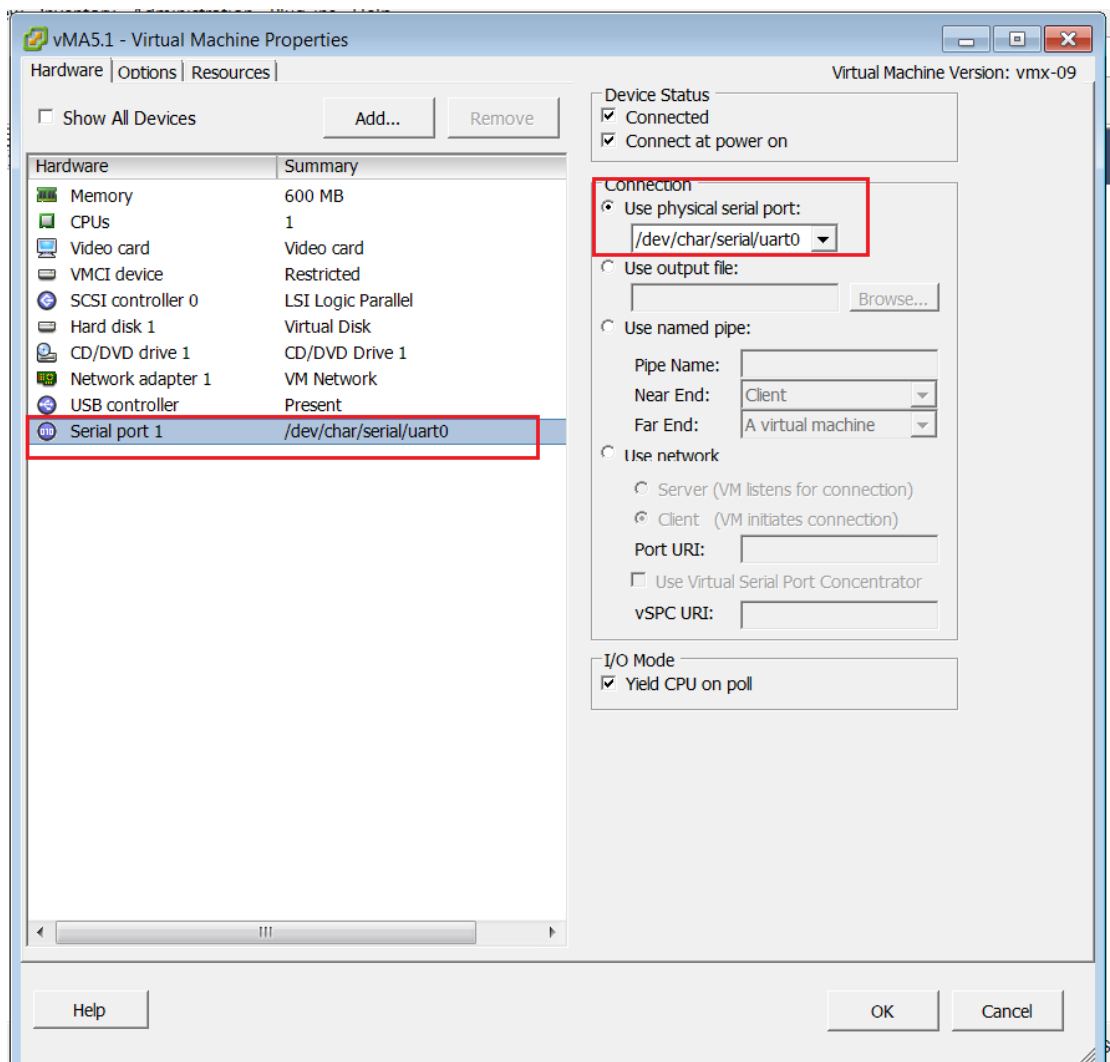
For the serial port pass through is available for the vmware esxi 4.1 (The Virtual Machine Version should be 7 or later, otherwise update the VM version firstly)

