



FC HBA STOR Miniport Driver for Windows

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1. Package Contents

The following table describes the contents provided in the FC HBA STOR miniport driver package.

Filename	Description
QL2X00.INF	Driver installation script
QLOGIC	Driver package identification file
QL2300.CAT	Catalog file
QL2300.SYS	QLogic Fibre Channel miniport driver
QLSDM.DLL	QLogic API
README.TXT	Text file version of this file
TXTSETUP.OEM	Driver installation script for text mode

2. OS Support

This release of the FC HBA STOR miniport driver works with Windows Server 2008, Windows Server 2003, Windows Server 2003 R2, Windows XP Professional, and Windows Vista as follows:

- The x86 32-bit STOR miniport driver version works with Windows Server 2008, Windows Server 2003, and Windows Vista platforms.
- The IA64-bit STOR miniport driver version works with Windows Server 2008 IA64, and Windows Server 2003 IA64 platforms.
- The x64-bit STOR miniport driver version works with Windows Server 2008 x64, Windows Server 2003 x64, Windows XP Professional x64, and Windows Vista x64 platforms.

NOTE: For specific OS service packs (SP) and updates, refer to the descriptions where this software version is posted on the QLogic website (http://support.qlogic.com/support/drivers_software.aspx).

3. Supported Features

The FC HBA STOR miniport driver supports the following:

- PnP interface
- Point-To-Point F port, FL port, N port and Arbitrated Loop
- FC Tape
- Reduced Interrupt Operation
- N_Port ID Virtualization (NPIV)
- Optimizing Bandwidth Link Efficiency (iiDMA)

4. Using the Driver

This section provides procedures for using the FC HBA STOR miniport driver:

- [4.1 Creating the Driver Disk or Folder](#)
- [4.2 Installing the Driver](#)
- [4.3 Removing the Driver](#)

4.1 Creating the Driver Disk or Folder

NOTE: A driver disk is only recommended for Boot from SAN installations and requires the Boot from SAN driver package.

To create a driver disk or folder:

1. Go to the QLogic website (http://support.qlogic.com/support/drivers_software.aspx).
2. Under **QLOGIC MODELS**, choose **Model** or **Operating System**.
 - For **Model**, select the link that identifies the HBA.
 - For **Operating System**, select **Windows**.
3. Select the link that identifies the Windows platform and click on the **Go!** button.
4. Click on the download link for the appropriate driver. If this is a boot from SAN installation, choose the boot from SAN driver package.
5. Read the license agreement and click **Agree**.
6. When prompted, select to save the driver to a temporary location on the hard drive.
7. For a Boot from SAN installation, insert a blank diskette in the diskette drive A:.
8. Run the self-extracting file you just downloaded and enter a temporary directory in the **Unzip to folder** field. For a Boot from SAN installation, enter A:\ in the **Unzip to folder** field to extract to the floppy disk.
9. Select the **Unzip** button to extract the driver files to the temporary location.

4.2 Installing the Driver

The operating system manages and controls the driver installation process; the driver follows the process dictated by the operating system. The driver installation cannot deviate from this process.

This section provides the most common ways of installing and upgrading the driver, as documented for each operating system. Please consult the operating system manuals for other installation procedures.

This section is divided into the following three sections:

- [4.2.1 Initial OS installation with the FC HBA as Boot or as Add-On](#)
- [4.2.2 Adding the FC HBA to the Existing OS](#)
- [4.2.3 Updating the Existing Driver](#)

NOTE: Windows Server 2003 SP2 (or later) requires Microsoft fixes KB932755 and KB939315 (or later). Windows Server 2003 SP1 requires Microsoft fixes KB932755 and KB939315 (or later). You must apply the Microsoft Storport update before installing or upgrading the driver. For Boot from SAN installation, use the Windows 2003 SP2 first, then apply the KB update.

4.2.1 Initial OS installation with the FC HBA as Boot or as Add-On

Windows Server 2003 and Windows Server 2003 R2

This procedure requires a system with a floppy drive (refer to [Section 4.1](#)). To initially install Windows on the boot from SAN disk attached to the QLogic Fibre Channel HBA:

1. Start the Windows installation procedure using the Setup CD.
2. Press **F6** when the following message appears:
Press F6 if you want to install a third party SCSI or RAID Driver... After all the standard devices have been loaded, press S to Specify Additional Device.

