



Firmware Information

Version 3.30a7

Table of Contents

- [Compatibility](#)
- [Prerequisites](#)
- [Cautions and Warnings](#)
- [Things to Know Before You Download](#)
- [Changes and Corrections](#)
- [Known Issues](#)
- Files Included in This Release
 - [LP8xxx](#)
 - [LP850](#)
 - [LP7xxx](#)

Firmware Information

Summary

Emulex firmware version 3.90a7 contains many changes and corrections. Several CRs addressing problems with self-test have been corrected (CRs 3788, 3803, 3707, 3708, 3397 [LP8000, LP8000DC and LP7000E only], 3534 [LP8000 and LP8000DC only], and 3495 [LP8000, LP8000DC and LP7000E only]), as well as CRs involving time-outs (CRs 3856, 3853, 3854, 3860, 3861, 4221 (LP8xxx only), 4213 (LP8xxx only), 4205, and 4224). See the Changes and Corrections section for a complete listing. This download page also lists four CRs specific to lp6dutil (DOS utility).

Compatibility

- Firmware version 3.30a7 for LP8000, LP8000DC is compatible with the LP8000 and LP8000DC HBAs.
- Firmware version 3.30a7 for LP850 is compatible with the LP850 PCI HBA.
- Firmware version 3.30a7 for LP7000E is compatible with the LP7000E PCI HBA.

Prerequisites

- Local boot disk
- The intended Fibre Channel target should be big enough to hold all system files and the swap slice of the current local boot disk

Cautions and Warnings

Caution For LP8xxx and LP850: This firmware will function only on HBAs containing Dragonfly chips of version 2.00 or greater.

Loading the firmware in this kit to the OLD VERSION 1.1 chip will prevent any driver from binding to the HBA. If this firmware is loaded on an OLD VERSION 1.1 Dragonfly, the only way to reverse it is to reload version 3.2x or 3.3x firmware using the lp6dutil.exe program, which runs only under MS-DOS. If this method is not available, the HBA must be returned to the factory for reprogramming.

Caution If you use the DOS utility, lp6dutil, to update the firmware, you must use Version 8.3 or higher. Versions older than Version 8.3 are not supported by Emulex to update the firmware. The latest version of lp6dutil (Version 8.7a8) is included with this firmware kit.

Things to Know Before You Download

- Make a directory on your system before you download and unzip the firmware update files.
- Ensure that critical files on your local boot disk are backed up as a measure of protection.
- Firmware version 3.30a7 for LP8xxx and LP7000E uses a Universal Boot image. Firmware version 3.30a7 for LP850 uses BootBIOS code.
- This release contains .dwc and .awc files.
- The lp6dutil is a DOS-based utility that enables you to test the host adapter board and to update firmware and boot code. If you use the DOS utility, lp6dutil, to update the firmware, we recommend that you use version 8.7a8. This is the latest version of lp6dutil and is included in this kit.
- If you are currently using an Emulex driver, you can update firmware and boot code with the diagnostic utility that was loaded when the driver was installed.

Changes and Corrections

Note Changes may require the driver, the operating system, or other levels of software to be compatible, and as a result some of these features may not be available on all configurations.

- Inactive exchange control blocks now have their X_ID obscured to insure that they will not affect active exchanges. (CRs 3916, 3917, 3653, 3656)
- Corrected a problem with the adapter firmware resetting the sequence flags on an S_ID mismatch in an invalid manner. This was found only in target mode, under very heavy loads and in extreme circumstances. (CRs 3792, 3791)
- Improved operation of E_D_TOV timer when closing exchange. (CRs 3794, 3793)
- Corrected a self-test problem reporting the wrong internal test number. (CRs 3788, 3803)
- Improved wake-up failure reporting capability. Added the ability to read the additional wake-up errors from SLIM memory. (CRs 3804, 3807)
- Due to the length of time required to close out an aborted exchange with a remote port which is not responding, the "early abort notification" is now forced into the active state for commands that have timed out. (CRs 3853, 3854)
- Solved a time-out problem when switching from LOOP to P2P when connected to a switch port. (CRs 3806, 3856)
- Added extra delay time to TX/RX DMA time-out trap to allow for special PCI bus designs (CRs 3860, 3861)
- Corrected HBA memory initialization problem with the BootBIOS utility setting P2P mode on the LP8000. (CR 3647)
- Corrected response to READ_LA mailbox command so that valid current and link down state information is returned. (CRs 3630, 3635)
- A method of detecting and correcting a single-bit FLASH error was added for the 128K FLASH boot sector. This method addresses all known instances of charge migration in the FLASH. (CRs 3709, 3710)
- An alternate method of handling PCI Lock during self-test was put into place to significantly lower the chances of a self-test failure hanging the PCI bus. (CRs 3707, 3708)
- Allocated four extra buffers for FICON performance enhancement. (CRs 3629, 3632)
- Corrected a problem with reviving expired exchange during ABTS processing. (CRs 3631, 3636)
- Changed SLI Target to operate as a PLDA type device in order to achieve better resiliency in target mode. (CRs 3493, 3494)