For more information refer to the website:

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

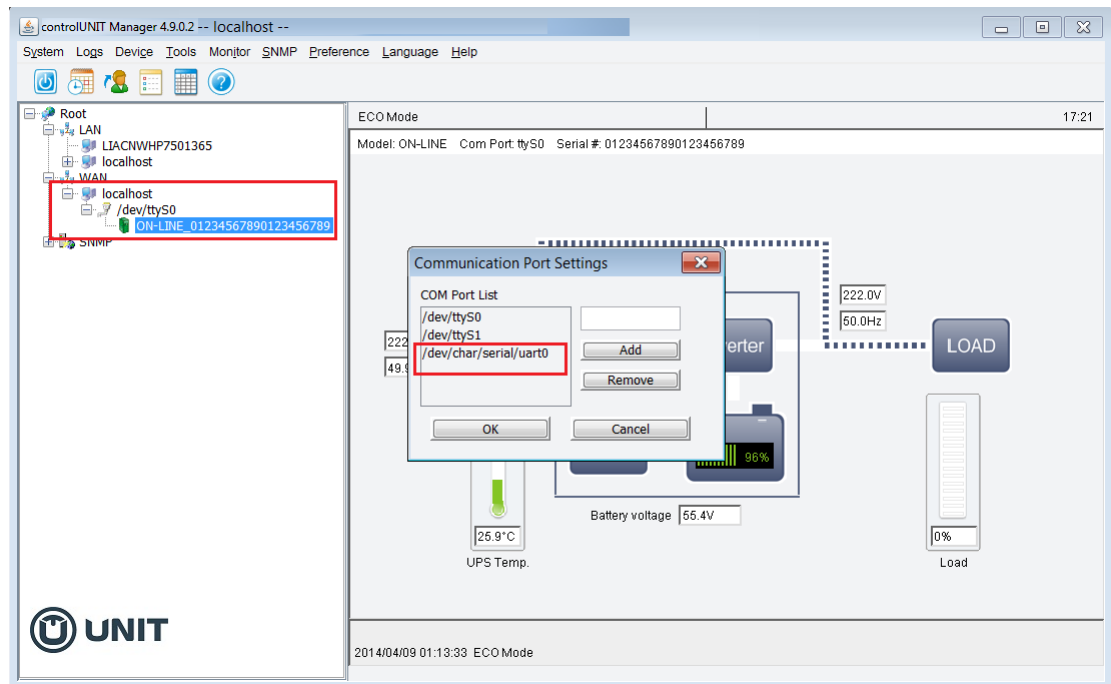


- The Virtual Machine Version should be 7 or later, otherwise update the VM version firstly:
Power off the vMA, right click it. Choose the option “Upgrade Virtual Hardware”
- Power off the vMA, right click it. Add the serial port by the “Summary”->“Edit setting”->“add”->“Serial Port”->“Use physical serial port”, the serial port name is “/dev/char/serial/uart0” as default.



- Restart the vMA after adding the serial port
- Auto search the UPS via the remote agent on the windows

Choose the controlUNIT agent of the vMA under the LAN or WAN tree structure (The localhost is the host name of the vMA, it is the controlUNIT agent of vMA), Act as Administrator, Click the “**System**”->”**Auto Search Device**”, the UPS can be added under the localhost after searching

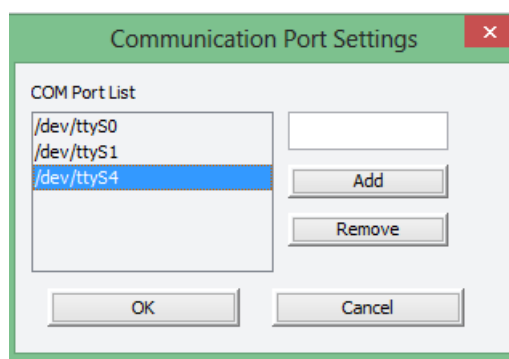


Note:

