



Emulex Drivers Version 10.4 for Windows

Quick Installation Manual

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Note: References to OCe11100 series products also apply to OCe11100R series products.

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1. Introduction

This document explains how to install the Windows drivers on your system.

This product supports the Emulex® OneConnect™ family of converged network adapters (CNAs) and the Emulex LightPulse® family of host bus adapters (HBAs) and converged fabric adapters (CFAs).

Note: For a complete list of adapters that are compatible with these drivers, see the driver's Downloads page on the Emulex website. For compatible firmware versions, see the Downloads page for the specific adapter.

Operating System Requirements

One of the following operating systems must be installed on an x64 server:

- Windows Server 2008, Windows Server 2008 R2, Windows Server 2012, and Windows Server 2012 R2: x64 versions, Enterprise and Server Core
- Windows 7 Ultimate, Enterprise, or Professional edition (x64 only; supported on only OneConnect OCe11100-series CNAs and OCe14000-series adapters)
- Windows 8 x64 base version, Pro and Enterprise (x64 only; supported on only OCe11100-series CNAs and OCe14000-series adapters)
- Windows 8.1 x64 base version, Pro and Enterprise (x64 only; supported on only OCe11100-series CNAs and OCe14000-series adapters)

Note: Windows 7 x64, Windows 8 x64, and Windows 8.1 x64 drivers are Emulex-signed. You must accept the Emulex certificate to install these client kits; support is provided by Emulex, but not by Microsoft.

Notes

- Check the Emulex website for required updates to the Windows operating system or the Emulex drivers.
- Microsoft patch KB2846340 must be installed on your system to successfully install the NIC driver. If the patch is not installed on your system, the installation stops and prompts you to install it. This patch, from Microsoft's Knowledge Base (KB), is required for Windows Server 2008 SP2, Windows Server 2008 R2, and Windows Server 2012 and for Windows 7 and Windows 8 client operating systems.

2. Driver Installation Options

You can install the Windows drivers in two ways:

- OneInstall Installer – Contains all the Emulex Windows drivers (Emulex Storport Miniport and NDIS Miniport drivers) and the OneCommand Manager application in a single download package. The OneInstall Installer can be run in Interactive Mode or Silent Mode.
- Driver kits and AutoPilot Installer – Provides installation options ranging from simple installations with a few mouse clicks to unattended installations that use predefined script files and text-only installations.

Notes

- The Microsoft patch KB2846340 must be installed on your system in order for the NIC installation to be successful. If the patch is not installed on your system, the installation stops and you are prompted to install it. This patch from Microsoft's Knowledge Base (KB) is available for Windows Server 2012, Windows Server 2008 R2, and Windows Server 2008 SP2 on the Microsoft website.
- If you are installing the NIC driver kit as an update to the Windows Server 2012 driver, some parameter defaults are different from the inbox driver. Emulex recommends that you select “reset to default” on the Advanced tab of the Device Manager property page after you install the Emulex out-of-box driver. This returns all adapter and driver settings to the default values listed in this manual.
- Low performance may occur if the Emulex NIC driver is installed on a system meeting the following conditions before installing Microsoft KB2846837:
 - A Windows 8-based or Windows Server 2012-based computer with multi-core processors is in use.
 - Three or more Ethernet ports are installed on the computer.
 - Receive Side Scaling (RSS) is enabled and sets the RSS profile to use the “Closest” parameter for the Ethernet adapters.

If these three conditions exist, install KB2846837 before installing the Emulex NIC driver.

OneInstall Installer

The OneInstall package is a self-extracting executable file that installs the following software on your system:

- All compatible protocol drivers:
 - Fibre Channel (FC)
 - Fibre Channel over Ethernet (FCoE)
 - Internet Small Computer System Interface (iSCSI)
 - Network Interface Card or Controller plus RDMA over Converged Ethernet (NIC + RoCE)

- ElxPlus driver (supports the OneCommand Manager application, persistent binding, and LUN mapping and masking)
- OneCommand Manager application (management utility for Emulex adapters)

Notes

- The Enterprise kit for the OneCommand Manager application does not operate locally on Windows Server Core. You must install the OneCommand Manager Core Kit (command-line interface only) to the Windows Server Core.
- The OneInstall Installer does not allow you to perform pre-installation tasks, unattended installations, or text-only installations. For these tasks, use the AutoPilot Installer kits.

Loading the OneInstall Package using Interactive Mode

To install the drivers using Interactive Mode:

1. Download the OneInstall package from the Emulex website.
2. Navigate to the OneInstall package in Windows Explorer.
3. Double-click the OneInstall package. The Welcome screen appears.
4. Click **Next**. The Installation options screen appears.
5. Select the drivers and application that you want to install and click **Next**.

