

Using a USB 3.0 Dual Gigabit Ethernet Bypass Adapter with VMware vSphere for VXOA

This document describes how to use a USB 3.0 Dual Gigabit Ethernet Bypass Adapter to add bypass functionality to an existing Silver Peak virtual appliance running the VMware vSphere hypervisor on a Compact PC.

USB 3.0 Dual Gigabit Ethernet Bypass Adapter (front view)

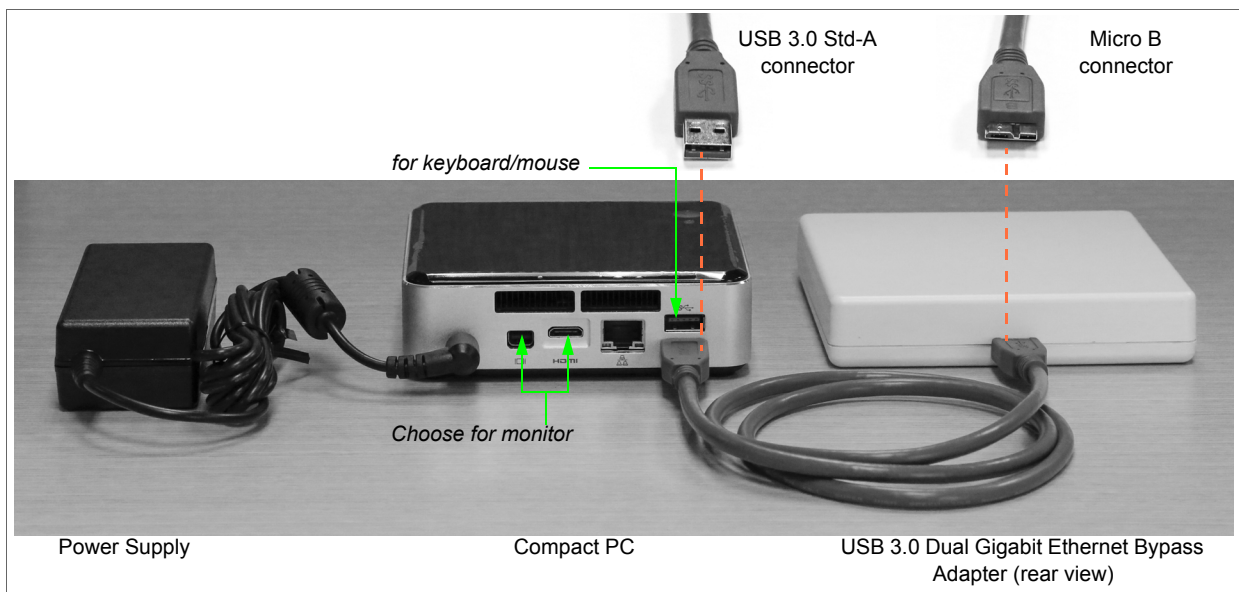


Prerequisites

- The Compact PC has been appropriately prepared with VMware vSphere for VXOA ISO. Click [here](#) for instructions.
- The VXOA OVF template has been deployed on the Compact PC with the VMware vSphere / vSphere Hypervisor.
 - If you're using a 4th generation NUC, click [here](#) for the Quick Start Guide.
 - If you're using a 3rd generation NUC, click [here](#) for the Quick Start Guide.

Cabling Instructions

Begin by cabling the adapter to the VXOA host:

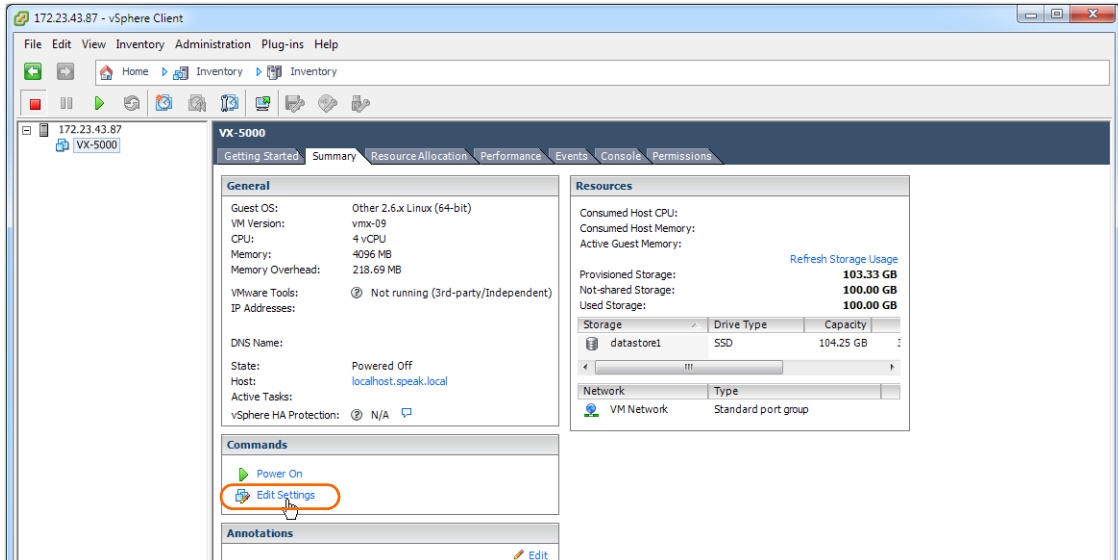


- 1 Connect the USB 3.0 Type A M/Micro B cable to the Micro B port on the USB 3.0 Dual Gigabit Adapter.
- 2 Connect the USB 3.0 Type A M/Micro B cable to an available USB port on the Compact PC.