If the serial port is PCI serial port, please check the serial port name firstly

open the “**System**”->”**Com Port Setting**”, add the correct port name.

for example: The serial port name is /dev/ttyS4, add the serial port name in dialog “**Communication Port Setting**”



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

The screenshot shows the 'Shutdown Settings' window with the following configuration:

- Shutdown Options:**
 - Device: USB, ID: LINE-INT_164651600132
 - ☐ Battery Backup Time: 1 min
 - ☒ Begin Shutdown Immediately when Battery is Low
 - ☐ Shut down when remaining battery time is below: 2 min
 - ☒ System: ☒ Shut down, ☐ Hibernate, ☐ Multi-UPS input
 - ☒ Shut down UPS
 - System shutdown need time: 2 min
 - ☐ Accept Remote Shutdown signal from other ... (Add/Remove buttons)
 - min shutdown system: 0
 - ☒ Run Command File before Shutdown (highlighted with a red rectangle) (Browse.. button)
 - Shutdown File Max Execution Time: 1 min
- Shutdown Remote Agents:**

Shutdown Conditions	Agent is shutdown

(Add, Modify, Remove buttons)
- Shutdown Alarm Parameters:**
 - Shutdown Alarm Interval: 1 min
 - Scheduled Shutdown Countdown warning: 10 min

