

Lenovo Firmware and Boot Code Release Notes for Emulex OCe14000-series Adapters

Version: 10.3.83.10

Date: November 2014

Purpose and Contact Information

These release notes describe the new features, resolved known issues, and current known issues associated with this firmware and boot code release for the Emulex OneConnect™ OCe14000-series adapters.

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New Features

1. Adds support for the Intel Xeon E5-2600 V3 processor family.
2. Adds support for RDMA over Converged Ethernet (RoCE) on Windows systems.

Resolved Issues from Firmware Version 10.2.261.41

Firmware Resolved Issues

1. Corrected an issue with an unrecoverable error occurring while booting the system after a core dump had been performed.
2. Corrected an issue where port 0 failed to log into target when performing a logout and login on the iSCSI port 0 initiator using the OneCommand Manager application.
3. Corrected an issue with bandwidth settings not properly updating when the Multichannel Mode was set to Virtual Fabric Mode.

NIC UEFI Resolved Issues

1. Corrected an issue with the server rebooting several times after disabling multichannel or changing the personality through the NIC UEFI.
2. Corrected an issue with functions disappearing after erasing the configuration, rebooting, and selecting either the Virtual Fabric Mode or Switch Independent Mode.
3. Corrected an issue where the virtual NIC functions would display as "Up" without assigning bandwidth or LPVID in Switch Independent Mode after erasing the controller configuration.
4. Corrected an issue where only two functions per port were displayed on 2-port adapters when the Multichannel Mode was set to Unified Fabric Protocol Mode and the Personality was set to NIC.

5. Corrected an issue where changes made to the bandwidth settings on a Lenovo switch were not recognized by the adapter's NIC UEFI utility when the Multichannel Mode was set to Unified Fabric Protocol Mode.
6. Corrected an issue where changes to the bandwidth and LPVID values were not saved if the personality was set to Custom, when multichannel was enabled and set to Switch Independent Mode.

PXE BootBIOS Resolved Issues

1. Corrected an issue with the PXESelect utility displaying a different MAC address for function 2 than the one displayed in the UEFI utility.
2. Corrected an issue where the logical link status was displayed as "N/A" in the PXESelect utility.
3. Corrected an issue where when you entered the Multichannel Configuration screen, the PXESelect utility would force you to enter LPVID values for each function before allowing you to return to the previous menu.
4. Corrected an issue where the Windows share could be blocked during installation of Windows using PXE.

iSCSI BootBIOS Resolved Issues

1. Corrected an issue where logging into multiple targets, including the boot target, from a single port would cause the boot target to get logged out after reboot.

Known Issues

Firmware Known Issues

1. The following notes apply to updating firmware for this release:

WARNING: Once an adapter has been flashed to firmware version 10.2.261.36 or later, do not attempt to flash down to an older version without first contacting Lenovo support. Lenovo support will provide a special required downgrade flash procedure. If this procedure is not followed, there is risk in making the adapter permanently unusable.

- If the adapter in use is currently running firmware 10.0.803.2202 or earlier and iBFT functionality is required, special steps must be followed when upgrading to this release. The recommended flash method is to use the Emulex OneConnect Offline Flash ISO, which will allow flashing in a single step.
- To upgrade and enable iBFT functionality with online tools, the most recent version of NIC driver, OneCommand Manager, and Emulex CIM provider must first be installed. Additionally, the firmware must be flashed twice with a reboot after each flash.

Some online flash utilities, such as the OneCommand Manager application, may instruct you to reboot and flash the firmware a second time. If iBFT functionality is not required, this message can be safely ignored. No additional procedures are necessary when iBFT functionality is not required.

Workaround

None.

2. **A Feature on Demand licensing issue may cause incorrect personalities to be displayed in the OneCommand Manager application.**

Workaround

None.

3. **Large receive offload (LRO) functionality is not working properly on the second port of a 2-port adapter.**

Workaround

None.