Configuring the Adapter

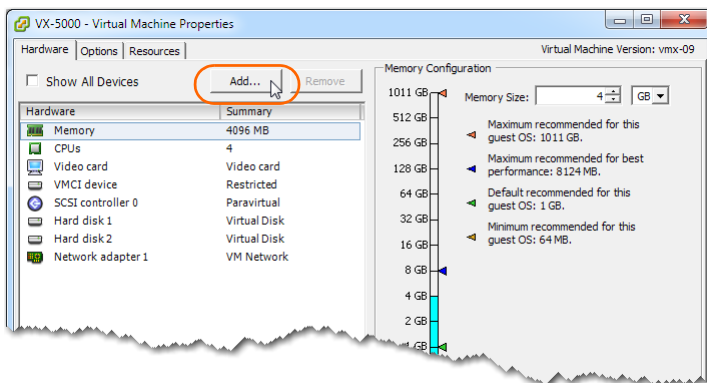
I Log into the vSphere client

- a Select the Silver Peak virtual appliance.
- b Click the **Summary** tab.



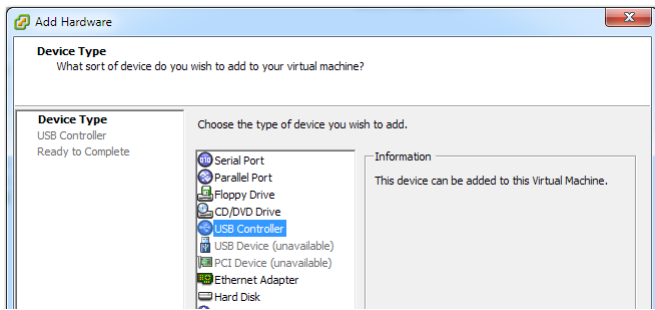
2 Add a USB Controller

- a Click **Edit Settings**. The **Virtual Machine Properties** dialog appears.



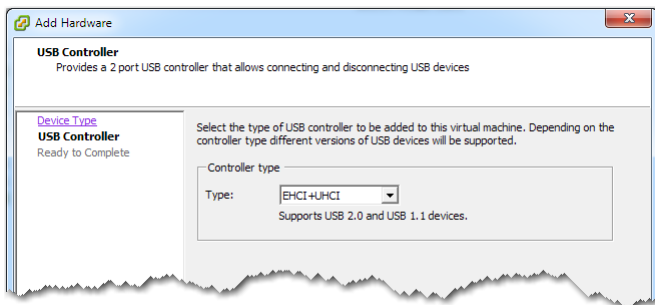
- b Click **Add**. The **Device Type** dialog appears.

- c Select **USB Controller** and click **Next**.



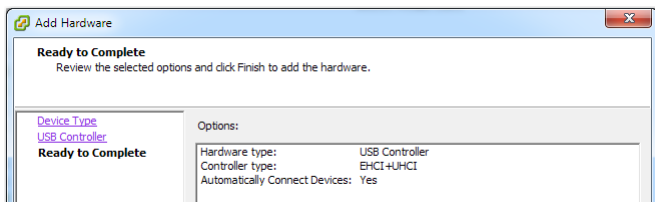
The USB Controller dialog appears.

- d From the **Controller type** list, select **EHCI+UHCI**.

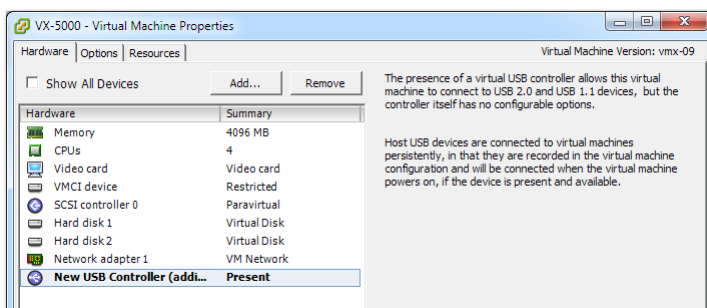


NOTE: Don't use the "XHCI" Controller type.

- e Click **Next**. The **Ready to Complete** screen appears.