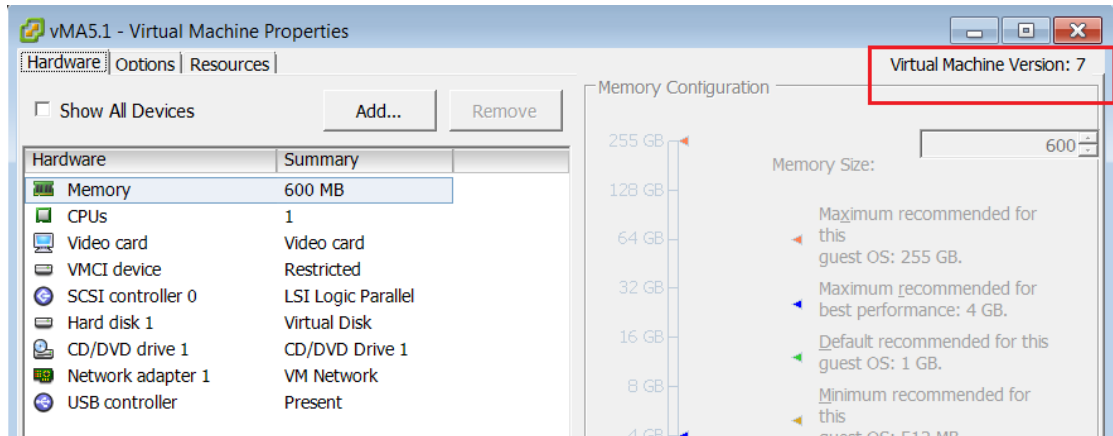
Buttons: OK, Cancel

3.2.3 USB-RS232 Communication

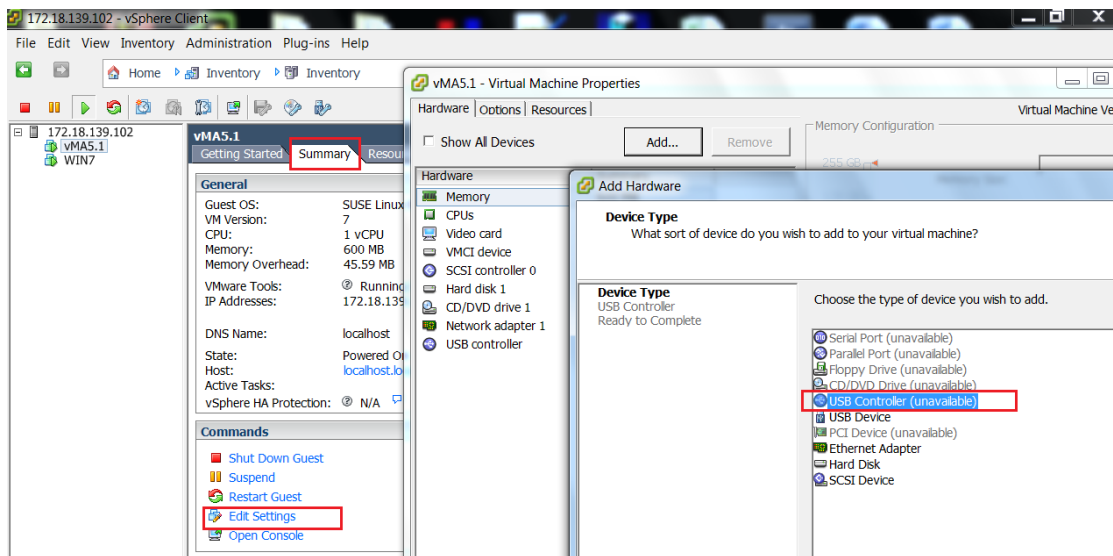
For the USB-RS232 pass through is available for the vmware esxi 4.1 (The Virtual Machine Version should be 7 or later, otherwise update the VM version firstly)

For more information refer to the website:

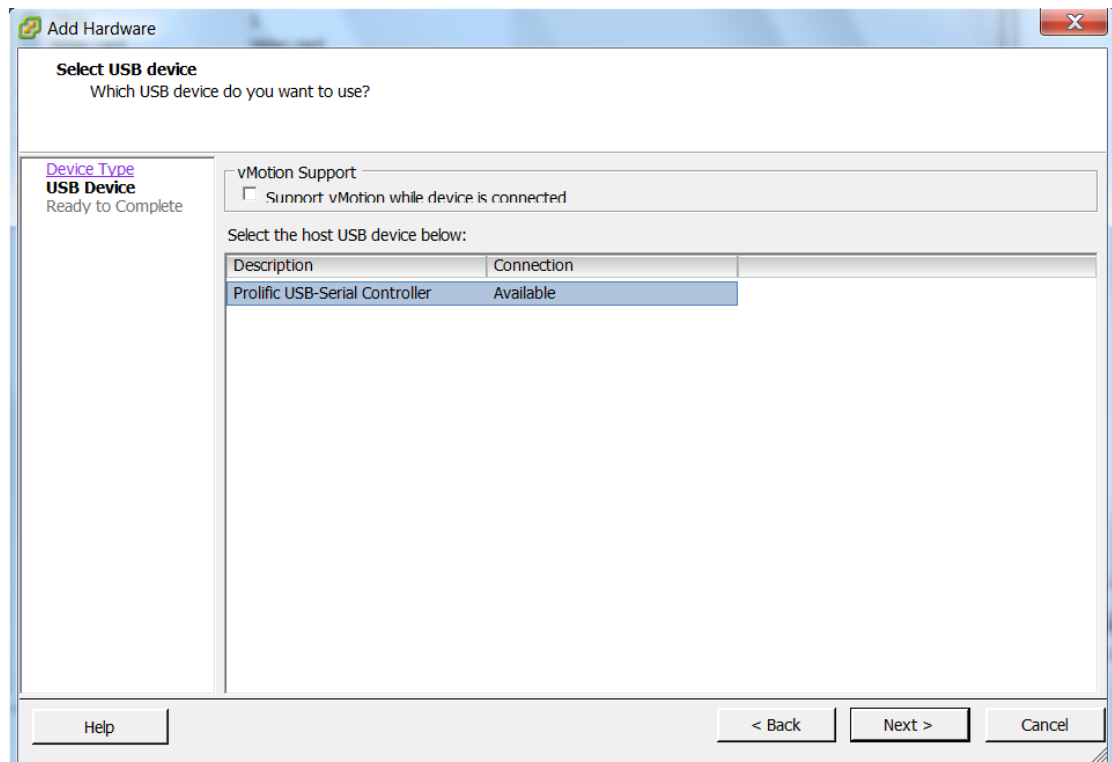
http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1010675