A progress screen appears while the OneInstall installer loads the selected drivers and applications. After the drivers and application software are loaded, an Installation completed screen appears.

6. Click **Finish**.

Loading the OneInstall Package using Silent Mode

Notes

- Silent mode installation must be run from the from a batch file or from the command line.
- If you run OneInstall from a batch file or from a command line prompt, the default Windows behavior starts OneInstall, then immediately continues with the next command. It does not wait until OneInstall has finished.

As a result, the value of %ERRORLEVEL% will always be 0, because Windows successfully started OneInstall. It does NOT reflect an accurate OneInstall exit code.

To remedy this, run setup as follows:

```
START /wait OneInstall-Setup-<version>.exe  
echo %ERRORLEVEL%
```

The "start /wait" ensures that the command does not return until Setup has exited. The value of %ERRORLEVEL% now accurately reflects the OneInstall exit code.

Command Format

The format of the command is:

```
OneInstall-Setup-<version>.exe <install-mode> <options>
```

Where:

<version> is the version number of the OneInstall Package

<install-mode> is one of the following:

/q0 – (Interactive, non-silent install) This is the default.

/q1 – (non-Interactive install) This option displays status pages.

/q2 – (Silent install) This option is completely silent, no pages are displayed.

/q – This is the same as /q1.

<options> specifies the kit, or kits, to install:

ALL=1 – Install all drivers and the OneCommand Manager application (Default).

Note: On a CORE system, this will install all drivers and the OneCommand Manager Core Kit.

ALLCORE=1 – Install all drivers and the OneCommand Manager Core Kit.

DRIVERS=1 – Install all drivers.

FC=1 – Install the FC driver only.

FCOE=1 – Install the FCoE Driver only.

NIC=1 – Install the NIC Driver only.

ISCSI=1 – Install the iSCSI Driver only.

OCM=1 – Install the OneCommand Manager Enterprise Kit only. **Note:** On a CORE system, this will install the OneCommand Manager Core Kit.

OMCORE=1 – Install the OneCommand Manager Core Kit only.

To install the drivers using Silent Mode:

1. Download the OneInstall package from the Emulex website.
2. Open a DOS window.
3. Change directory to the folder containing your OneInstall package.

The following are examples of silent mode commands:

```
Start /wait OneInstall-Setup-10.4.94.4.exe /q2 ALL=1
```

```
Start /wait OneInstall-Setup-10.4.94.4.exe /q2 DRIVERS=1
```

```
Start /wait OneInstall-Setup-10.4.94.4.exe /q2 FCOE=1 NIC=1 OCM=1
```

```
Start /wait OneInstall-Setup-10.4.94.4.exe /q2
```

```
Start /wait OneInstall-Setup-10.4.94.4.exe /q2 ALLCORE=1
```

```
Start /wait OneInstall-Setup-10.4.94.4.exe /q2 OMCORE=1
```

Driver Kit Installer

Each driver kit contains and loads all the Windows drivers for a specific protocol, and includes ElxPlus.

- FC driver package (elxdrv-fc-<version>.exe)
- FCoE driver package (elxdrv-fcoe-<version>.exe)
- iSCSI driver package (elxdrv-iscsi-<version>.exe)
- NIC + RoCE driver package (elxdrv-nic-<version>.exe)

Note: Updating the NIC protocol driver can temporarily disrupt operation of any NIC teams configured on the system.

Loading the Driver Kit

The driver kit copies the selected Emulex drivers and applications onto your computer.

Note: This procedure does not install drivers, and no driver changes are made until you run the AutoPilot Installer.

To load the driver kit:

1. Download the driver kit from the Emulex website to your system.
2. Double-click the driver kit to run it. The Emulex Kit Welcome page appears.
3. Click **Next**. The Installation Options page appears.
4. Select one or both of the following options:
 - Perform Installation of Software – copies the driver kit for your operating system to your computer.
 - Unpack All Drivers – extracts all drivers to the current user's Documents folder. Select this option to perform boot from SAN installations.

The Operation in progress page shows the kit file loading progress. After the kit files are loaded, the Installation completed page appears.

5. If you want to continue with the installation, ensure that Start AutoPilot Installer is checked. Click **Next**.

AutoPilot Installer

AutoPilot Installer runs after the driver kit is loaded and the OneCommand Manager application is installed. AutoPilot Installer can be installed:

- Immediately after the driver kit has been loaded
- At a later time using an interactive installation
- Through an unattended installation

AutoPilot Installer provides:

- Command line functionality – Initiates an installation from a command prompt or script. Configuration settings can be specified in the command line.

- Compatibility verification – Verifies that the driver to be installed is compatible with the operating system and platform.
- Driver installation and update – Installs and updates drivers.
- Multiple adapter installation capability – Installs drivers on multiple adapters, alleviating the need to manually install the same driver on all adapters in the system.
- Driver diagnostics – Determines whether the driver is operating properly.
- Silent installation mode – Suppresses all screen output (necessary for unattended installation).