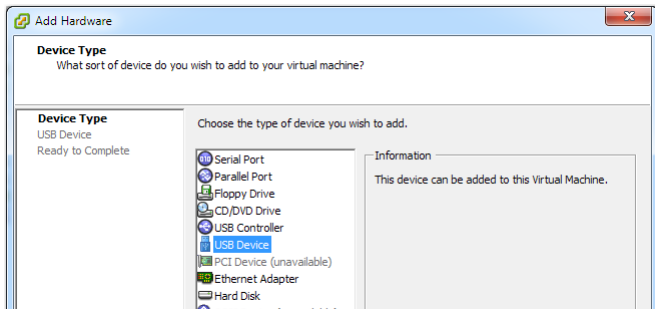


- f Review the settings and click **Finish**.
The **Virtual Machine Properties** dialog appears, with the new USB controller added.



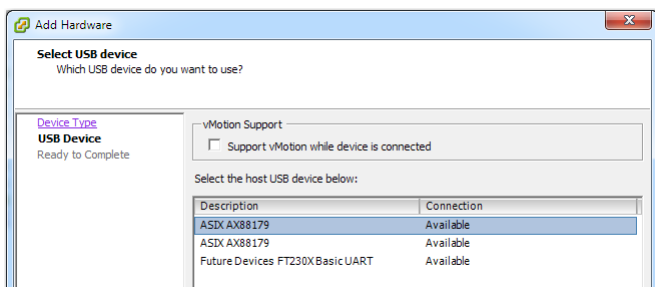
3 Add a USB device

- a In the **Virtual Machine Properties** dialog, click **Add**.
The Device Type dialog appears.
- b Select **USB Device** and click **Next**.

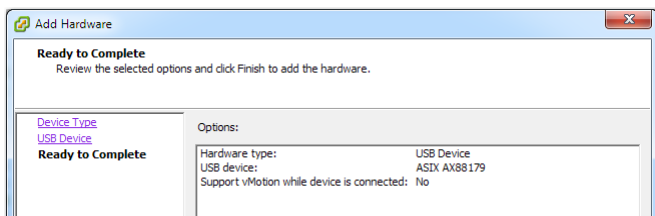


The **Select USB device** dialog appears.

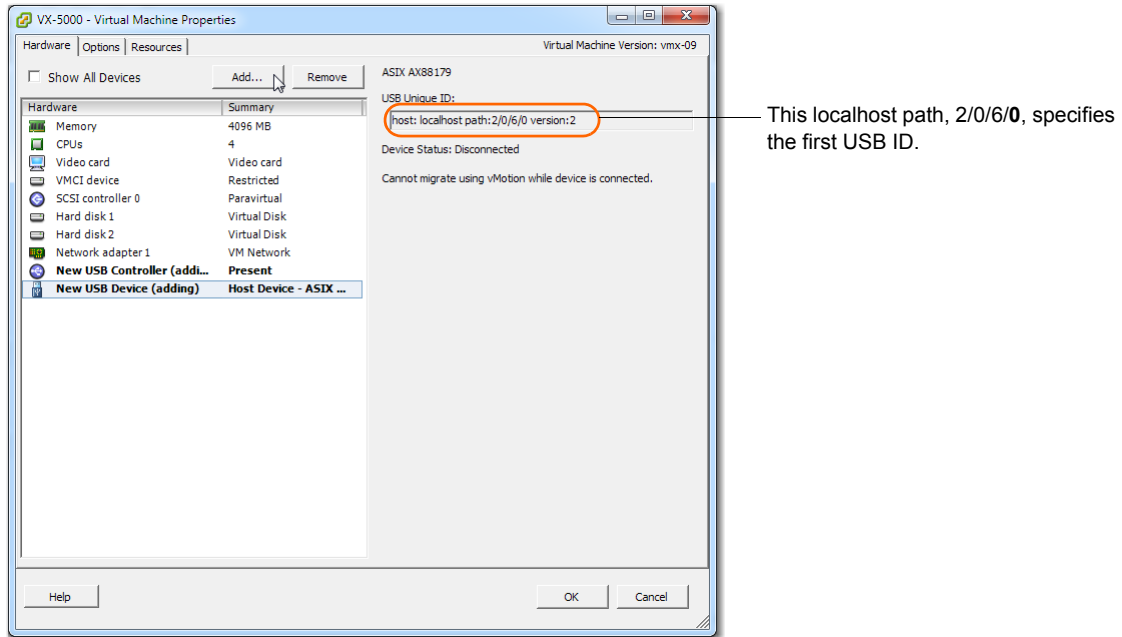
- c Select **ASIX AX88179**.



- d Click **Next**. The **Ready to Complete** screen appears.