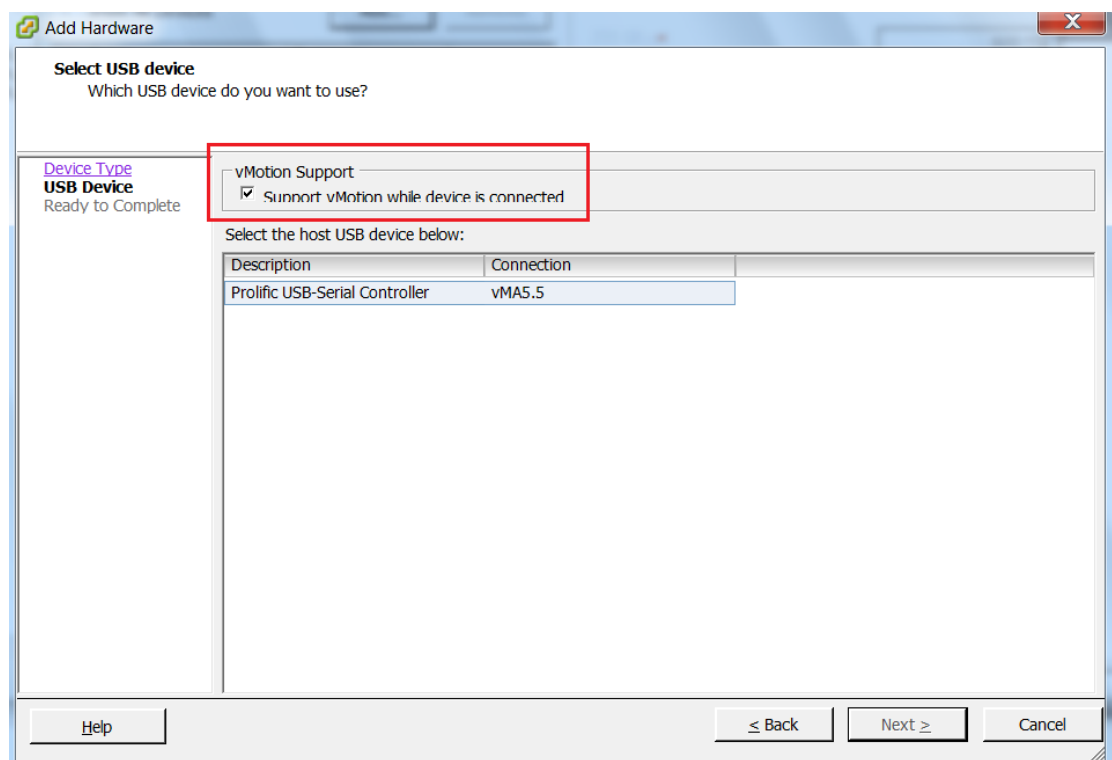
- The Virtual Machine Version should be 7 or later, otherwise update the VM version firstly:
Power off the vMA, right click it, choose the option **“Upgrade Virtual Hardware”**, update the Virtual Machine Version
- Choose vMA, Add the USB controller by the **“Summary”->“Edit setting”->“add”->“USB Controller”**