Note: AutoPilot Installer does not allow you to install the driver if the minimum Windows service pack or Microsoft Storport driver update is not installed.

You can install the driver by using any of the following methods:

Note: These installation methods are not mutually exclusive.

- **Hardware-first installation.** At least one Emulex adapter must be installed before you can install the Emulex drivers and utilities.
- **Software-first installation.** You can install drivers and utilities using AutoPilot Installer prior to the installation of any adapters. You do not need to specify the adapter models to be installed later. The appropriate drivers and utilities automatically load when you install the adapters.
- **Utility-Only installation.** If the drivers in the driver kit share the same version with those already installed on the system, you can reinstall or update the previously installed utility without reinstalling the drivers.
- **Text-Only installation.** Text-based installation mode is used automatically when AutoPilot Installer is run on a Server Core system.
- **Network installation.** You can place the driver kit installers on a shared network drive and install them across your local area network (LAN). Network-based installation is often used in conjunction with unattended installation and scripting. This allows you to configure and install the same driver and utility versions on all the hosts in a storage area network (SAN).
- **Unattended installation.** You can run the driver kit installers and AutoPilot Installer with no user interaction from a command line or script. Unattended installation works for both hardware-first and software-first installations and all driver kits. An unattended installation operates in silent mode (also referred to as quiet mode) and creates an extensive report file with installation status.

Note: Complete driver and utilities documentation can be downloaded from the Emulex website (www.emulex.com).

Starting Installers from a Command Prompt or Script

If a driver kit or AutoPilot Installer is run from a command prompt or command script (batch file), the Windows command processor does not wait for the installer to run to completion. As a result, you cannot check the exit code of the installer before the next command is executed. Emulex recommends that for command line invocation, always

use the “start” command with the “/wait” option. This causes the command processor to wait for the installer to finish before it continues.

For more information on command line installation and configuration parameters, see the AutoPilot Installer Command Line and Configuration File Parameters section in the *Emulex Drivers for Windows User Manual*.

Running a Software Installation Interactively

Two options are available when performing an installation interactively. These options assume you have already downloaded the driver kit installer from the Emulex website.

Option 1: Automatically Run AutoPilot Installer

Use this option unless you have specific configuration needs.

1. Double-click the driver kit or run it from a command line. The command line parameter APargs allows you to specify arguments that are automatically passed to the AutoPilot Installer command. A Welcome page is displayed with driver kit version information and Emulex contact information (see the AutoPilot Installer Command Line and Configuration File Parameters topic in the *Emulex Driver for Windows User Manual* for more information on command line installations).
2. Click **Next** to proceed to the Installation Options page.
For each installation option, the default installation location for that option is displayed. Browse to a different location, if desired.
3. Click **Install** to continue the installation.
The Progress dialog box is displayed. After all tasks complete, a Finish page is displayed. The Start AutoPilot Installer box is automatically selected.
4. Click **Finish**. AutoPilot Installer is run automatically. AutoPilot Installer completes one of the installations:
 - Hardware-First Installation or Driver and Utility Update (page 12).
 - Software-First Installation (page 13).

Option 2: Run AutoPilot Installer Separately

To access these options, run AutoPilot Installer after the driver kit loading has been completed. This allows you to change the configuration options supplied to the AutoPilot Installer.

1. Perform steps 1 through 3 for “Option 1: Automatically Run AutoPilot Installer”.
2. Clear the **Run AutoPilot Installer** check box on the Finish dialog box.
3. Click **Finish**. The driver kit installer exits.

After the driver kit loading is complete, change the configuration in one of two ways:

- Change the configuration file.
- Supply parameters on the command line.

Note: See the AutoPilot Installer Command Line and Configuration File Parameters topic in the *Emulex Drivers for Windows User Manual* for more information on either of these configuration methods.

After you have finished this step, you can run AutoPilot Installer at a later time, using either of the following methods:

Note: If you are supplying options via the command line, you must run AutoPilot Installer from the command line.

- Select **Programs>Emulex>AutoPilot Installer** in the Start menu.
- Run AutoPilot Installer from a command line by running:

```
C:\Program Files\Emulex\AutoPilot Installer\APInstall.exe
```

Note: The location of APInstall.exe may differ on your system, depending on your system's Program Files location. You can also specify a different location when you install the driver package.

Hardware-First Installation or Driver Update

The driver kit installer must be downloaded from the Emulex website and installed before performing this installation.

Notes

- Updating the NIC protocol driver can temporarily disrupt operation of any NIC teams configured on the system.
- To update the Emulex protocol drivers, begin this procedure at step 2.