4. **Changing personalities may disable a Cisco switch's operator mode for priority flow control (PFC).**

Workaround

Perform the following steps:

- a) Check the operator mode by typing
`show int eth 1/x priority-flow-control`
- b) If the operator mode is off, for each affected port you must then toggle the priority-flow-control mode to "off" and then back to "auto".

At the switch:

```
priority-flow-control mode off
priority-flow-control mode auto
```

5. **The *Universal Multichannel Version 10.2 Reference Guide* includes information about concurrent mode storage. This feature is not supported in this release.**

Workaround

None.

6. **Ethtool may display port speed as "unknown" when multichannel is enabled and UFP mode is selected.**

Workaround

None.

7. **The link for vNIC ports may not appear when Universal Fabric Protocol (UFP) multichannel mode is used along with the iSCSI personality.**

Workaround

In the Emulex NIC Configuration utility, select the Erase Configuration option to reset all NIC settings to the factory defaults. Once the reset is completed, reconfigure the NIC settings as desired. The vNIC ports will then link up as expected.

NIC UEFI Known Issues

1. **Erase Configuration may not properly reset the multichannel setting.**

If multichannel is enabled and then Erase Configuration is selected, the multichannel setting may not reset to disabled upon reboot.

Workaround

Do not make any other configuration changes when selecting Erase Configuration.

2. **On two-port adapters, if you have selected the NIC - ETS Disabled setting for NIC Mode and then disable SR-IOV, NIC Mode will remain set to NIC - ETS Disabled and SR-IOV will not be disabled after a system reboot.**

Workaround

You must set NIC Mode to the NIC Only Profile setting on all ports before disabling SR-IOV.

FCoE UEFI Known Issues

1. **The FCoE ports listed in the “System Settings > Storage” UEFI menu are ordered backwards.**

The lowest PCI function (the first port) should be the first one on the list.

Workaround

None.

iSCSI UEFI Known Issues

1. **An iSCSI login does not display an error when providing invalid target information.**

Workaround

None.

2. **The iSCSI ports listed in the “System Settings > Storage” UEFI menu are ordered backwards.**

The lowest PCI function (the first port) should be the first one on the list.

Workaround

None.

PXE BootBIOS Known Issues

1. **After a firmware upload, the PXESelect utility may experience a delay of up to three minutes while displaying “Rebooting to Apply PCI Function Mapping Changes”.**

Workaround

None.

2. **On Lenovo systems that are UEFI 2.1 compliant, changes to any settings configured using the Emulex PXESelect utility may not be persistent across reboots.**

This is a Unified Configuration Management (UCM) issue that results in the system resetting twice every time changes are made in the PXESelect utility.

Workaround

Changes to configuration settings must be performed using the UEFI configuration utilities or the Lenovo ASU or Config Patterns tools.

3. **The PXE BootBIOS screen displays OCe14400-series adapters as “Emulex 10Gb UNDI” during adapter initialization, which is incorrect.**

Workaround

None.

iSCSI BootBIOS Known Issues

1. **IPv6 formatting does not following RFC standards, which results in invalid IP address error message and a pop-up dialog box requesting that you re-enter the IP address.**

Workaround

None.

2. **Changing the target’s digest parameters may cause the boot LUN to revert to LUN 0.**

Workaround

None. You must re-select the appropriate boot LUN.

3. **Discovery login CHAP authentication must be provided multiple times – once during discovery, once during log in, and when the boot flag is enabled.**

Workaround

None.

4. **iSCSISelect utility may attempt to connect to target even when “connect” option is not selected in iSCSI UEFI utility.**

Workaround

None.

5. **Adapter failover using multipath I/O (MPIO) with iSCSI boot may not work properly on VMware ESXi 5.0 systems.**

Workaround

None.

6. **On Lenovo systems that are UEFI 2.1 compliant, changes to any settings configured using the Emulex iSCSISelect utility may not be persistent across reboots.**

This is a Unified Configuration Management (UCM) issue that results in the system resetting twice every time changes are made in the iSCSISelect utility.

