

OneConnect UCNA Firmware Release Notes for IBM Part Numbers 49Y4234, 49Y4277, 90Y3552, and 90Y3568

Versions: Firmware Version 4.1.442.0

Date: November 2012

Purpose and Contact Information

These release notes describe the new features, resolved known issues, and current known issues associated with this OneConnect™ universal converged network adapter (UCNA) firmware/boot code release.

For the latest product documentation, go to www.Emulex.com. If you have questions or require additional information, contact an authorized Emulex technical support representative at tech.support@emulex.com, 800-854-7112 (US/Canada toll free), +1 714-885-3402 (US/International), or +44 1189-772929 (Europe, Middle East, and Africa).

Interoperability since Previous Release

1. **Firmware version 4.1.442.0 support is limited to Emulex Virtual Fabric Adapter I/II in IBM BladeCenter HS23e.**
2. **MAC and PHY loopback with DSAP on an IBM BladeCenter HS23 local area network (LAN) on the motherboard**

Resolved Issues from Firmware Version 4.0.1062.0

OneConnect UCNA Firmware Resolved Issues

1. **Internet Protocol version 6 (IPv6) implementations no longer experience an unrecognized routing type error.**
2. **Link status now dynamically refreshes in Unified Extensible Firmware Interface (UEFI).**
3. **Installing Windows Server 2008 or Windows Server 2008 R2 on “remote” iSCSI disks no longer causes the system to hang.**
4. **Issues no longer occur when resetting a server configured for multipathing on VMware ESX systems.**
5. **VLAN tagging is now disabled on the OneConnect UCNA when multichannel is disabled.**
6. **UEFI/BIOS-assigned logical port VLAN IDs (LPVIDs) now function properly on the OneConnect 10102-based UCNA.**
7. **OneConnect UCNAs no longer send and receive only double-tagged packets and discard all other packets.**

8. An adapter hardware error no longer occurs when running I/O with logical unit numbers (LUNs) on x86 platforms.
9. Changing from Convergence Enhanced Ethernet (CEE) to Chassis Internal Network (CIN) and then rebooting no longer fails to link-flap (CIN Fabric Login (FLOGI) now occurs).
10. PHY, MAC, and External loopback tests no longer fail on all platforms.
11. Firmware now returns the proper OneConnect UCNA model number.
12. Data Center Bridging (DCB) settings can now be configured.
13. Logical link status for the OneConnect UCNA no longer displays as “N/A” in the UEFI configuration utility and the PXESelect utility when IBM Virtual Fabric Mode is enabled.

iSCSISelect Version 4.0.1061.0 Resolved Issues

1. When enabling Dynamic Host Configuration Protocol (DHCP) for an iSCSI initiator, the Emulex iSCSI Network Configuration utility now waits approximately 20 seconds to make a DHCP connection before returning control.

FCoE x86 BootBIOS Version 4.02a13 Resolved Issues

1. Fibre Channel Forwarder Converged Enhanced Ethernet (FCF CEE) parameters for Boot from SAN configuration are now saved properly.

Known Issues

General OneConnect UCNA Firmware Known Issues

1. **Short frames may be generated even when the host has supplied a 64K-aligned SGE.**
When a large block write (64K and greater) is performed on some platforms, a “short” frame may be generated instead of a normal 2K frame, which may cause issues on some target devices.
Workaround
None.
2. **Adapter statistics are not getting cleared.**
The adapter statistics are currently not getting cleared by the firmware.
Workaround
None.
3. **Connection status displayed incorrectly for newly-created OneConnect UCNA NIC teams.**
When adapters are teamed using the NIC Teaming and VLAN Manager, the primary and secondary teamed interfaces display the connection status as disconnected. Even though the primary and secondary interfaces display a status of disconnected, the teamed interface that is created has connectivity and failover functions as expected.

Workaround

Despite the display status, the newly-created team is fully functional and may require a reboot to resolve the connection status display issue.

4. Extra packet loss during failback in Windows.

Additional packet loss (8 or more Internet Control Message Protocol [ICMP] packets) may be dropped during failback when using failover teams created with any two interfaces.

Workaround

In a failover team with failback enabled, the failback may take between 10-20 seconds to complete the operation. To prevent packet losses in these cases, disable the "Auto Failback" option when creating a failover team.