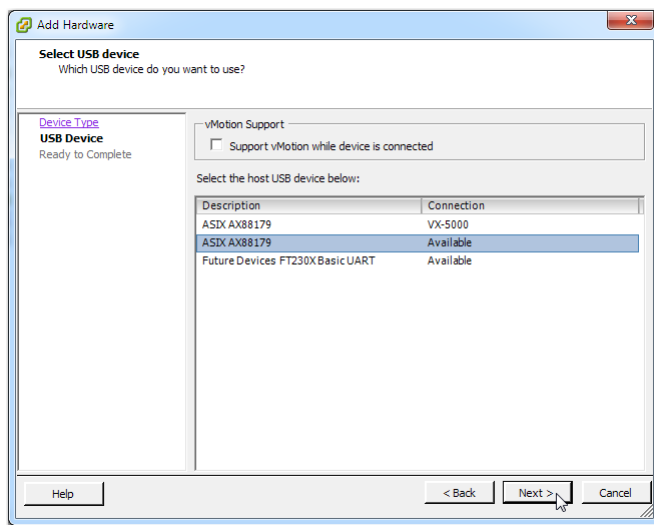


- e Review the settings and click **Finish**.
The **Virtual Machine Properties** dialog appears, with the new USB device added.



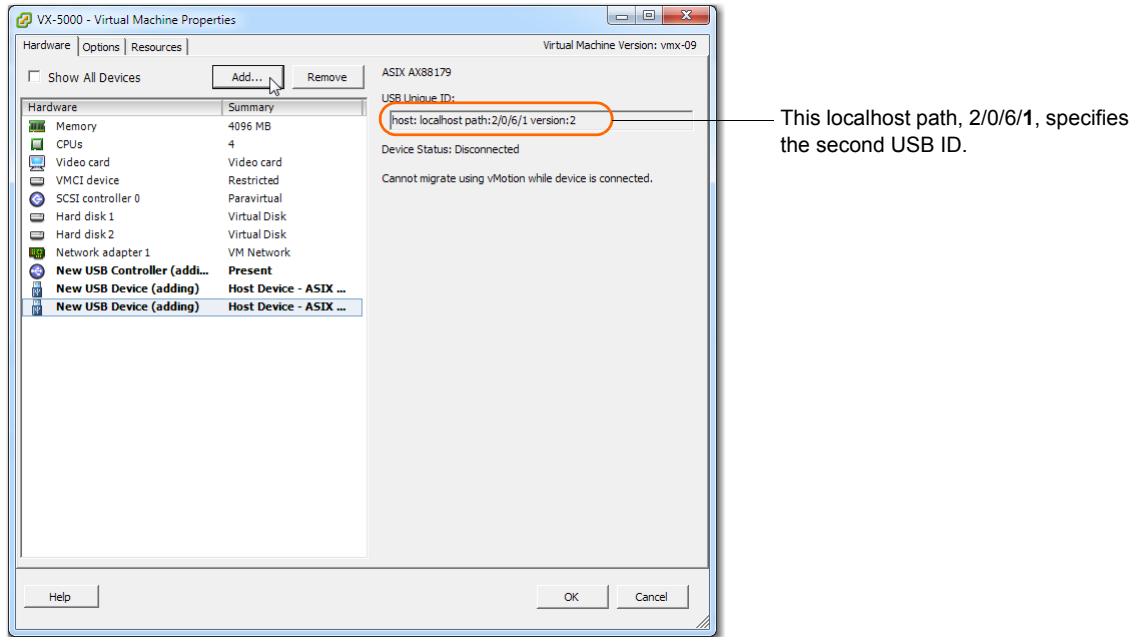
4 Add a second USB device

- a In the **Virtual Machine Properties** dialog, click **Add**.
The **Device Type** dialog appears.
- b Select **USB Device** and click **Next**.
The **Select USB device** dialog appears.
- c Select the available **ASIX AX88179**.

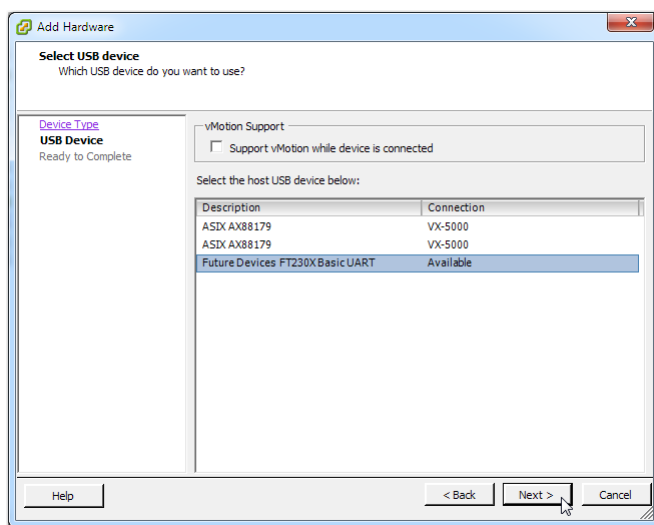


- d Click **Next**. The **Ready to Complete** screen appears.

- e Review the settings and click **Finish**.
The **Virtual Machine Properties** dialog appears, now with the second USB device added.