3. Insert the QLogic driver diskette and press **ENTER**.
4. Select the QLogic Fibre Channel HBA and press **ENTER**.
5. For Windows Server 2003, press **S=Use the driver on floppy**. The screen displays the following message:

```
Setup will load support for the following mass storage devices.
QLogic Fibre Channel HBA.
Press Enter=Continue.
```
6. Press **ENTER**.
7. Continue with the standard installation procedure.

Windows Server 2008 and Windows Vista

This procedure is only necessary when installing the driver during the initial OS installation. Windows Server 2008 and Windows Vista includes support for QLogic 2Gb (QLA2xx, QLA23xx, and QLE23xx) and 4Gb (QLA24xx, QLE2xx, and QLE24xx) HBAs. Windows Server 2008 includes support for QLogic 8Gb (QLE256x) HBAs. You can install the supported driver first, then upgrade to the new driver.

1. Start the Windows installation procedure using the Setup CD.
2. Select **Custom (Advanced)** when the following message appears:
Which type of installation do you want?
3. Select **Load Driver** when the following message appears:
Where do you want to install Windows?
4. At the Load Driver screen, insert the QLogic driver diskette and select **OK**.
5. Click **Next** to continue with the standard installation procedure.

4.2.2 Adding the FC HBA to the Existing OS

To add the FC HBA's driver to an existing Windows system, follow the procedure provided for your Windows version.

Windows Server 2003 and Windows Server 2003 R2

This procedure requires extracting the driver to a folder on the hard drive and configuring it with the latest Service Pack and Windows Update. FC HBAs are Plug and Play devices that are compatible with your computer.

1. Connect the HBA to the appropriate slot in the computer according to the device manufacturer's instructions.
2. Restart or turn on your computer. When the computer comes up, Windows detects the newly installed HBA and displays the Found New Hardware with Fibre Channel Controller message. The Found New Hardware wizard program starts installing a device driver for the newly installed HBA.
3. Insert the QLogic Software Diskette into drive A.
4. Select **Install the software automatically** (Recommended) and click **Next**.
5. Click **Finish** on the Completing the Found New Hardware Wizard.
6. If Windows displays the following message:
System Settings Change. Windows has finished installing a new HBAs. The software that supports your HBA requires that you restart your computer. You must restart your computer before the new settings will take effect. Do you want to restart your computer now?
Click **Yes** to restart the computer right away.

NOTE: If Windows Server 2003 installs the driver for the newly added FC HBA automatically upon startup without prompting you for a selection (for example, Windows Server 2003 installed an inbox driver), go to [Updating the Existing QLogic Driver](#) section below.

Windows Server 2008 and Windows Vista

1. Connect the HBA to the appropriate slot on your computer according to the device manufacturer's instructions.
2. Restart or turn on the computer. When the computer comes up, Windows detects the newly installed HBA and displays the Found New Hardware with Fibre Channel Controller message. The Found New Hardware wizard program starts installing a device driver for the newly installed HBA.
3. Select **I don't have the disc. Show me other options**.
4. Select **Browse my computer for driver software** (advanced).
5. Click **Browse** and navigate to the folder containing the extracted driver.
6. Click **Next**.
7. Click **Close** on The software for this device has been successfully installed message box.
8. If Windows displays the following message:
System Settings Change. Your hardware settings have changed. You must restart your computer for the changes to take effect. Do you want to restart your computer now?
 - o Click **No** if there are other HBAs or ports to update.
 - o Click **Yes** to restart the computer right away, if all HBAs and ports have been updated.

NOTE: If Windows installs the driver for the newly added FC HBA automatically upon startup without prompting you for a selection (for example, Windows Vista installed an Inbox driver), go to [Updating the](#)

[Existing QLogic Driver](#) section below.

4.2.3 Updating the Existing Driver

To install an updated version of the driver, follow the procedure provided for your Windows version.

Windows Server 2003 and Windows 2003 R2

Perform the following steps if the driver is already installed and an updated driver is to be installed.

1. Start the Device Manager:
 - a. Click **Start** and then click **Run**.
 - b. In **Open**, type `devmgmt.msc`, then press **ENTER**.
2. Use the scroll bar to scroll down the list of hardware types, then double-click **SCSI and RAID controllers**.
3. Double-click **QLogic Fibre Channel HBA** from the devices list.
4. Select the **Driver** tab, then click **Update Driver** to start the Hardware Update Wizard.
5. Select **Install from a list or specific location** (Advanced) and click **Next**.
6. Select **Don't search I will choose the driver to install** and click **Next**.
7. Click **Have Disk** and navigate to the folder containing the extracted driver.
8. When the Hardware Update Wizard/Select a Device Driver dialog box opens, click **Next**.
9. Click **Finish** on the Hardware Update Wizard/Completing the Hardware Update Wizard.