5. Unable to assign VLAN IDs to switch-independent multichannel interfaces without an intermediate reboot.

The Emulex UEFI NIC configuration utility requires a reboot before the "switch-independent" multichannel settings can be configured. After enabling the multichannel option and selecting Switch Independent Mode, the Multichannel Configuration screen only lists one function. In order for all four functions to display properly, you must reboot the system.

Workaround

None. This issue will be addressed in a future release.

6. NIC driver installation on OneConnect UCNAs in Windows 2008 R2 SP1 may report a failure.

Due to the Windows method of instantiating virtual NIC interfaces, the installation program may occasionally report that the driver has failed to install. This reported failure is not accurate.

Workaround

Although the installation program has reported a driver installation failure, the drivers should actually be installed. Once the installation program exits, wait 3-5 minutes and then verify that all Emulex NIC devices display properly within the Windows Device Manager. If any Emulex NIC devices still display as not having a driver installed, manually install the driver through the Windows Device Manager.

7. The OneConnect UCNA may exhibit inconsistent behavior after performing an Erase Configuration from within the Emulex configuration utilities.

If switch-dependent multichannel is enabled when an Erase Configuration is performed, switch-dependent multichannel will remain enabled. If multichannel is disabled or switch-independent multichannel is enabled, the adapter will revert to having switch-independent multichannel enabled after performing an Erase Configuration. The OneConnect UCNA will always revert to having switch-dependent multichannel enabled after an Erase Configuration is performed.

Workaround

Always check that the multichannel setting is configured properly after performing an Erase Configuration.

8. **Some OneConnect UCNAs may have multichannel disabled by default from the factory.**

Workaround

Always check that the multichannel setting is configured properly when installing a new adapter. This setting can be configured from within the Emulex NIC Configuration utility.

9. **Inconsistent link status representations between OneConnect OCe10102 and OCe11102-based UCNAs.**

The link speed for the interfaces are inconsistently represented between the OneConnect OCe10102 and OCe11102-based UCNAs in the UEFI configuration utility, PXESelect utility, and operating system.

For an OCe11102-based UCNA, if multichannel is enabled in IBM Virtual Fabric Mode while vNIC is disabled on the IBM Virtual Fabric 10G Switch Module, the link speed in the UEFI configuration utility will display “10Gbps” for both ports. All multichannel interfaces in the UEFI configuration utility will also display the link status as “Link Up”, when there should not be a link. If multichannel is disabled on the adapter and vNIC is enabled on the IBM Virtual Fabric 10G Switch Module, the same situation will occur and the link speed will display “10Gbps” for both UCNA ports.

For an OCe10102-based UCNA, the results are different. If multichannel is enabled in IBM Virtual Fabric Mode while vNIC is disabled on the IBM Virtual Fabric 10G Switch Module, the link speed will display “Link Down” for both the physical ports and the multichannel interfaces.

If the switches are powered off or removed from the chassis, both the OCe10102 and OCe11102-based UCNAs will display a “Link Down” status, regardless of whether multichannel is enabled or disabled.

Workaround

None.

10. **The BladeCenter Management network disconnects when the blade is powered off.**

Workaround

None.

11. **The BladeCenter Management network disconnects when using the firmware ISO image to update ethernet firmware.**

Workaround

None.

12. **There is intermittent operation system instability when BladeCenter H AMM Management Network Auto-Discovery is disabled and no legacy switches are installed.**

Workaround

None.

13. **Miscellaneous non-critical UEFI iSCSI issues.**

Workaround

None.

14. Intermittent link issues with IBM Virtual Fabric Switch Module.**Workaround**

None.

15. Blade requires a warm power cycle to recover the network if the switch was powered off and the network was dropped.**Workaround**

None.

OCe10102 UCNA Firmware Known Issues**1. The OneConnect UCNA interfaces may not come back up after an IBM Virtual Fabric 10G Switch Module power cycle.**

The OneConnect OCe10102-based UCNA interfaces may not come back up when the IBM Virtual Fabric 10G Switch Module is powered cycled.

Workaround

The interfaces will come back up if the server containing the OneConnect UCNA is rebooted.

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 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

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