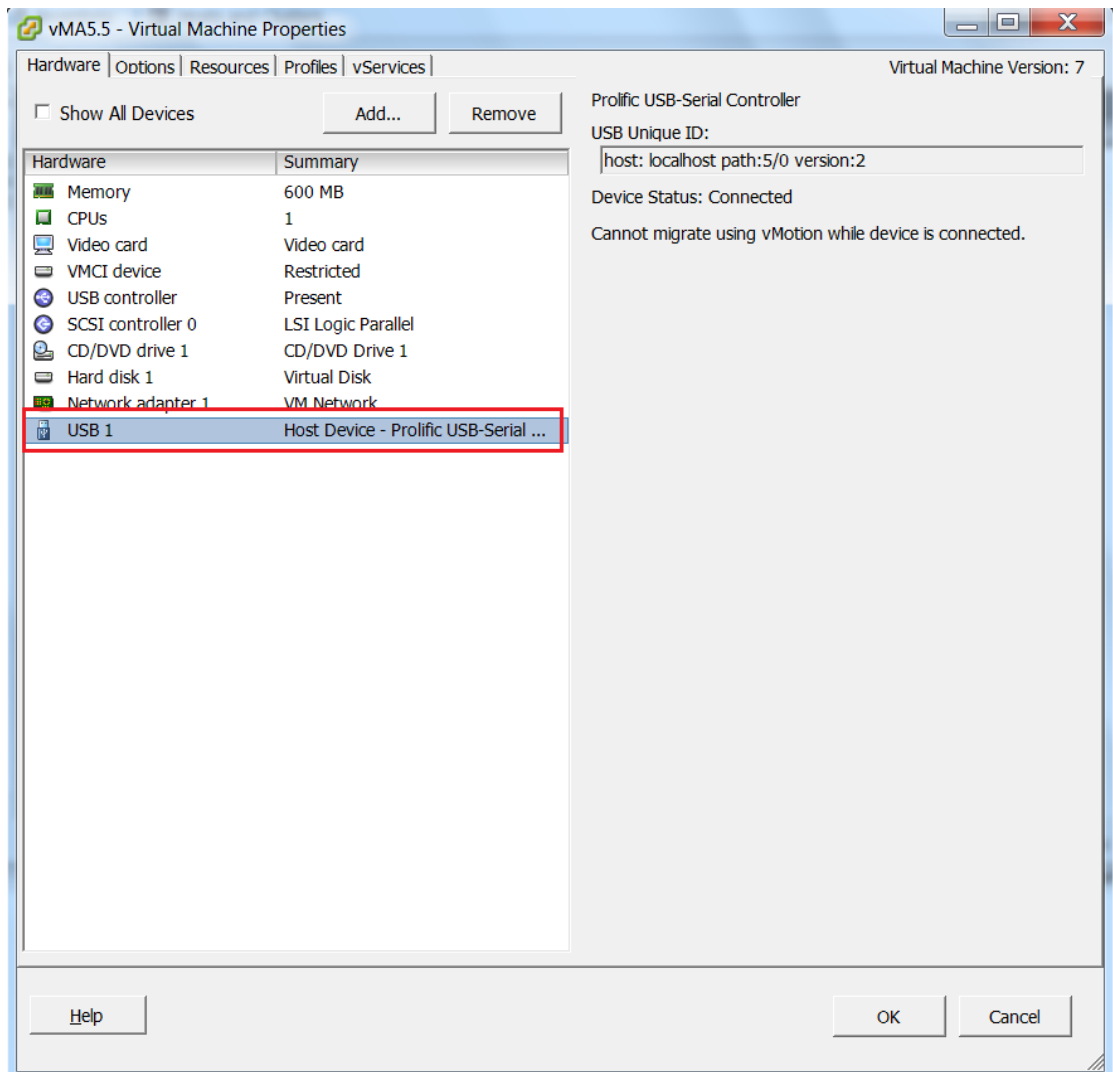
- Choose the vMA, Add the USB device by the **“Summary”->“Edit setting”->“add”->“USB device”**, Choose **“prolific USB-Serial Controller”**, make sure the UPS is connected.