To perform a hardware-first installation:

1. Install a new Emulex adapter and power-on the system. If the Windows Found New Hardware wizard is displayed, click **Cancel** to exit; AutoPilot Installer performs this function.

Note: If there are multiple adapters in the system, the Windows Found New Hardware wizard appears multiple times. Click **Cancel** to exit the wizard each time it appears.

2. Run AutoPilot Installer using any of the options listed in “Running a Software Installation Interactively” on page 10.
3. When the AutoPilot Installer Welcome page appears, select an adapter in the list and click **Next**. Installation continues.

Consider the following:

- If you are updating the driver, the existing port settings are used, unless otherwise specified in the configuration file. These settings are pre-selected but can be changed. Set or change the settings, then click **Next**.
 - If you are **initially** installing a vendor-specific version of the Emulex driver installation program, a Driver Configuration page may be displayed. This page includes one or more windows with questions that you must answer before continuing the installation process. In this case, answer each question and click **Next** on each window to continue.
4. Click **Next**. The installation is completed automatically. A dialog box is displayed if Windows requires a reboot. After the installation is successful, a Finish page appears.
 5. View or print a report, if desired.
 - View Installation Report – The installation report is a text file with current Emulex adapter inventory, configuration information, and task results.
 - Print Installation Report – The Windows print dialog is displayed to select options for printing the installation report.
 6. Click **Finish** to exit AutoPilot Installer. If the system needs to be rebooted, you are prompted to do so as indicated in step 4; you must reboot before using the drivers or utilities.

Software-First Installation

The driver kit must be downloaded from the Emulex website and loaded before performing this installation. Either the full or core driver package can be installed; but only one can be installed on a system.

To perform a software-first installation:

1. Run AutoPilot Installer using any of the options listed in “Running a Software Installation Interactively” on page 10. Figure 2-1 appears:

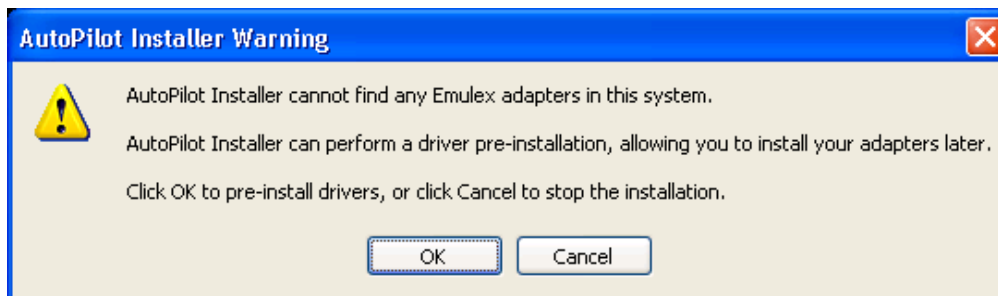


Figure 2-1 AutoPilot Installer Warning (Software-First Installation)

2. Click **OK**. A Welcome page appears.
3. Click **Next**. The installation automatically progresses. After the installation is successful, the Finish Page appears.
4. View or print a report, if desired.
 - View Installation Report – The installation report is a text file with current Emulex adapter inventory, configuration information and task results.
 - Print Installation Report – The Windows print dialog is displayed to select options for printing the installation report.
5. Click **Finish** to exit AutoPilot Installer.

Text-Only Driver Installation

Text-based installation mode is used automatically when the driver kit installer runs on a server with the Server Core installation option of Windows Server. During text-based installations, AutoPilot Installer uses a command prompt window. The driver kit installer notifies you when the driver is installed and also gives you a chance to stop the installation.

Whether AutoPilot installer is launched from the command line or run as a program, Windows always starts AutoPilot Installer as a separate stand-alone task. This means that AutoPilot Installer has its own command prompt window and cannot access others.

3. Installation Failure

The two possible failure scenarios are described below.

AutoPilot Installer Failure

If the AutoPilot Installer fails, the Diagnostics window shows that the adapter failed. If the adapter fails:

1. Select the adapter to view the reason why the adapter failed. The reason and suggested corrective action are displayed.
2. Perform the suggested corrective action and run AutoPilot Installer again.

Note: You can run AutoPilot Installer again from the Start menu (Programs>Emulex>AutoPilot Installer), or you can run APInstall.exe from a command prompt.

OneInstall Installer Failure

If the OneInstall Installer fails, it may be because:

- The operating system prerequisites have not been met.
- The individual kit installation failed. To check, run the installation interactively. If you encounter error messages when you run the installation interactively, those issues would also apply to an unattended installation.
- If an individual package failed to install properly, run that package's installer directly. This method displays status and error messages that can be used to diagnose the issue. (The OneInstall Installer does not provide these displays because each package is installed silently.)