- Improved FICON exchange handling to avoid filling the response ring in a custom driver during heavy I/O. (CRs 3393, 2725)
- During research on a different problem, an analyzer trace showed that the adapter was replying to TEST and ESTC frames. This was corrected to issue no reply and to ignore the frames. (CRs 3394, 2898)
- Corrected the following problem: adapter firmware ignored ABTX els COMMAND and did not respond to the host. Corrected by issuing LS_RJT (link server reject) in response. (CRs 3521, 3533)
- Corrected the following problem: if a boot failed due to a fast BIOS ROM read request time-out of a particular model of host computer. Corrected the problem by speeding up the self-test in the firmware (LP8000, LP8000DC and LP7000E only). (CRs 3397, 3354, 3495)
- A problem with buffer compare errors after running a certain test program for a period of days with a LIP every 15 seconds was resolved. (CRs 3460, 3579)
- A feature enhancement was added to the SLI by customer request. (CRs 3345, 3110)
- Corrected a problem that caused a stall. A particular request from the driver would cause a stall when connected to the fabric, but not when connection to an N-port (LP8000, LP8000DC and LP850 only). (CRs 3344, 3465)
- Corrected a firmware-to-driver response problem when closing an FCP-2 tape exchange. (CRs 3583, 3586)
- Changed SLI-2 feature indicator level from 2 to 3 to reflect the recently added features. (CRs 3604, 3605)
- The firmware now cleans up any outstanding parity error bits in the ASIC immediately after startup. (CRs 4046, 4075)
- The current version of Emulex ASIC does not interrupt the firmware on the HBA if there is a PERR during a PCI Memory Write. This firmware change will poll the status bit in the ASIC instead. (CRs 4030, 4062)
- Corrected problem with LIP causing an internal B-bus parity error. (CRs 4130, 4170)
- Modified the FCP-2 recovery protocol to match FCP-2 Rev 7. Previous modification caused problems with non-compliant targets. These modifications were removed. (CRs 3581, 3584, 3585, 4165, 4169)
- Corrected problem with adapter sending wrong type code: using TAR to transfer data to a tape drive caused a time-out upon close. The adapter was sending type code REC ELS. This problem has been corrected (LP9xxx and LP8xxx only). (CRs 4221, 4213)
- Corrected problem with firmware which relates to Linux. Storing high file counts (>2000) to tape resulted in an IOCB error 41 upon close and rewind. (CRs 4218, 4222)
- Due to speed negotiation and other initialization when connecting to a switch port for the first time, the HBA internally times out and goes into bypass mode, shutting down the port. The LIP time-out when entering point-to-point negotiation was removed. (CRs 4205, 4224)

- There was a problem with GEN_REQUEST response data buffering under certain conditions, which resulted in a time-out. (CR 4318, 4296)
- The READ_LNK_STAT command now returns the correct Receive Counter value, which properly reflects the buffer credits. (CR 4353, 4346)
- A race condition in firmware resulted when an exchange was aborted only if there were no outstanding exchanges left. (CR 4354, 4351)

lp6dutil-specific Changes and Corrections

- Added command line options to lp6dutilat customer's request. (CR 3577)
- Corrected lp6dutil summary status display to indicate if any errors were encountered in "IGNORE_ERROR" mode. (CR 3578)
- lp6dutilcosmetic change in vendor ID field. (CR 3602)
- Corrected problem with lp6dutil system hang issue when External Loopback test fails and user chooses to continue testing. (CRs 3603)

Known Issues

The following issues have been reported at the time of publication. These issues may not yet have been verified or confirmed and may apply to another product, such as the driver or hardware.

- **Link issue:** When using a gigabit switch and the Windows driver is forced into loop mode, link does not come up. (CR 4262) **Workaround:** Should you experience this problem, do not force loop mode on an HBA connected to a 2-gigabit switch. There are three ways to implement this workaround:
 - ◆ Modify the Global Registry. Set the InitLinkFlags Bit 23 to attempt an alternate topology if loop fails.
 - ◆ If you have a port driver, you can use the elxcfg configuration utility. From the Tools menu, select Link Control. On the Link Control Parameters window, check the Automatic Topology Detection check box. From the Configuration Menu, select Set. On the Select Configuration window, select Fabric Point-to-Point or Fabric Point-to-Point Automap, as applicable.
 - ◆ If you have a miniport driver, you can use the lputilnt utility. Select the Driver Parameter category, then double-click on Topology. A window displays to change the current value. 2 is the default (point-to-point). If 0 is the current value, change the value to 2 or 3 (loop first, then point-to-point).
- **Link issue:** When using a 1-gigabit switch and a 2-gigabit Emulex HBA with the Linux driver set to point-to-point and to auto-detect the link-speed, most of the time the link will not come up. (CR 4265) **Workaround:** Should you experience this problem, force 1-gigabit mode on the HBA by setting the link-speed parameter to (1) (indicating 1 gigabit) in the lpfc.conf file (the configuration file for the main driver). Once you set this parameter, you need to rebuild the driver.

