

# Emulex OneConnect NIC Teaming and Multiple VLAN Driver and Application Release Notes

**Version (Kit):** 2.8.3 and 2.8.2

**Date:** September 2013

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## Purpose and Contact Information

These release notes describe the installation information, resolved known issues, and current known issues associated with this Emulex<sup>®</sup> OneConnect<sup>™</sup> NIC Teaming and Multiple VLAN Driver and Application release.

For the latest product documentation, go to [www.Emulex.com](http://www.Emulex.com). If you have questions or require additional information, contact an authorized Emulex technical support representative at [tech.support@emulex.com](mailto:tech.support@emulex.com), 800-854-7112, or +1 714-885-3402.

## Installation Notes and Warnings

You can update the base NIC driver, NIC firmware, and NIC teaming code in any order because the NIC teaming code is independent of the base NIC driver and firmware. However, when you upgrade the base driver, ensure it is an update, and not an uninstall or re-install. If the base NIC driver is uninstalled or re-installed, all of the NIC teams will be assigned new GUIDs, which will cause all of the current NIC team definitions to be invalid.

Use the version 2.8.3 or 2.8.2 Emulex-provided kit to install, update, or uninstall the NIC teaming software. Do not use a previous version of the teaming utilities to install, update, or uninstall the OneCommand<sup>™</sup> NIC Teaming driver and NIC Teaming and VLAN Manager. If you do, unpredictable results will occur.

Do not update or uninstall the OneCommand NIC Teaming driver and NIC Teaming and VLAN Manager while I/O traffic is running. If you do, unpredictable results may occur.

## Supported Operating Systems

The NIC Teaming driver supports the following operating systems:

- Windows Server 2012 x64
- Windows Server 2012 Server Core x64
- Windows Server 2008 x64 SP2
- Windows Server 2008 x64 R2
- Windows Server 2008 x64 R2 Server Core
- Windows Server 2008 x64 R2 with Hyper-V
- Windows Server 2008 x64 R2 SP1
- Windows Server 2008 x64 R2 SP1 Server Core
- Windows Server 2008 x64 R2 SP1 with Hyper-V

## Recommended Firmware Versions

- OneConnect: 4.6.281.8
- LPe1600x: 1.1.43.11 (IBM Flex) and 1.1.43.12 (IBM System x)
- LPe1200x: Firmware 2.01a11, Boot Code 5.12a15
- LPe1100x: Firmware 2.82x6, Boot Code 5.12a15

## Resolved Issues

### Version 2.8.3

1. In systems with more than four processor cores available for RSS, the NIC Teaming driver will utilize more processor cores for team members. This results in better performance and individual CPU utilization.

### Version 2.8.2

1. Provides support for IPv6 addresses.
2. Provides support for 16 teams per system.
3. Supports the ability to change a team's primary adapter.
4. Supports dynamically changing a VLAN ID.
5. The native VLAN persists when adding other VLANs.
6. Supports GUI auto-refresh.
7. Supports MTU Mismatch detection and reporting.
8. The Device Manager names of VLAN adapters now have an identifying name prefix.
9. The character set used in team names are now restricted to be a-z,A-Z,0-9, and =+--)(\* & ^ % \$ # @ ! ~ { [ ] \ | ; : . > , < / ? .
10. Changing bandwidth at the switch correctly changes the adapter link speed and correctly updates the team speed in the GUI and CLI.
11. Recv iperf and send iperf are now using the same member going to a client port.
12. Systems no longer blue screen with VLAN adapters.
13. NIC Teaming starts correctly with mixed vendor HBAs.
14. After a round robin port shut of 4 member lacp perc team 4 VLANs to one VM, you can ping.
15. Gratuitous ARP frames no longer cause issues with cluster IP resources.
16. Postupgrade no longer runs after rebooting with newly installed teaming software and operating system.
17. A load balancing Percload team no longer has lower Tx throughput performance compared to other team types and hashing algorithms.
18. After rebooting, NIC teaming now correctly reports status (link up) for a linked down failover team adapter.

## Known Issues

1. **When using more than 8 NIC instances, virtual or physical, the teaming manager GUI or teaming manager CLI might not list all available adapters for team creation. Non-teamed adapter instances might be incorrectly bound to the teaming protocol driver.**

### Workaround

When using more than 8 NIC instances in the system prior to creating any teams, virtual or physical, in a system, the ISATAP service must be disabled prior to installing the hardware. If the hardware is installed and cannot be removed, Multichannel must be disabled prior to the operating system installation. The ISATAP service must be disabled prior to enabling Multichannel.

2. **If Smart Load Balancing teams are used with IPv6, TCP sessions that exist when a link status change occurs could be subject to timeouts, including delays of many seconds, or be reset by the peer. For this reason, using Smart Load Balancing teams in an environment using IPv6 is not recommended.**

### Workaround

None.

