

## 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 (32-bit version)
QLSDMx64.DLL	QLogic API (x64 version)
QLSDMia64.DLL	QLogic API (IA64 version)
QLCO.DLL	QLogic Co-Installer
README.TXT	Text file version of this file
TXTSETUP.OEM	Driver installation script for text mode

**NOTE:** This package includes either QLSDMx64.DLL or QLSDMia64.DLL, depending on the supported 64-bit platform.

## 2. OS Support

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This release of the FC HBA STOR miniport driver works with Windows Server 2008 R2, Windows Server 2008, Windows Server 2008 R2 Core, Windows Server 2008 Core, Windows Server 2003 R2, Windows Server 2003, 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 service packs (SP) and OS updates, refer to the descriptions where this software version is posted on the QLogic website ([http://support.qlogic.com/support/drivers\\_software.aspx](http://support.qlogic.com/support/drivers_software.aspx)).

## 3. Using the Driver

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

- [3.1 Creating the Driver Disk or Folder](#)
- [3.2 Installing the Driver](#)
- [3.3 Removing the Driver](#)

### 3.1 Creating the Driver Disk or Folder

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**NOTE:** QLogic recommends using a driver disk only for Boot from SAN installations, which require the Boot from SAN driver package.

To create a driver disk or folder:

1. Go to the QLogic Web site (<http://driverdownloads.qlogic.com>), and then click the **Fibre Channel Adapters** or **Coverged Network Adapters** icon.
2. In the selection list, click your adapter model in the second column, click your Windows platform in the third column, and then click the **Go** button.
3. Click the download link for the appropriate driver. If this is a boot from SAN installation, choose the Boot from SAN driver package.
4. Read the license agreement, and then click **Agree**.
5. When prompted, select to save the driver to a temporary location on the hard drive.
6. For a Boot from SAN installation, insert a blank disk in the disk drive A:.
7. Run the self-extracting file you just downloaded and enter a temporary directory in the **Unzip to folder** box. For a Boot from SAN installation, enter A:\ in the **Unzip To folder** box to extract to the floppy disk.
8. To extract the driver files to the temporary location, click **Unzip**.

## 3.2 Installing the Driver

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The operating system manages and controls the driver installation process. Follow these steps to install the driver.

This section provides the most common ways of installing and upgrading the driver for each operating system, including:

- [3.2.1 Initial OS installation with the FC Adapter as Boot or as Add-On](#)
- [3.2.2 Adding the FC Adapter to the Existing OS](#)
- [3.2.3 Updating the Existing Driver](#)

For other installation methods, consult the operating system documentation.

**NOTE:** Before installing or upgrading the driver, you must apply the Microsoft Storport update. 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). For Boot from SAN installation, first use the Windows 2003 SP2, and then apply the KB update.

### 3.2.1 Initial OS installation with the FC Adapter as Boot or as Add-On

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Depending on your OS, follow the appropriate installation procedure.

#### Windows Server 2003 and Windows Server 2003 R2

This procedure requires a system with a floppy drive (refer to [section 3.1](#)). To initially install Windows on the boot from SAN disk attached to the QLogic Fibre Channel adapter, follow these steps:

1. Using the Setup CD, start the Windows installation procedure.
2. When the following message appears, press **<F6>**:  
`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 disk, and then press **<ENTER>**.
4. Select the QLogic Fibre Channel adapter, and then press **<ENTER>**.
5. For Windows Server 2003, press **<S>** to use the driver on disk. The following message appears:  
`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 R2, 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 include support for QLogic 2Gb (QLA2xx, QLA23xx, and QLE23xx) and 4Gb (QLA24xx, QLE2xx, and QLE24xx) adapters. Windows Server 2008 includes support for QLogic 8Gb (QLE256x) adapters. You can install the supported driver first, and then upgrade to the new driver.

1. Using the Setup CD, start the Windows installation procedure.
2. When the following message appears, click **Custom (Advanced)**:  
Which type of installation do you want?
3. When the following message appears, click **Load Driver**:  
Where do you want to install Windows?
4. On the Load Driver window, insert the QLogic driver disk in the A: drive, and then click **OK**.
5. To continue with the standard installation procedure, click **Next**.

### 3.2.2 Adding the FC Adapter to the Existing OS

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

## Windows Server 2003 R2 and Windows Server 2003

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 adapters are Plug and Play devices that are compatible with your computer.

1. Insert the adapter into the appropriate slot in the computer, according to the device manufacturer's instructions.
2. Restart or turn on your computer. When the computer starts up, Windows detects the newly-installed adapter and then displays the "Found New Hardware with Fibre Channel Controller" message. The Found New Hardware wizard starts installing a device driver for the newly-installed adapter.
3. Insert the QLogic Software Disk into drive A.
4. Click the **Install the software automatically (Recommended)** option, and then click *Next*.
5. In the Completing the Found New Hardware Wizard window, click **Finish**.
6. If Windows displays the following message, click **Yes** to immediately restart the computer:  
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?