Files Included in This Release (LP8xxx)

This kit includes the following files:

File Name	Description
readme.txt	Release notes for firmware version 3.90a7
c311rel.txt	Combination BootBIOS and OpenBoot release notes
b160rel.txt	Emulex BIOS release notes
o131rel.txt	OpenBoot release notes
DDC390a7.dwc	Firmware files for the HBA, with BootBIOS – these files update all components, but do not touch the boot code or kernel
DDC390a7.awc	Firmware files with loader and BootBIOS – these files update the boot code, kernel and all components
DD390a7.*	Firmware files without BootBIOS
/prg_kit/*.*	Individual SLI, BIOS, POST and Config files – also known as the components
lp6dutil.txt	lp6dutil text-based software manual
lp6dutil.exe	LP6000/7000/8xxx/9xxx DOS-based diagnostic 8.7a8
dev_id.txt	Information on setting unique PCI ID values
dfplus1.cfl	Configuration file to allow PCI ID = F801
fdefault.cfl	Configuration file to allow PCI ID = 1AE5
ddefault.cfl	Configuration file for restoring PCI ID to default

Files Included in This Release (LP850)

This kit includes the following files:

File Name	Description
readme.txt	Release notes for firmware version 3.90a7
b160rel.txt	Emulex BootBIOS release notes
QFB390a7.dwc	Firmware files for the HBA, with BootBIOS – these files update all components, but do not touch the boot code or kernel
QFB390a7.awc	Firmware files with loader and BootBIOS – these files update the boot code, kernel and all components
QF390a7.*	Firmware files without BootBIOS
/prg_kit/*.*	Individual SLI, BIOS, POST and Config files – also known as the components
lp6dutil.txt	lp6dutil text-based software manual
lp6dutil.exe	LP6000/7000/8xxx/9xxx DOS-based diagnostic 8.7a8

Files Included in This Release (LP7xxx)

This kit includes the following files:

File Name	Description
readme.txt	Release notes for firmware version 3.90a7
c311rel.txt	Combination BootBIOS and OpenBoot release notes
b160rel.txt	Emulex BootBIOS release notes
o131rel.txt	OpenBoot release notes
SFC390a7.dwc	Firmware files for the HBA, with BootBIOS – these files update all components, but do not touch the boot code or kernel
SFC390a7.awc	Firmware files with loader and BootBIOS – these files update the boot code, kernel and all components
SF390a7.*	Firmware files without BootBIOS
/prg_kit/*.*	Individual SLI, BIOS, POST and Config files – also known as the components
lp6dutil.txt	lp6dutil text-based software manual
lp6dutil.exe	LP6000/7000/8xxx/9xxx DOS-based diagnostic 8.7a8
dev_id.txt	Information on setting unique PCI ID values
sfplus1.cfl	Configuration file to allow PCI ID = F701
fdefault.cfl	Configuration file to allow PCI ID = 1AE5
sdefault.cfl	Configuration file for restoring PCI ID to default

EMULEX END USER LICENSE AGREEMENT

Any software and documentation provided hereunder (respectively "Software" and "Documentation") are the copyrighted works of Emulex Corporation and/or its suppliers. The use of the Software and/or Documentation is governed by the terms of existing licenses with Emulex Corporation; the license agreement, if any, which accompanies or is included with the Software and/or Documentation; or with the terms of this license (each a "License Agreement"). The Software and/or Documentation are made available solely for use by purchasers and/or licensees of Emulex products. In addition, permission to use Documentation is granted, provided that (1) the below copyright notice and this permission notice appears on all copies, (2) use of such Documentation is for informational and non-commercial or personal use only, (3) the Documentation will not be copied or posted on any network computer or broadcast in any media, and (4) no modification of any Documentation is made. Any use, reproduction, or redistribution of the Software and/or Documentation not in accordance with the License Agreement is expressly prohibited by law, and may result in severe civil and criminal penalties. Violators will be prosecuted to the maximum extent possible.

COPYING OR REPRODUCTION OF THE SOFTWARE TO ANY OTHER SERVER OR LOCATION FOR FURTHER REPRODUCTION OR REDISTRIBUTION IS EXPRESSLY PROHIBITED, UNLESS SPECIFICALLY AUTHORIZED IN WRITING BY EMULEX. THE SOFTWARE IS WARRANTED, IF AT ALL, ONLY ACCORDING TO THE TERMS OF THE LICENSE AGREEMENT. EXCEPT AS SPECIFIED IN THE LICENSE AGREEMENT, EMULEX CORPORATION HEREBY DISCLAIMS ALL WARRANTIES WITH REGARD TO THE SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND NON-INFRINGEMENT. EMULEX AND/OR ITS RESPECTIVE SUPPLIERS MAKE NO REPRESENTATIONS ABOUT THE SUITABILITY FOR ANY PURPOSE OF THE INFORMATION CONTAINED IN THE DOCUMENTATION. ALL SUCH DOCUMENTATION IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND. EMULEX AND/OR ITS RESPECTIVE SUPPLIERS HEREBY DISCLAIM ALL WARRANTIES WITH REGARD TO THIS INFORMATION, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND NON-INFRINGEMENT. THE DOCUMENTATION COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. EMULEX AND/OR ITS RESPECTIVE SUPPLIERS RESERVE THE RIGHT TO MAKE CHANGES TO THE PRODUCT(S) AND/OR PROGRAM(S) DESCRIBED HEREIN AT ANY TIME WITHOUT NOTICE. IN NO EVENT SHALL EMULEX AND/OR ITS RESPECTIVE SUPPLIERS BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHERWISE, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF SOFTWARE, DOCUMENTATION, OR PROVISION OF OR FAILURE TO PROVIDE SERVICES.