Windows Server 2008 and Windows Vista

1. Start the Device Manager:
 - a. Click **Start**, then click **Control Panel**.
 - b. Click **Hardware and Sound**.
 - c. Click **Device Manager**.
2. Use the scroll bar to scroll down the list of hardware types, then double-click **Storage Controller**.
3. Double-click **QLogic Fibre Channel HBA** from the devices list.
4. Select the **Driver** tab, then click **Update Driver** to start the Hardware Update Wizard.
5. Enter the path to the folder containing the extracted driver and click **Next**.
6. Click **Close** on the Windows has successfully updated your software screen.

4.3 Removing the Driver

To remove the driver in a Windows environment, uninstall it as a Plug and Play device:

1. Turn off your computer.
2. Remove the device from your computer according to the manufacturer's instructions.

NOTE: You do not normally have to use the Device Manager or the Hardware wizard to uninstall a Plug and Play device. After you remove the device from your computer and restart your computer, Windows recognizes that it has been removed.

5. Driver Parameters

This section describes the system registry parameters:

- [5.1 Storport Registry Parameters](#)
- [5.2 Driver Registry Parameters](#)

5.1 Storport Registry Parameters

Windows does not provide any configurable Storport driver registry parameters for customization.

5.2 Driver Registry Parameters

regfdmi

Enable FDMI (Fabric Device Management Interface) by setting the regfdmi parameter to 1. By default FDMI is disabled.

To change the regfdmi parameter:

1. From the Windows **Start** menu, select **Run**, and enter REGEDT32.
2. Select HKEY_LOCAL_MACHINE and follow the tree structure down to the QLogic driver as follows:

```
HKEY_LOCAL_MACHINE
  SYSTEM
    CurrentControlSet
      Services
        Ql2300
          Parameters
            Device
```

3. Double-click on DriverParameter:REG_SZ:regfdmi=0.
4. Set regfdmi:
 - o If the string regfdmi= does not exist, append to end of string:
;regfdmi=0
 - o If the string regfdmi=0 exists, change the value from 0 to 1.
5. Click **OK**.
6. Exit the Registry Editor, then shutdown and reboot the system.

msevtwrkaround

QLogic discovered that when stor miniport uses storportlogerror() call provided by the Microsoft Storport.sys driver to log an error event to the system event log, the Microsoft Storport.sys does not log the entry correctly. QLogic has reported this problem to Microsoft for quite awhile as: SRX041110604850 (StorPort - Incorrect event data is logged when storport's storportlogerror).

Until Microsoft provides a fix, QLogic has provided a workaround where the event code is being logged in the UniqueID field (Offset x10) instead of the usual location offset x34. The registry parameter msevtwrkaround controls this workaround. Currently, the stor miniport driver enables (1) this workaround by default.

To set the msevtwrkaround to 0:

1. From the Windows **Start** menu, select **Run**, and enter REGEDT32.
2. Select HKEY_LOCAL_MACHINE and follow the tree structure down to the QLogic driver as follows:

```
HKEY_LOCAL_MACHINE
  SYSTEM
    CurrentControlSet
      Services
        Ql2300
          Parameters
            Device
```

3. Double-click on DriverParameter:REG_SZ:
 - o If the string msevtwrkaround= does not exist, append to end of string:
;msevtwrkaround=0
 - o If the string msevtwrkaround=1 exists, change the value from 1 to 0.
4. Click **OK**.
5. Exit the Registry Editor, then shutdown and reboot the system.

6. Additional Notes

To ensure the driver functions properly, the driver installation script uses the QL2x00.inf file to change some of the system related registry entries such as the disk timeout value of the system disk driver. Removing the driver does not restore those values.

7. Contacting Support

Please feel free to contact your QLogic approved reseller or QLogic Technical Support at any phase of integration for assistance. QLogic Technical Support can be reached by the following methods:

Web: <http://support.qlogic.com>

North America Contact Information

Email: support@qlogic.com

Phone: (952) 932-4040

Support contact information for other regions of the world is available at the QLogic website:

<http://support.qlogic.com>

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