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.

**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. **VXOA must be Release 6.2.7 or later, except 7.0.**
  - 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 any available USB port on the Compact PC.
Configuring the Adapter

1. 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**.

To edit the settings, the virtual machine must be **Powered Off**.
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 EHBI+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.

c Select ASIX AX88179.
d Click Next. The Ready to Complete screen appears.

![Ready to Complete screen](image)

The Virtual Machine Properties dialog appears, with the new USB device added. 

![Virtual Machine Properties dialog](image)

This localhost path, 2/0/6/0, specifies the first USB ID.

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.

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 **Future Devices FT230XBasicUART**.

![Select USB device](image)

![Add Hardware](image)

- Click **Next**. The **Ready to Complete** screen appears.
- Review the settings and click **Finish**.
  The **Virtual Machine Properties** dialog appears, now with the third USB device added.

![Virtual Machine Properties](image)

- This localhost path, **2/0/6/2**, specifies the third USB ID.
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.
To finish applying the bypass feature, press function key, F1, and enter the following command sequence. You’ll need to use the MAC addresses later, in the Silver Peak Initial Config Wizard, so write them down:

```bash
[vx-appliance] > enable
[vx-appliance] > config -t
[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.>
[vx-appliance] # system bypass type bpusb mac address <Press Tab twice, and three MAC addresses appear. Record the lowest one that begins with 00:E0:ED.>
[vx-appliance] # write memory
[vx-appliance] # reboot
```

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

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

To stop the pinging, enter CTRL-C.

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.

  ![DHCP](http://172.23.43.89)

  (To change settings, press F4 key.)

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

  ![Static Configuration](http://172.23.43.89)

  (To change settings, press F4 key.)

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.

   ![Login Page](image1)

   b For both the **User Name** and **Password**, enter `admin`. The home page appears.

   c To access the initial configuration wizard, go to the menu bar and select **Configuration > Initial Config Wizard**.

   d Complete the remaining wizard screens.

   - When you reach the screen that 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.
• For **lan0**, select the numerically greater MAC address.

e  Continue through the screens.

f  When you reach 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**.

   ![Power On at either location](image)

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

   ![Console tab](image)

   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 to ensure that the bypass feature is enabled:

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

(If, instead, Running mode is * NORMAL *, then Bypass is disabled.)

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

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

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

```
[vx-appliance]# show interfaces lan0
Interface lan0 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 agree with Steps 7d, 7e, or 7f, then you’ve verified failover. If they don’t agree, then contact Silver Peak Support for assistance. Otherwise, you are now ready to start using the appliance.