RESTRICTED RIGHTS LEGEND. Any Software which licensed hereunder for or on behalf of the United States of America, its agencies and/or instrumentalities ("U.S. Government"), is provided with Restricted Rights. Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or subparagraphs (c)(1) and (2) of the Commercial Computer Software - Restricted Rights at 48 CFR 52.227-19, as applicable. Manufacturer is Emulex Corporation, 3535 Harbor Blvd., Costa Mesa, CA 92626.

COPYRIGHT NOTICE. Copyright © 2002 Emulex and/or its suppliers, 3535 Harbor Blvd., Costa Mesa, CA 92626 U.S.A. All rights reserved.

TRADEMARKS. Emulex, and/or Emulex products referenced herein are either trademarks or registered trademarks of Emulex. Other product and company names mentioned herein may be the trademarks of their respective owners. The names of companies, products, people, characters and/or data mentioned herein are fictitious and are in no way intended to represent any real individual, company, product or event, unless otherwise noted. Any rights not expressly granted herein are reserved.

Last Updated: October 1, 2001.

Verifying Dragonfly Chip Version

There are three methods for determining the Dragonfly chip version: Looking at the Host Bus Adapter, running the DOS utility, or running the UNIX-based utility.

Looking at the Host Bus Adapter

The Dragonfly version number can be found on the top of the large chip, usually after the term "DRAGONFLY" or "DFLY".

Running the DOS Utility

1. Boot up the computer in DOS.
2. Enter this command to start the lp6dutil program.

```
c:\>lp6dutil
```

The lp6dutil program runs preliminary tests on all host adapters.

3. Press the Return or Enter key until the main menu displays. The lp6dutil utility resets all host adapters and displays resource information for all host adapters.

Note Press 0 to go back to the previous screen.

```
1 - Test Host Adapters
2 - Modify Test Options
3 - Restart Host Adapters
4 - Input/Output
5 - Maintenance
6 - Show Host Adapters Info
7 - Quit
```

4. Select 6, Show Host Adapter Info.

The Option menu displays.

```
1 - BIU PCI Configuration Parameters      5 - Service Parameters
2 - Host Adapter Info and Status         6 - Status/Counters Info
3 - Adapter Revision Levels              7 - Link Status
4 - Display Configuration Data           8 - Link Attention
```

5. Select 3, Adapter Revision Levels . If there are multiple host adapters, specify a list of numbers from 1 – 3 separated by spaces, or use a '-' between two numbers to specify a range of host adapters. The following type of information displays for the host bus adapter (this is an example only).

```

Chipset Revision Levels:
DragonFly Revision = 0x1002106D

Firmware Revision Levels:
Current Operational Firmware = Initial Operational Firmware
Kernel Revision = 1.00
Initial Operational Firmware Revision = Initial Load 1.01a0
(QS1.01A0 )
SLI-1 Revision = SLI-1 Overlay 1.01a0 (Q1F1.01A0 )
SLI-2 Revision = SLI-2 Overlay 1.01a0 (Q2F1.01A0 )

```

LP8000 v1 shows a chipset revision that contains 210 near the end of the adapter's hex number (DragonFly Revision number).

LP8000 v2 shows a chipset revision that contains 250 near the end of the adapter's hex number.

Using the UNIX-based Utility

1. Enter the appropriate command to start the lputil utility:

```

For AIX enter: /usr/lpp/diagnostics/lputil
For HP-UX enter: /opt/lpfc/bin/lputil
For Linux enter: /usr/sbin/lpfc/lputil
For Solaris PCI bus enter: /usr/sbin/lpfc/lputil

```

The main menu displays.

```
LightPulse Common Utility version 1.1 (3/17/99)
Copyright (c) 1999, Emulex Network Systems, Inc.

Emulex Fibre Channel Host Adapters Detected: 1
Host Adapter 0 is an LP7K (Ready Mode)

MAIN MENU

1. List Adapters
2. Adapter Information
3. Firmware Maintenance
4. Reset Adapter

0. Exit

Enter Choice =>
```

2. Select 2, Adapter Information. The Adapter Information Menu displays.

```
1. BIU PCI Configuration Parameters
2. Adapter Revision Levels
3. Wakeup Parameters
4. IEEE Address
5. Loop Map
6. Status & Counters
7. Link Status
8. Configuration Parameters

0. Return to Main Menu.
```

3. Select 2, Adapter Revision Levels. If there are multiple host adapters, a list displays and you need to select an adapter. The following type of information displays for the host bus adapter (this is an example only).

```
BIU: 2002506D
Sequence Manager: 00000000
Endec: 00000000
Operational Firmware: SLI-2 Overlay
Kernel: LP8K 2.01a0
Initial Firmware: Initial Load 3.81a2 (DS3.81A2)
SLI-1:LP8K SLI-1 Overlay 3.81a2 (DID3.81A2)
SLI-2:LP8K SLI-2 Overlay 2.81a2 (D2D3.81A2)
Highest FC-PH Version: 4.3
Lowest FC-PH Version:4.3

Press any key to continue.
```

LP8000 v1 shows a chipset revision that contains 210 near the end of the BIU number.