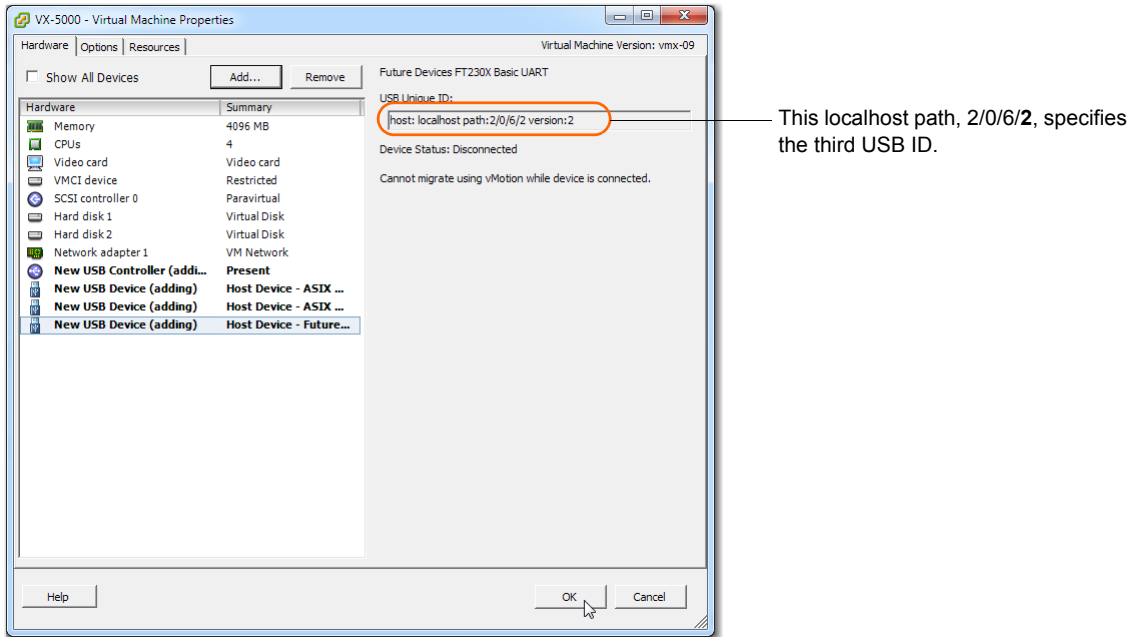


- 5 **Add a third USB device.** This will support the bypass feature.
- In the **Virtual Machine Properties** dialog, click **Add**.
The **Device Type** dialog appears.
 - Select **USB Device** and click **Next**.
The **Select USB device** dialog appears.
 - Select the available **Future Devices FT230XBasicUART**.

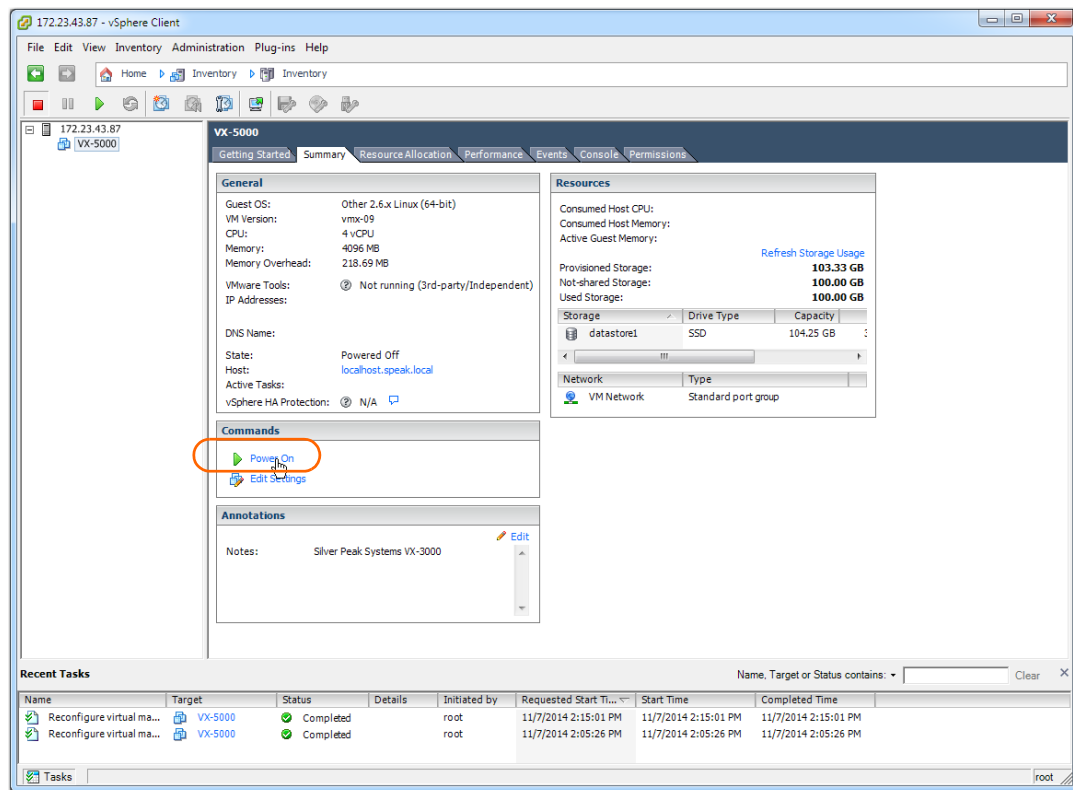


- d Click **Next**. The **Ready to Complete** screen appears.