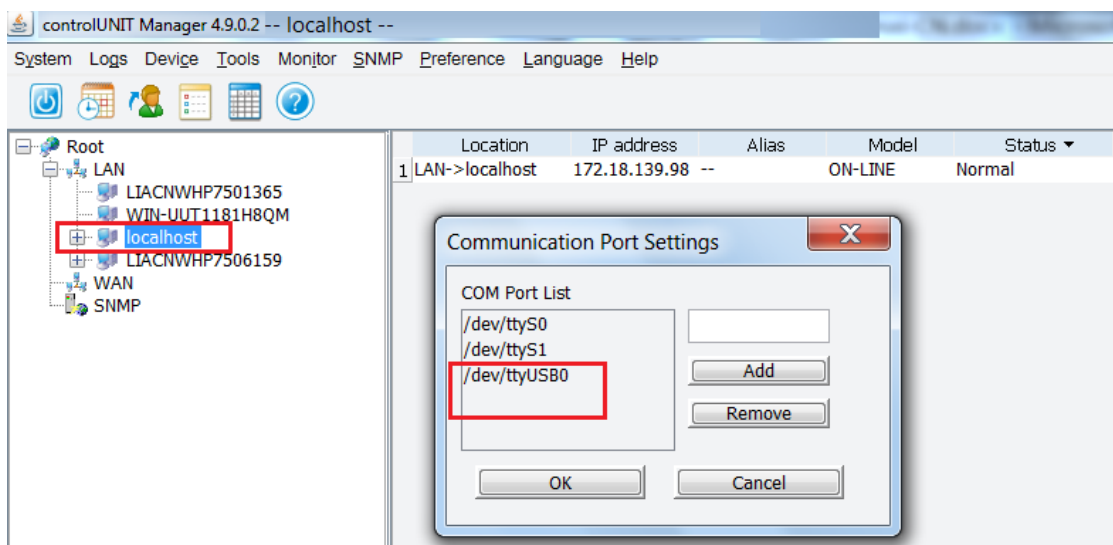
- If the vMotion function is enable, select “Support vMotion while device is connected” checkbox



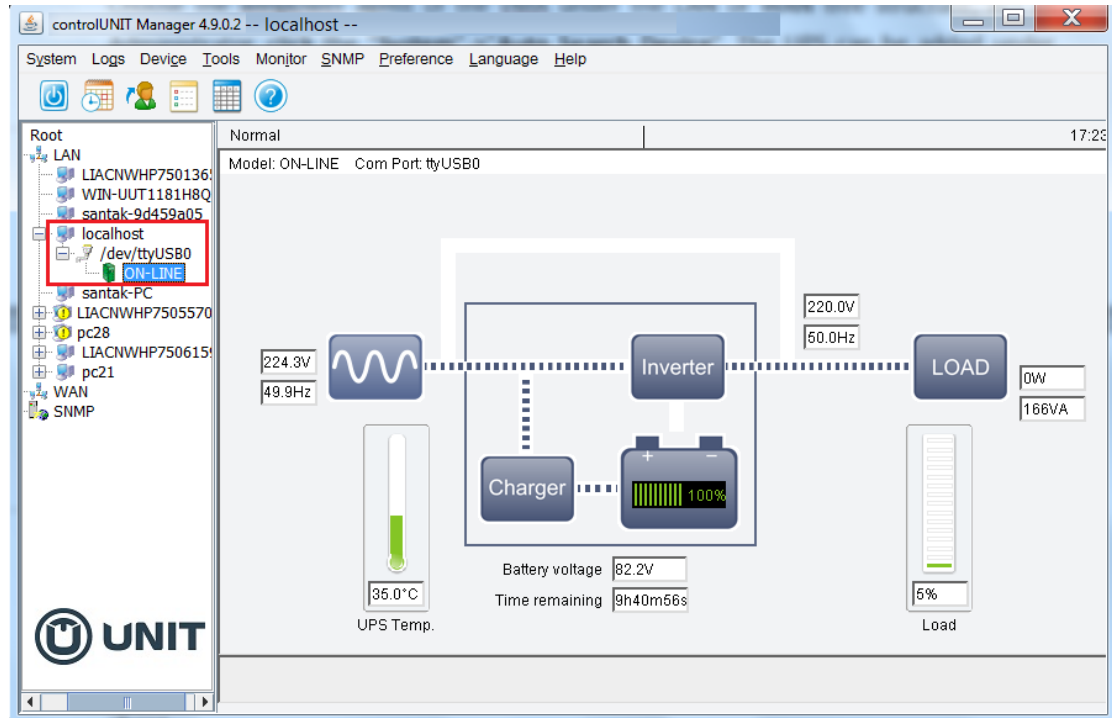
- The UPS can be added successfully as below image



