



How to install Emulex Fibre Channel drivers for VMware ESXi 4.1 using vCLI

The application note will show a step-by-step process to install Emulex Fibre Channel drivers using vCLI with VMware ESXi 4.1. What is vCLI? vCLI refers to VMware Command Line Interface remote tool to communicate to VMware ESXi 4.1 and 4.1 U1 hosts.

There are a couple of ways to install Emulex drivers on ESXi 4.1 hosts. There's the vSphere Command-line Interface (vCLI) and there's the vSphere Management Appliance (vMA). Actually, the vMA should not be much different. There's also another option called Tech Support Mode (TSM), but we will stay away from that due to security reasons. We hope this Application Note addresses the question.

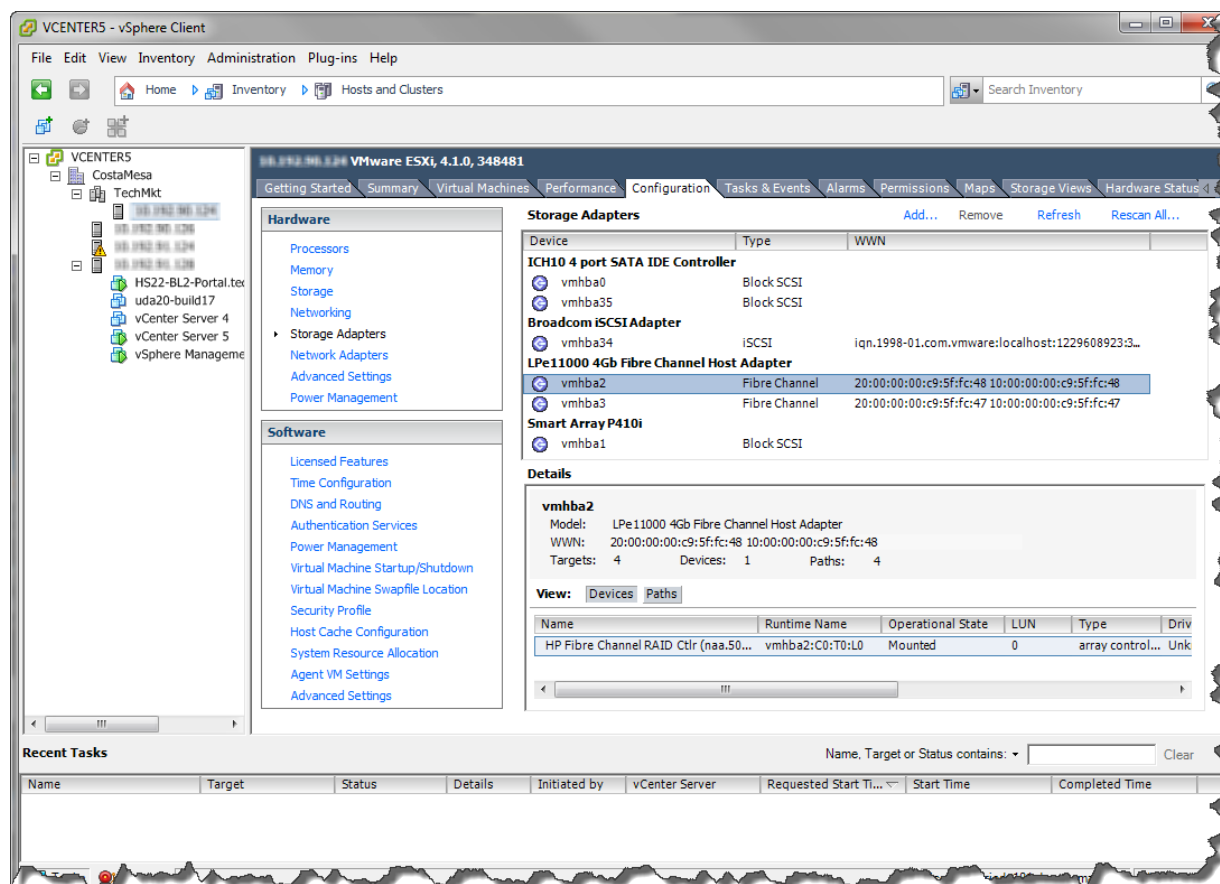
To begin, you will need the vCLI utility from VMware. In this test case, we downloaded the version for ESXi 4.1. If you are using the vMA, you will need to download the appliance and follow the instructions to add the appliance to an ESX/ESXi host.