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

## Windows Server 2008 R2, Windows Server 2008, and Windows Vista

1. Connect the adapter to the appropriate slot on your computer according to the device manufacturer's instructions.
2. Restart or turn on the computer. When the computer starts up, Windows detects the newly-installed adapter and displays the "Found New Hardware with Fibre Channel Controller" message. The Found New Hardware wizard starts installing a device driver for the newly-installed adapter.
3. Click **I don't have the disc. Show me other options.**
4. Click **Browse my computer for driver software (advanced).**
5. Click **Browse**, and then navigate to the folder containing the extracted driver.
6. Click **Next**.
7. On the "The software for this device has been successfully installed" message box, click **Close**.
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 If there are other adapters or ports to update, click **No**.
  - o If all adapters and ports have been updated, click Yes to immediately restart the computer.

**NOTE:** If Windows automatically installs the driver for the newly-added FC adapter upon startup, without prompting you for a selection (for example, Windows Vista installed an Inbox driver), go to the "Updating the Existing Driver" section.

### 3.2.3 Updating the Existing Driver

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

## Windows Server 2003 and Windows 2003 R2

If the driver is already installed and you want to install an updated driver, follow these steps.

1. Start the Device Manager as follows:
  - a. Click **Start**, and then click **Run**.
  - b. In the Run dialog box, type `devmgmt.msc`, and then click **OK**.
2. In the Device Manager dialog box, scroll down the list of hardware types, and then double-click **SCSI and RAID controllers**.
3. From the devices list, double-click **QLogic Fibre Channel HBA**.
4. Click the Driver tab, and then click **Update Driver** to start the Hardware Update Wizard.
5. Select **Install from a list or specific location (Advanced)**, and then click **Next**.
6. Click **Don't search I will choose the driver to install** and then 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. On the Hardware Update Wizard/Completing the Hardware Update Wizard, click **Finish**.

### **Windows Server 2008 R2, Windows Server 2008, and Windows Vista**

1. Start the Device Manager as follows:
  - a. Click **Start**, and then click **Control Panel**.
  - b. Click **Hardware and Sound**.
  - c. Click **Device Manager**.
2. Scroll down the list of hardware types, and then double-click **Storage Controller**.
3. From the devices list, double-click **QLogic Fibre Channel HBA**.
4. Click the **Driver** tab, and then click **Update Driver** to start the Hardware Update Wizard.
5. Enter the path to the folder containing the extracted driver, and then click **Next**.
6. On the "Windows has successfully updated your software" window, click **Close**.

### **3.3 Removing the Driver**

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

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

**NOTE:** You do not usually 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 system, Windows recognizes that it has been removed.

## **4. Driver Parameters**

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This section describes the following system registry parameters:

- [4.1. Storport Registry Parameters](#)
- [4.2. Driver Registry Parameters](#)

### **4.1 Storport Registry Parameters**

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

## 4.2 Driver Registry Parameters

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

To change the regfdmi parameter:

1. From the Windows **Start** menu, click **Run**, type REGEDT32, and then click **OK**.
2. In the Registry Editor, click HKEY\_LOCAL\_MACHINE, and then follow the tree structure down to the QLogic driver as follows:

```
HKEY_LOCAL_MACHINE
  SYSTEM
    CurrentControlSet
      Services
        ql2300
          Parameters
            Device
```

1. Double-click DriverParameter:REG\_SZ:regfdmi=0.
2. Set regfdmi:
  - If the string regfdmi= does not exist, append it to end of the string as follows:  
;regfdmi=0
  - If the string regfdmi=0 exists, change the value from 0 to 1.
3. Click **OK**.
4. Exit the Registry Editor, and then shut down and reboot the system.

- **msevtwrkaround** - QLogic discovered that when the STOR miniport uses the 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 correctly log the entry. QLogic has reported this problem to Microsoft 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, click **Run**, type REGEDT32, and then click **OK**.
2. In the Registry Editor, click HKEY\_LOCAL\_MACHINE, and then follow the tree structure down to the QLogic driver as follows:

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

3. Double-click DriverParameter:REG\_SZ. Note that:
  - If the string msevtwrkaround= does not exist, append it to the end of the string as follows:  
;msevtwrkaround=0
  - If the string msevtwrkaround=1 exists, change the value from 1 to 0.
4. Click **OK**.
5. Exit the Registry Editor, and then shutdown and reboot the system.

## 5. Additional Notes

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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.

## 6. Contacting Support

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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>

Email: [support@qlogic.com](mailto:support@qlogic.com)

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