LP8000 v2 shows a chipset revision that contains 250 near the end of the BIU number.

Firmware Types

.dwc and .awc Files

- To update the firmware with an image that does not include the POST code, use a .dwc file. This is the preferred update method: If the process of updating the firmware is interrupted (such as by a power outage), the POST code is not affected and the download process can be retried.
- To update the firmware with an image that includes the POST code, use a .awc file. If the process of updating the firmware is interrupted (such as by a power outage) during the POST code update, you may have to return the HBA to Emulex for repair.

The readme file that accompanies the firmware package indicates situations in which you must update the firmware with the .awc file.

Boot Code

Emulex firmware includes optional boot code, which is software that communicates with a computer's BIOS to allow you to designate a Fibre Channel drive as the boot drive.

Depending on your operating system, you may have the option of updating the boot code separately from updating the firmware. The list of files that are included in the firmware release indicates whether a firmware image includes boot code.

For the purposes of updating the boot code:

- "BootBIOS" refers to boot code that communicates with an x86 BIOS.
- "OpenBoot" refers to boot code that communicates with a SPARC BIOS.
- "Universal Boot" refers to an Emulex package that includes boot code for both BootBIOS and OpenBoot.

If you update the firmware with an image that includes Universal Boot, Universal Boot configures itself automatically when it is placed in an x86 environment or in a system that supports OpenBoot.



Update Firmware Version 3.30a7

SCSI Port Miniport Driver for Windows Server 2003, Windows 2000 and Windows NT Procedure

Table of Contents

- [Introduction](#)
- [Firmware File Types](#)
- [Update Firmware](#)

Introduction

Updating firmware involves performing the following steps:

1. Decide which firmware file to use.
2. Load the firmware package using the SCSIPort Miniport driver utility for Windows Server 2003, Windows 2000 or Windows NT (lputilnt for 32-bit systems, lputil64 for 64-bit systems).
3. Enable boot code if using the adapter's drives to boot the system.
4. Verify the update.

If you loaded the firmware package containing boot code, refer to the boot code Update Manual to enable boot code on the adapter. This procedure loads boot code on the adapter and enables boot code on the system.

Firmware File Types

A list of files is provided when you download your new firmware or in the firmware package readme.txt file.

.dwc and .awc Files

- **.dwc – preferred** Does not include POST code. If the update process is interrupted (such as by a power outage), the POST code is not affected and the download process can be retried.
- **.awc** – Includes POST code. If the update process is interrupted (such as by a power outage) during the POST code update, you may have to return the HBA to Emulex for repair.

The readme file that accompanies the firmware package indicates situations in which you must update the firmware with the .awc file.

Boot Code

Firmware is bundled with or without boot code. Boot code allows you to designate a Fibre Channel drive as the boot drive. If the adapter's devices will be used to boot the system, it is recommended that you use the firmware package that includes boot code. The update procedure will load both the new firmware and boot code at the same time. After updating, refer to the boot code manuals for procedures on enabling the boot code on your adapter.

Load Firmware

Prerequisites

- One of the following drivers is installed properly:
 - ◆ SCSIPort Miniport driver for Windows Server 2003, Windows 2000 or Windows NT.
 - ◆ STORPort Miniport driver for Windows Server 2003.
- The LightPulse utility (lputilnt for 32-bit systems or lputil64 for 64-bit systems) is installed properly.
- The firmware file has been downloaded to a local drive.

Caution If you are using lputilnt to update firmware on an LP9802DC HBA, you must use lputilnt version 1.6a7 or later. For any other HBA, you can use lputilnt version 1.5a1 or later.

Firmware versions differ between adapter models. Make sure you have downloaded the appropriate firmware for your adapter.

Procedure

1. Click Start, Programs and lputilnt or lputil64.
2. Select the desired host adapter.
3. Select Firmware Maintenance from the Category list.

Note If the letter W appears next to a firmware entry, it indicates that the image is represented in the wakeup parameters. This means that the HBA will use that specific image if it needs a firmware image.

4. Click Download.
5. Locate the new firmware file.
6. Click Open.
7. The new firmware is transferred to flash ROM.



Update Firmware Version 3.30a7

STORPort Miniport Driver for Windows Server 2003, Windows 2000 and Windows NT Procedure

Table of Contents

- [Introduction](#)
- [Firmware File Types](#)
- [Update Firmware](#)

Introduction

Updating firmware involves performing the following steps:

1. Decide which firmware file to use.
2. Load the firmware package using the STORPort Miniport driver utility for Windows Server 2003, Windows 2000 or Windows NT (lputilnt for 32-bit systems, lputil64 for 64-bit systems).
3. Enable boot code if using the adapter's drives to boot the system.
4. Verify the update.