3. **Earlier releases of NIC Teaming may not be installed on systems that had NIC Teaming 2.7 or 2.8 previously installed.**

### Workaround

None.

4. **During the creation or deletion of teams, or adding or removing VLANs to teams or adapters, the Microsoft server module might generate error 2505 messages in the event log. This message can be generated when a single machine has more than one connection to the same subnet.**

### Workaround

None.

5. **When adding VLANs to teams, the NetBT module might generate event log entries with an event ID of 4311.**

### Workaround

None.

6. **Microsoft Networking bridging should not be used to bridge teams or VLANs.**

### Workaround

None.

7. **For configuration changes, disabling adapters, teams or VLANs using the Windows Device Manager or Network Connection Property sheet is not supported.**

For the purpose of making teaming configuration changes, the disabling of adapters, teams or VLANs using the Windows Device Manager or Network Connection Property sheet is not supported. However for the purpose of testing the data path of established teams, such disabling is supported. Remember to re-enable any disabled adapters, teams or VLANs before changing the team's configuration.

**Workaround**

None.

8. **Teams cannot be uninstalled from the Windows Device Manager.**

**Workaround**

Use the Emulex OneConnect NIC Teaming and Multiple VLAN Driver and Application GUI or CLI to uninstall teams.

9. **Differences in BIOS and motherboard versions can cause servers with identical model numbers to have different PCI slot addresses.**

Restoration of backup files cannot be performed on these systems.

**Workaround**

Manually duplicate the NIC teaming configurations.

10. **When upgrading a configuration containing VLANs over teams from NIC Teaming 2.5 or NIC Teaming 2.6 to NIC Teaming 2.7 or 2.8, the team instance is visible in Network Manager.**

**Workaround**

Do not change the bindings of such an instance.

11. **When upgrading from NIC Teaming 2.6 to NIC Teaming 2.7 or 2.8, a reboot is required. You must log back into the system after the reboot for the reboot to complete.**

**Workaround**

None.

12. **When adapters are deleted from teams created with NIC Teaming versions prior to 2.7, they may display incorrect MAC addresses.**

**Workaround**

Use the adapter's Property Sheets in Device Manager to reset the MAC addresses after the team is deleted.

13. **Windows 2008 SP2 systems fail to display team MAC Addresses.**

While the GUI and CLI are displaying detailed information on a team, the team's MAC address field is blank.

**Work around**

Use the GUI or CLI to view the details of the team's primary adapter. Its MAC address is the same as the team's MAC address.

14. **In Windows Server 2008, Windows Server 2008 R2, and Windows Server 2012, if universal multichannel is enabled after installing the latest out-of-box Emulex NIC driver Windows assigns duplicate names to more than one interface causing management utilities, such as the Emulex NIC Teaming Manager, to function incorrectly.**

Specifically, the Emulex NIC Teaming manager will not properly create teams based on the interfaces selected. Microsoft is working on a patch that resolves this issue, if the patch is applied before installing the Emulex NIC driver. If universal multichannel is enabled before Windows is installed, the issue does not occur.

### Work around

There is a Microsoft hot fix available for this issue. Refer to Microsoft KB article MS KB 2846340.

## Technical Tips

1. When using third party adapters as members of teams, all TCP offload settings, such as TCP/UDP/IP checksum offload, TCPv6/UDPv6/IPv6 checksum offload, etc. must be configured identically. The third party adapter documentation must be consulted to determine how these settings are configured. Mismatches of settings may cause packet loss, connection timeouts, and even data corruption.
2. When using non-Emulex adapters as team members, LSO v1 and LSO v2 must be disabled for teaming to work correctly.
3. Emulex recommends that you do not make any configuration changes while I/O traffic is running. Various issues, including system lock ups and I/O disconnection, may occur.
4. To view online help using the Google Chrome browser, you must disable Chrome's security check using the "--allow-file-access-from-files" option.
  - a) Create a copy of the Chrome shortcut on the desktop and rename it RH Chrome Local (or something similar).
  - b) Right-click on the new Chrome icon and choose **Properties**.
  - c) Add the "--allow-file-access-from-files" text to the end of the path appearing in Target. You must leave a space between the original string and the tag you are adding to the end of it.
  - d) Click **OK** to save your settings.
  - e) Close any open instances of Chrome.
  - f) To open a local copy of the online help, use the new shortcut to open Chrome, then press **Ctrl + Open** and browse to the start page; or open Chrome with the new shortcut, then right-click the start page and click **Open With > Google Chrome**.

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Note: References to OCE11100 series products also apply to OCE11100R series products.