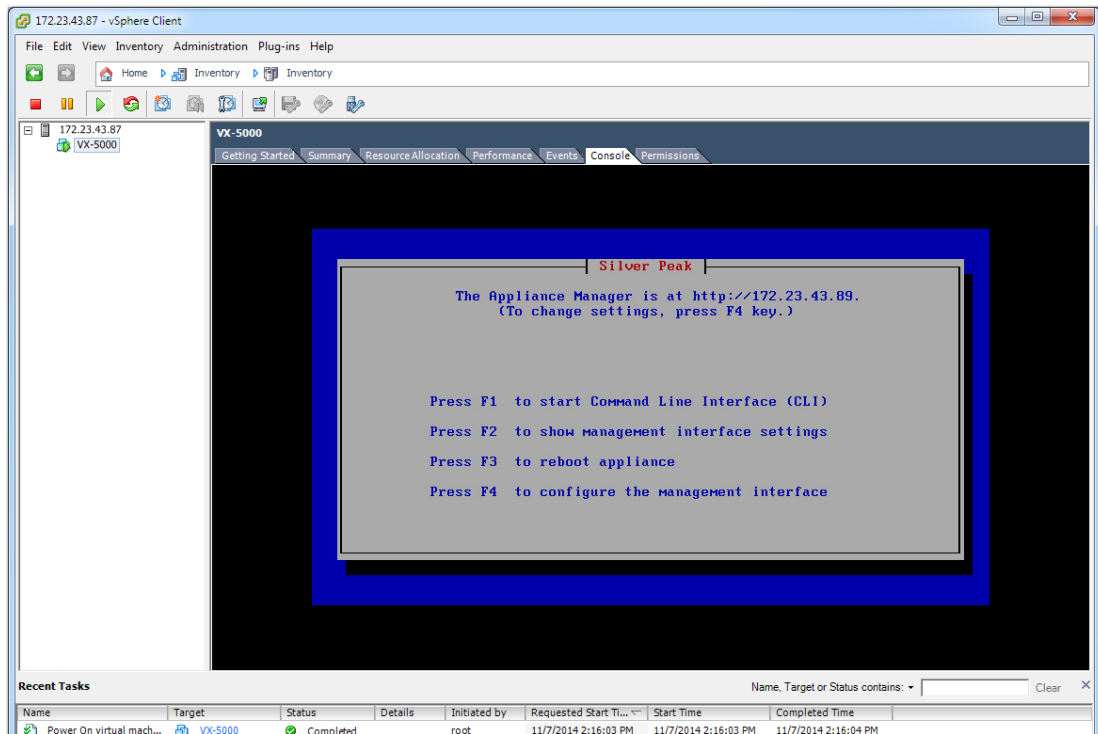
- e Review the settings and click **Finish**.
The **Virtual Machine Properties** dialog appears, now with the third USB device added.



- f Click **OK**. The dialog closes, and you are returned to the tabbed vSphere client page.
Click **Power On**.



- g Click the **Console** tab. The Silver Peak Console User Interface appears.



- h To finish applying the bypass feature, press function key, **F1**, and enter the following command sequence:

```
[vx-appliance] > enable [ENTER]
[vx-appliance] > config -t [ENTER]
[vx-appliance] # interface mgmt0 mac address <Press Tab twice, and three MAC addresses appear. Record the address that does not begin with 00:E0:ED.> [ENTER]
[vx-appliance] # system bypass type bpubs mac address <Press Tab twice, and three MAC addresses appear. Record the lowest one that begins with 00:E0:ED.> [ENTER]
[vx-appliance] # write memory [ENTER]
[vx-appliance] # reboot [ENTER]
```

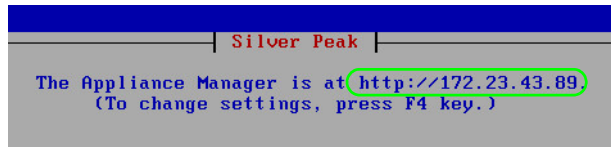
- i To verify connectivity, press function key, **F1**, and enter the following command sequence:

```
[vx-appliance] > enable [ENTER]
[vx-appliance] # show ip default-gateway [ENTER]
[vx-appliance] # ping <default-gateway> [ENTER]
```

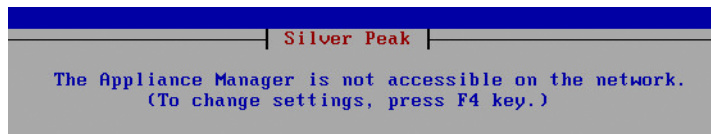
To stop the pinging, enter **CTRL-C**.

j The next task is to determine the virtual appliance's IP address:

- **If you're using DHCP**, the virtual appliance IP address displays in Silver Peak's Console User Interface.