If you loaded the firmware package containing boot code, refer to the boot code Update Manual to enable boot code on the adapter. This procedure loads boot code on the adapter and enables boot code on the system.

Firmware File Types

A list of files is provided when you download your new firmware or in the firmware package readme.txt file.

.dwc and .awc Files

- **.dwc – preferred** Does not include POST code. If the update process is interrupted (such as by a power outage), the POST code is not affected and the download process can be retried.
- **.awc** – Includes POST code. If the update process is interrupted (such as by a power outage) during the POST code update, you may have to return the HBA to Emulex for repair.

The readme file that accompanies the firmware package indicates situations in which you must update the firmware with the .awc file.

Boot Code

Firmware is bundled with or without boot code. Boot code allows you to designate a Fibre Channel drive as the boot drive. If the adapter's devices will be used to boot the system, it is recommended that you use the firmware package that includes boot code. The update procedure will load both the new firmware and boot code at the same time. After updating, refer to the boot code manuals for procedures on enabling the boot code on your adapter.

Load Firmware

Prerequisites

- One of the following drivers is installed properly:
 - ◆ SCSIPort Miniport driver for Windows Server 2003, Windows 2000 or Windows NT.
 - ◆ STORPort Miniport driver for Windows Server 2003.
- The LightPulse utility (lputilnt for 32-bit systems or lputil64 for 64-bit systems) is installed properly.
- The firmware file has been downloaded to a local drive.

Caution If you are using lputilnt to update firmware on an LP9802DC HBA, you must use lputilnt version 1.6a7 or later. For any other HBA, you can use lputilnt version 1.5a1 or later.

Firmware versions differ between adapter models. Make sure you have downloaded the appropriate firmware for your adapter.

Procedure

1. Click Start, Programs and lputilnt or lputil64.
2. Select the desired host adapter.
3. Select Firmware Maintenance from the Category list.

Note If the letter W appears next to a firmware entry, it indicates that the image is represented in the wakeup parameters. This means that the HBA will use that specific image if it needs a firmware image.

4. Click Download.
5. Locate the new firmware file.
6. Click Open.
7. The new firmware is transferred to flash ROM.



Update Firmware Version 3.30a7

Port Driver for Windows Server 2003, Windows 2000 and Windows NT Procedure

Table of Contents

- [Introduction](#)
- [Firmware File Types](#)
- [Update Firmware](#)

Introduction

Updating firmware involves performing the following steps:

1. Decide which firmware file to use.
2. Load the firmware package using the Port driver utility for Windows Server 2003, Windows 2000 and Windows NT (elxcfg).
3. Enable boot code if using the adapter's drives to boot the system.
4. Verify the update.

If you loaded the firmware package containing boot code, refer to the boot code Update Manual to enable boot code on the adapter. This procedure loads boot code on the adapter and enables boot code on the system.

Firmware File Types

A list of files is provided when you download your new firmware or in the firmware package readme.txt file.

.dwc and .awc Files

- **.dwc – preferred** Does not include POST code. If the update process is interrupted (such as by a power outage), the POST code is not affected and the download process can be retried.
- **.awc** – Includes POST code. If the update process is interrupted (such as by a power outage) during the POST code update, you may have to return the HBA to Emulex for repair.

The readme file that accompanies the firmware package indicates situations in which you must update the firmware with the .awc file.

Boot Code

Firmware is bundled with or without boot code. Boot code allows you to designate a Fibre Channel drive as the boot drive. If the adapter's devices will be used to boot the system, it is recommended that you use the firmware package that includes boot code. The update procedure will load both the new firmware and boot code at the same time. After updating, refer to the boot code manuals for procedures on enabling the boot code on your adapter.

Updating Firmware

Prerequisites

- The Port driver for Windows Server 2003, Windows 2000 or Windows NT is installed.
- elxcfg version 1.41a10 or later is installed.
- The firmware file has been downloaded to a local drive.

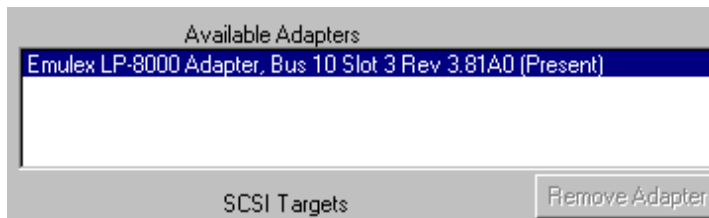
Procedure

This procedure uses the elxcfg utility.

Caution Using the Emulex Configuration Tool to change the adapter firmware to an earlier version may cause the system to lock or devices connected to the adapter to become unavailable. If this happens, reboot the system.

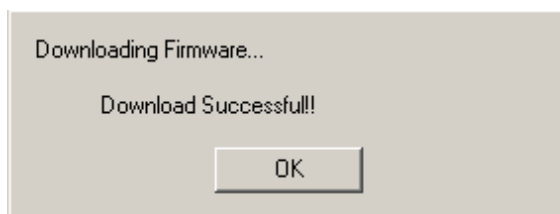
Firmware versions differ between adapter versions. Make sure you have downloaded the appropriate firmware for your adapter.