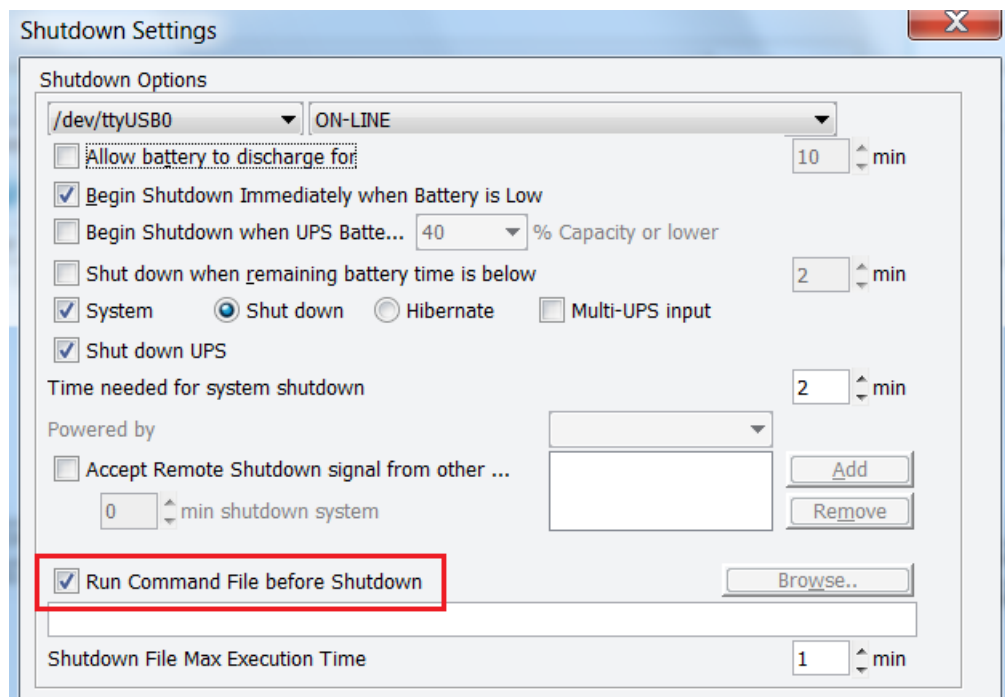
- Restart the vMA after adding the USB controller and USB device
 - Add USB-RS232 serial port name via the remote controlUNIT agent on the windows
- Choose the controlUNIT agent of the vMA under the LAN or WAN tree structure(the localhost is the agent of vMA), Act as Administrator ,open the “**System**”->“**Com Port Setting**”, add the USB-RS232 serial port name. The serial port name is “**/dev/ttyUSB0**”



- Auto search the UPS via the remote controlUNIT manager on the windows
Choose the controlUNIT agent of the vMA under the LAN or WAN tree structure(The localhost is the host name of the vMA, it is the controlUNIT agent of vMA), Act as Administrator, click the “**System**”->”**Auto Search Device**”. The UPS can be added under the LAN or WAN after searching



- Choose the controlUNIT agent of the vMA, Act as Administrator ,open the “Shutdown Parameter” dialog , 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:

controlUNIT 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

Recent Tasks						
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