Workaround

Changes to configuration settings must be performed using the UEFI configuration utilities or the Lenovo ASU or Config Patterns tools.

7. **When entering the iSCSI BIOS on Windows 2008 x86 SP2 systems, an iSCSI Initiator Name mismatch error message may be displayed.**

The error message states:

“Error: There is an iSCSI Initiator Name mismatch for the OneConnect controllers in this system. Please use the iSCSI Initiator Configuration screen to set a single iSCSI Initiator Name for all controllers in the system.”

Workaround

None.

8. **iSCSI BootBIOS screen displays OCe14400-series adapters as “Emulex 10Gb UNDI” during adapter initialization, which is incorrect.**

Workaround

None.

FCoE x86 BootBIOS Known Issues

1. **The Configure Boot Devices menu only scans for the next 16 LUNs from the starting LUN, which limits the LUNs displayed.**

Workaround

None.

2. **On Lenovo systems that are UEFI 2.1 compliant, changes to any settings configured using the Emulex FCoE BootBIOS utility may not be persistent across reboots.**

This is a Unified Configuration Management (UCM) issue that results in the system resetting twice every time changes are made in the FCoE BootBIOS utility.

Workaround

Changes to configuration settings must be performed using the UEFI configuration utilities or the Lenovo ASU or Config Patterns tools.

Technical Tips

1. **Under SLES 11, the bond 5 and 6 modes must be configured properly to work with the firmware.**

When configuring the bond mode, change the default setting to include “updelay=100”. For example, the correct setting for bond 6 is `BONDING_MODULE_OPTS='mode=6 miimon=100 updelay=100'`.

2. **For Cisco switches, the access mode must be set in trunk mode, and native VLAN cannot be FCoE VLAN, that is, the FCoE VLAN must be in the allowed list. For example, if VLAN 2 is the FCoE VLAN and VLAN 1 is the Ethernet VLAN, you would enter the following:**

- `Switchport mode trunk`
- `Switchport trunk native vlan 1`
- `Switchport trunk allowed vlan 1-2`

3. **For Brocade switches, trunk mode must be set in converged mode. For example, if VLAN 2 is the FCoE VLAN, you would enter the following:**

- `Switchport mode converged`

- Switchport converged allowed vlan add 2
4. **For best performance, disable the Spanning Tree Protocol (STP) on all networked switches if you are using the following:**
 - Adapter fault tolerance (AFT)
 - Automatic load balancing (ALB)
 - Static link aggregation teaming
 5. **To disable boot from SAN after Lenovo BladeCenter Open Fabric Manager (BOFM) or IBM Fabric Manager (IFM) has been enabled, you must set boot from SAN manually in the EFIBoot configuration utility or send a BOFM default command to the port.**
 6. **Only three functions are available on each port when using the Custom personality mode with multichannel disabled.**

The OCe14000-series adapters support the Custom personality mode when multichannel is disabled. The OCe14000-series adapters support NIC, iSCSI, and FCoE protocols on a single port. While the normal NIC, iSCSI, and FCoE personalities support only NIC, NIC+iSCSI, or NIC+FCOE configuration on both ports, the Custom mode allows support for NIC, iSCSI, and FCoE on both ports.

With multichannel disabled, each port can be configured with one of the following configurations:

- One NIC function
- One NIC function and one iSCSI function
- One NIC function and one FCoE function
- One NIC function, one iSCSI function, and one FCoE function

Notes

- Two of the same storage protocols are not supported on a single port.
- Two NIC functions are not supported on a single port.

Therefore, on a 2-port controller you can potentially have 6 functions, while a 4-port controller can have up to 12 functions. The function-to-port mapping is displayed in the following tables.

Table 1 Function-to-Port Mapping for 4-port OCe14000-series Adapters

Port 0	Port 1	Port 2	Port 3
0	1	2	3
4	5	6	7
8	9	10	11

Table 2 Function-to-Port Mapping for 2-port OCe14000-series Adapters

Port 0	Port 1
0	1
2	3
4	5

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