1. Start the elxcfg utility. The Main window is opened. Select an adapter from the Available Adapters list.



2. Select Download Firmware from the Tools menu. A browse window is displayed.
3. Select the firmware file.
4. Click Open.

Firmware is verified and downloaded, and the following confirmation window is displayed.





Update Firmware Version 3.30a7

AIX Procedure

Table of Contents

- [Introduction](#)
- [Firmware File Types](#)
- [Update Firmware](#)

Introduction

Updating firmware involves performing the following steps:

1. Decide which firmware file to use.
2. Load the firmware package using the driver utility for AIX (lputil).
3. Enable boot code if using the adapter's drives to boot the system.
4. Verify the update.

If you loaded the firmware package containing boot code, refer to the boot code Update Manual to enable boot code on the adapter. This procedure loads boot code on the adapter and enables boot code on the system.

Firmware File Types

A list of files is provided when you download your new firmware or in the firmware package readme.txt file.

.dwc and .awc Files

- **.dwc – preferred** Does not include POST code. If the update process is interrupted (such as by a power outage), the POST code is not affected and the download process can be retried.
- **.awc** – Includes POST code. If the update process is interrupted (such as by a power outage) during the POST code update, you may have to return the HBA to Emulex for repair.

The readme file that accompanies the firmware package indicates situations in which you must update the firmware with the .awc file.

Boot Code

Firmware is bundled with or without boot code. Boot code allows you to designate a Fibre Channel drive as the boot drive. If the adapter's devices will be used to boot the system, it is recommended that you use the firmware package that includes boot code. The update procedure will load both the new firmware and boot code at the same time. After updating, refer to the boot code manuals for procedures on enabling the boot code on your adapter.

Update Firmware

Prerequisites:

- The driver for AIX is installed properly.
- The firmware file has been downloaded to a local drive.

This procedure uses the `lputil` utility, which is installed with the driver.

Load Firmware

1. Start the utility by entering the complete path to `lputil`. The path in the example reflects the default installation path. If the installation path was modified, adjust the command appropriately.

```
/usr/lpp/diagnostics/lputil
```

2. From the Main menu, enter 3, Firmware Maintenance.

```

FIRMWARE MAINTENANCE MENU

1. Load Firmware Images
2. Display AWC File Contents
3. Display Flash Load List
4. Load PCI Configuration File

0. Return to Main Menu

Enter choice => 1
```

3. Enter 1, Load Firmware Image.
4. Enter the full path to the firmware file.

This file downloads to the FLASH ROM of the host adapter. The board should automatically reset.

After upgrading the firmware, it may be necessary to reboot the system.

Verify Firmware Update

1. Enter 0 to return to the Main menu.
2. Enter 2, Adapter Information.
3. Enter 2, Adapter Revision Levels. Verify that the new firmware information displays.
4. Enter 0 twice to exit.



Update Firmware Version 3.30a7

HP-UX Procedure

Table of Contents

- [Introduction](#)
- [Firmware File Types](#)
- [Update Firmware](#)

Introduction

Updating firmware involves performing the following steps:

1. Decide which firmware file to use.

Note If you are updating firmware on a dual channel adapter that uses the HP-UX driver, you **must load boot code**. Loading a firmware image without boot code will make the dual channel adapter unavailable after a system reboot. Use ddb or ddc files for the LP8000DC and cdb or cdc files for the LP9002DC. You can also install boot code after you have updated firmware.

2. Load the firmware package using the driver utility for HP-UX (lputil).
3. Enable boot code if using the adapter's drives to boot the system.
4. Verify the update.

If you loaded the firmware package containing boot code, refer to the boot code Update Manual to enable boot code on the adapter. This procedure loads boot code on the adapter and enables boot code on the system.

Firmware File Types

A list of files is provided when you download your new firmware or in the firmware package readme.txt file.

.dwc and .awc Files

- **.dwc – preferred** Does not include POST code. If the update process is interrupted (such as by a power outage), the POST code is not affected and the download process can be retried.
- **.awc** – Includes POST code. If the update process is interrupted (such as by a power outage) during the POST code update, you may have to return the HBA to Emulex for repair.

The readme file that accompanies the firmware package indicates situations in which you must update the firmware with the .awc file.

Boot Code

Firmware is bundled with or without boot code. Boot code allows you to designate a Fibre Channel drive as the boot drive. If the adapter's devices will be used to boot the system, it is recommended that you use the firmware package that includes boot code. The update procedure will load both the new firmware and boot code at the same time. After updating, refer to the boot code manuals for procedures on enabling the boot code on your adapter.

Update Firmware



Prerequisites

- The driver for HP–UX is installed properly.
- The firmware file has been downloaded to a local drive. Firmware versions differ between adapter versions. Make sure you have downloaded the appropriate firmware for your adapter.

Load Firmware

This procedure uses the `lputil` utility, which is installed with the driver.