Why do we need to do all this? It's because during the installation of ESXi (or any of the OEM bundle versions of ESXi that came from your reseller), the latest drivers were not installed or no driver at all was installed. VMware has names for these drivers which are included with the OS, and then there are those that did not make the cut. The drivers which come with the OS VMware are called inbox drivers. The drivers that are not part of the OS and need to be manually installed are called async drivers. The only inbox drivers we have inbox are the "lpfc820" Fibre Channel HBA drivers supporting up to 8Gb.

The environment we used consisted of the following configuration:

Server	HP ProLiant DL380 G6
Emulex adapters	Emulex LPe11000 4Gb/s Fibre Channel HBA
OS	VMware ESXi 4.1 installable with HP CIM providers (Downloaded from HP's website) Build 348481
Inbox driver	ESXi 4.1 U1 lpfc version 8.2.1.30.1-58vmw
VMware downloaded driver	(for LPe11000) 8.2.1.90.28

Here's a quick view of vCenter Server showing our HP server with ESXi 4.1 and the LPe11000 Fibre Channel HBA.



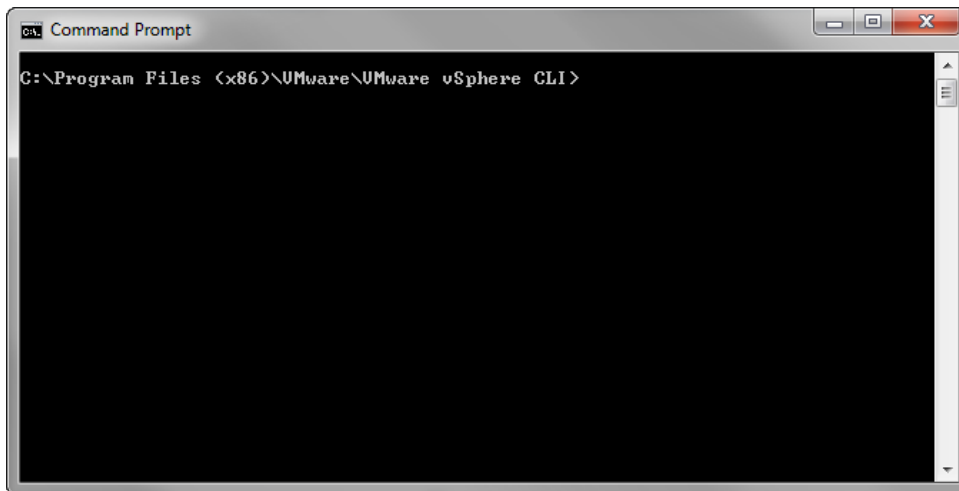
For each command in the vCLI process, I've specified the target server connection directly.

Use the following setup procedure which is based on running the vCLI from a Windows client:

1. Install vCLI on a Windows or Linux client.
2. Download the latest Emulex driver from VMware's website.
3. Create a CD/DVD from the iso image and mount on the same system where you are running the vCLI utility. I used a utility from Slysoft called VirtualClone Drive.
4. Remotely login to the ESXi host. One cool thing about the vCLI is that you could script a lot of the login information. In our test example, we just set the environment variable and directly connected to the host.

Installing the Fibre Channel driver on an ESXi 4.1 host with vCLI

1. Power off or migrate all VMs off the host use your vSphere client, which is much simpler.
2. Go to your Windows client where you downloaded and installed the vCLI.
3. Select Start > all programs > VMware > VMware vSphere CLI > Command prompt.



1. For this test, we set the Environment variables for the current session as shown here:

```
C:\Program Files (x86)\VMware\VMware vSphere CLI\bin>set UI_Server=10.192.90.124
```

Note: you will still need to enter the login credentials. This can also be scripted or create with a configuration file.