- **If you're not using DHCP**, then you must configure the static IP address and default gateway.



In the virtual appliance console, press function key, **F4**, and complete the remaining steps.

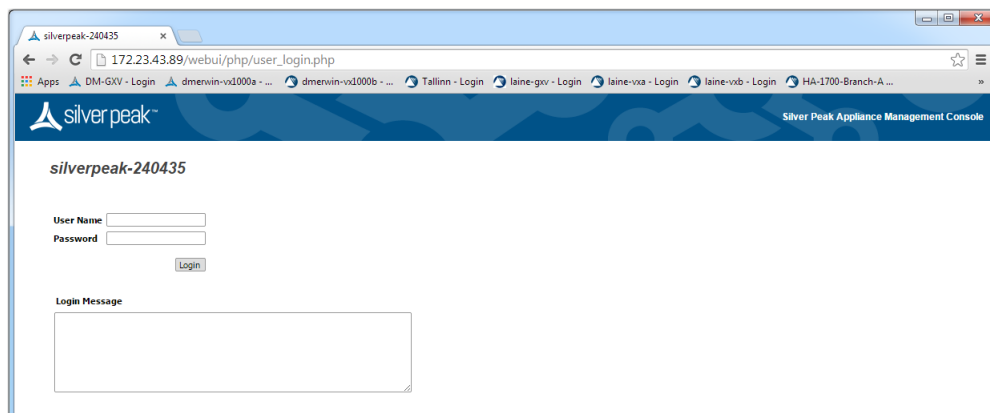
When prompted to choose the type of management interface, select **Static** (as opposed to **DHCP**).

After selecting **Apply**, you can review the settings by selecting function key, **F2**.

You are now ready to complete the Silver Peak virtual appliance initial configuration wizard.

6 Run the Appliance Manager initial configuration wizard

- a In a browser, enter the IP address that you just discovered or configured. The Silver Peak Appliance Management Console login page appears.



- b For both the **User Name** and **Password**, enter **admin**. The initial configuration wizard appears.
- c Complete the remaining wizard screens.
- When you reach the screen which calls for assigning MAC addresses, you'll need to select the MAC addresses from the drop-down lists.
 - If you've selected router (out-of-path) mode, you'll only select the MAC address for **wan0**. If you've selected bridge (in-path) mode, you'll also select the MAC address for **lan0**.

- For **wan0**, select the numerically smaller MAC address.

Configuration Wizard

1 Management Settings 2 Network Settings 3 Summary

Configure Appliance Interface Assignment

MAC Address Assignment

Interface Name	Assign to MAC Address
mgmt0	00:0C:29:43:87:34
wan0	00:E0:ED:2A:92:A2
lan0	00:E0:ED:2A:92:A3
Show All	Unassigned

Quick Start Guide User Manual <Back Next> Skip Wizard

- For **lan0**, select the numerically greater MAC address.

Configuration Wizard

1 Management Settings 2 Network Settings 3 Summary

Configure Appliance Interface Assignment

MAC Address Assignment

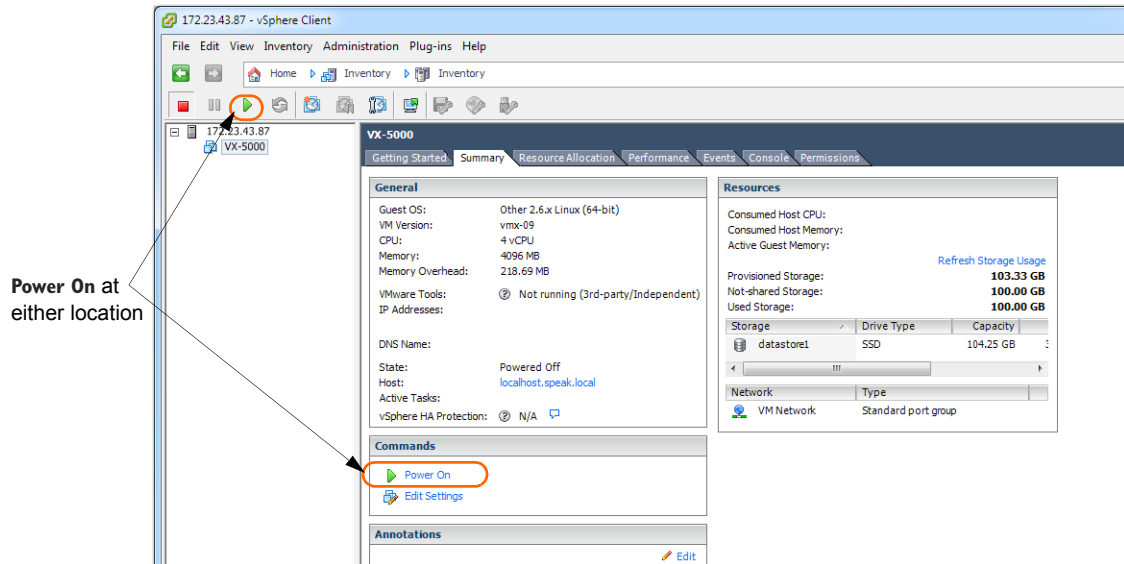
Interface Name	Assign to MAC Address
mgmt0	00:0C:29:43:87:34
wan0	00:E0:ED:2A:92:A2
lan0	00:E0:ED:2A:92:A3
Show All	Unassigned

Quick Start Guide User Manual <Back Next> Skip Wizard

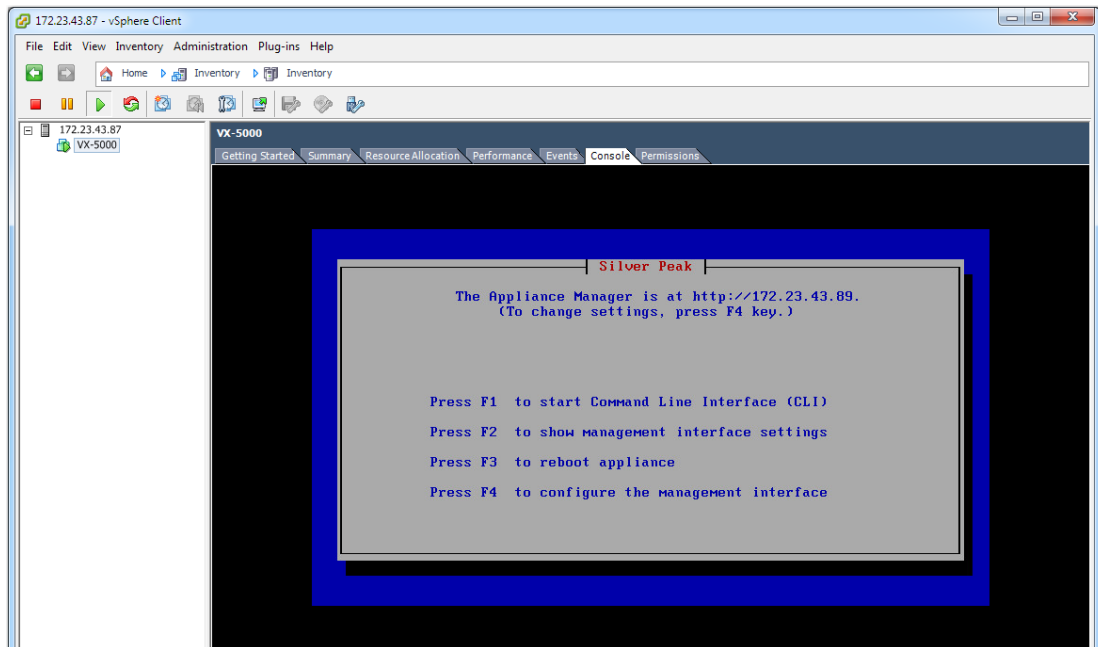
- On the last wizard screen, click **Apply**. When the virtual appliance asks permission to reboot, allow it. The Appliance Manager takes a few minutes to reboot and return to the login page.

7 Verify that the bypass feature is enabled

- a Log into the vSphere client
- b Select the Silver Peak virtual appliance, and click **Power On**.



- c Click the **Console** tab. The Silver Peak Console User Interface appears.



- d To verify that the bypass feature is enabled, press function key, **F1**, and enter the following command sequence:

```

[vx-appliance] > enable [ENTER]
[vx-appliance] > config -t [ENTER]
[vx-appliance] # show system [ENTER]

```

When the results display, verify the values highlighted here in **red**:

```
[vx-appliance] # show system
Appliance System Settings:
  Running mode:      * BYPASS *
  System Name:      [vx-appliance]
  System Contact:
  System Location:
  Manual Bypass:    Enabled
  .
  .
  .
```

- e To specifically validate the **wan0** interface, enter the command sequence:

```
[vx-appliance] # show interfaces wan0 [ENTER]
```

When the results display, verify the values highlighted here in **red**:

```
[vx-appliance] # show interfaces wan0
Interface wan0 state
  Admin up:      yes
  Link up:      yes
  IP address:
  Netmask:
  Speed:        1000Mb/s (auto)
  Duplex:      full (auto)
  Interface type: ethernet
  MTU:        1500
  .
  .
  .
```

- f To specifically validate the **lan0** interface, enter the command sequence:

```
[vx-appliance] # show interfaces lan0 [ENTER]
```

When the results display, verify the values highlighted here in **red**:

```
[vx-appliance] # show interfaces lan0
Interface wan0 state
  Admin up:      yes
  Link up:      yes
  IP address:
  Netmask:
  Speed:        1000Mb/s (auto)
  Duplex:      full (auto)
  Interface type: ethernet
  MTU:        1500
  .
  .
  .
```

- 8 If your results in **Steps 7d, 7e, or 7f** disagree, contact Silver Peak Support for assistance. Otherwise, you are now ready to start using the appliance.