2. Place the host in maintenance mode:

```
C:\Program Files (x86)\VMware\VMware vSphere CLI\bin>vicfg-hostops.pl --operation enter
Enter username: root
Enter password:
Host dl380g6.90.124 entered into maintenance mode successfully.
```

3. Check and make sure the host is in maintenance mode:

```
C:\Program Files (x86)\VMware\VMware vSphere CLI\bin>vicfg-hostops.pl --operation info
Enter username: root
Enter password:
Host Name           : dl380g6.90.124
Manufacturer        : Hewlett-Packard
Model               : ProLiant DL380 G6
Processor Type      : Intel(R) Xeon(R) CPU           E5504  @ 2.00GHz
CPU Cores           : 4 CPUs x 2000 GHz
Memory Capacity     : 12277.59765625 MB
VMotion Enabled    : no
In Maintenance Mode : yes
Last Boot Time      : 2011-09-20T22:07:21.841078Z
```

4. Place the DVD/CD of the ISO image for the drivers to be updated in the Windows client. I am cheap and I use a free tool called [Virtual CloneDrive](#) from SlySoft.com.
5. Use the following command from the Windows client:

```
c:\Program Files\VMware\VMware vSphere CLI\bin\vihostupdate.pl --install --bundle E:\offline-bundle\EMU-lpfc820-8.2.1.90.28-offline_bundle-362611.zip
```



```
C:\Program Files (x86)\VMware\VMware vSphere CLI\bin>vihostupdate.pl --install -
-bundle E:\offline-bundle\EMU-lpfc820-8.2.1.90.28-offline_bundle-362611.zip
Enter username: root
Enter password:
Please wait patch installation is in progress ...
The update completed successfully, but the system needs to be rebooted for the c
hanges to be effective.

C:\Program Files (x86)\VMware\VMware vSphere CLI\bin>
```

6. Reboot the host, either through vCLI or from the vSphere client:

```
C:\Program Files (x86)\VMware\VMware vSphere CLI\bin>vicfg-hostops.pl -o reboot
Enter username: root
Enter password:
Host d1380g6.90.124 rebooted successfully.

C:\Program Files (x86)\VMware\VMware vSphere CLI\bin>
```

7. Once the system reboots, reconnect to the host once more to verify the bundle has installed correctly.

```
C:\Program Files (x86)\VMware\VMware vSphere CLI\bin>vihostupdate.pl --query
Enter username: root
Enter password:
-----Bulletin ID----- Installed-----Summary-----
-----
ESXi410-201101223-UG          2011-01-13T05:09:39 3w-9xxx: scsi driver for UMwar
e ESXi
ESXi410-201101224-UG          2011-01-13T05:09:39 vxge: net driver for VMware ES
Ki
hpq-esxi4.1uX-bundle-1.1     2011-03-31T11:26:48 HP ESXi 4.1 Bundle 1.1
hp-nmi-driver-1.2.02        2011-03-31T11:27:30 HP NMI Sourcing Driver for UMw
are ESX/ESXi 4.1
EMU-lpfc820-8.2.1.90.28     2011-09-22T22:59:19 lpfc820: scsi driver for UMwar
e ESX
```

8. Exit out of maintenance mode and migrate back or power on the VMs.

```
C:\Program Files (x86)\VMware\VMware vSphere CLI>vicfg-hostops.pl --operation exit
Enter username: root
Enter password:
Host d1380g6.90.124 exited from maintenance mode successfully.

C:\Program Files (x86)\VMware\VMware vSphere CLI>
```

More information

The Implementer's Lab website

www.implementerslab.com

To help us improve our documents, please provide feedback at implementerslab@emulex.com.

© Copyright 2011 Emulex Corporation. The information contained herein is subject to change without notice. The only warranties for Emulex products and services are set forth in the express warranty statements accompanying such products and services. Emulex shall not be liable for technical or editorial errors or omissions contained herein.

LightPulse and OneCommand are registered trademarks of Emulex Corporation. IBM is a registered trademark in the U.S. and other countries.

VMware is a registered trademark of VMware Corporation.



www.emulex.com

World Headquarters 3333 Susan Street, Costa Mesa, California 92626 +1 714 662 5600
Bangalore, India +91 80 40156789 | Beijing, China +86 10 68499547
Dublin, Ireland +35 3 (0)1 652 1700 | Munich, Germany +49 (0) 89 97007 177
Paris, France +33 (0) 158 580 022 | Tokyo, Japan +81 3 5322 1348
Wokingham, United Kingdom +44 (0) 118 977 2929