Caution If you are installing the driver for HP–UX with a dual channel adapter and update the firmware, you must use a firmware image containing OpenBoot. Use `ddc` files for the LP8000DC and `cdc` files for the LP9002DC. Failure to load OpenBoot will make the dual channel adapter unavailable after a system reboot.

1. Start the utility by entering the complete path to `lputil`. The path in the example reflects the default installation path. If the installation path was modified, adjust the command appropriately.

```
/opt/lpfc/bin/lputil
```

2. Enter the full path to the firmware file.

The new firmware is transferred to flash ROM.

Note If you are installing the driver for HP–UX with a dual channel adapter, be sure to load firmware on both channels.



Update Firmware Version 3.30a7

Linux Procedure

Table of Contents

- [Introduction](#)
- [Firmware File Types](#)
- [Update Firmware](#)

Introduction

Updating firmware involves performing the following steps:

1. Decide which firmware file to use.
2. Load the firmware package using the driver utility for Linux (lputil).
3. Enable boot code if using the adapter's drives to boot the system.
4. Verify the update.

If you loaded the firmware package containing boot code, refer to the boot code Update Manual to enable boot code on the adapter. This procedure loads boot code on the adapter and enables boot code on the system.

Firmware File Types

A list of files is provided when you download your new firmware or in the firmware package readme.txt file.

.dwc and .awc Files

- **.dwc – preferred** Does not include POST code. If the update process is interrupted (such as by a power outage), the POST code is not affected and the download process can be retried.
- **.awc** – Includes POST code. If the update process is interrupted (such as by a power outage) during the POST code update, you may have to return the HBA to Emulex for repair.

The readme file that accompanies the firmware package indicates situations in which you must update the firmware with the .awc file.

Boot Code

Firmware is bundled with or without boot code. Boot code allows you to designate a Fibre Channel drive as the boot drive. If the adapter's devices will be used to boot the system, it is recommended that you use the firmware package that includes boot code. The update procedure will load both the new firmware and boot code at the same time. After updating, refer to the boot code manuals for procedures on enabling the boot code on your adapter.

Update Firmware

Prerequisites:

- The driver for Linux (including lputil) is installed properly.
- The firmware file has been downloaded to a local drive.

This procedure uses the lputil utility, which is installed with the driver.

Caution If you are using lputil to update firmware on an LP9802DC HBA, you must use lputil version 1.5a0 or later. For any other HBA, you can use lputil version 1.4a4 or later.

Firmware versions differ between adapter versions. Make sure you have downloaded the appropriate firmware for your adapter.

Load Firmware

Caution Do not interrupt this process or power down the system until the process is complete.

1. Start the utility by entering the complete path to lputil. The path in the example reflects the default installation path. If the installation path was modified, adjust the command appropriately.

```
/usr/sbin/lpfc/lputil
```

2. From the Main menu, enter 3, Firmware Maintenance.
3. Enter 1, Load Firmware Image.
4. Enter the full path to the firmware file.

The new firmware is transferred to flash ROM.



Update Firmware Version 3.30a7

NetWare Procedure

Table of Contents

- [Introduction](#)
- [Firmware File Types](#)
- [Update Firmware](#)

Introduction

Updating firmware involves performing the following steps:

1. Decide which firmware file to use.
2. Load the firmware package using the DOS diagnostic utility (lp6dutil).
3. Enable boot code if using the adapter's drives to boot the system.
4. Verify the update.

If you loaded the firmware package containing boot code, refer to the boot code Update Manual to enable boot code on the adapter. This procedure loads boot code on the adapter and enables boot code on the system.

Firmware File Types

A list of files is provided when you download your new firmware or in the firmware package readme.txt file.

.dwc and .awc Files

- **.dwc – preferred** Does not include POST code. If the update process is interrupted (such as by a power outage), the POST code is not affected and the download process can be retried.
- **.awc** – Includes POST code. If the update process is interrupted (such as by a power outage) during the POST code update, you may have to return the HBA to Emulex for repair.

The readme file that accompanies the firmware package indicates situations in which you must update the firmware with the .awc file.

Boot Code

Firmware is bundled with or without boot code. Boot code allows you to designate a Fibre Channel drive as the boot drive. If the adapter's devices will be used to boot the system, it is recommended that you use the firmware package that includes boot code. The update procedure will load both the new firmware and boot code at the same time. After updating, refer to the boot code manuals for procedures on enabling the boot code on your adapter.

Update Firmware

Prerequisites:

- The driver for NetWare is installed properly
- The firmware file has been downloaded to a local drive
- DOS 6.x or higher (program may not run in the DOS shell under Windows on all systems)
- DOS diagnostic utility version 8.3 or greater
- No memory manager programs like Expanded Memory Manager (EMM386) are currently running

This procedure uses the DOS utility (lp6dutil) which is installed with the driver.

Update Firmware

1. Boot the computer in DOS.
2. Start the utility by entering the complete path to lp6dutil. The path in the example reflects the default installation path. If the installation path was modified, adjust the command appropriately.

```
c:\>lp6dutil
```

3. Enter 5, Maintenance. The Maintenance Menu is displayed.

```
Maintenance Menu

1 - Update Firmware
2 - Display Program Load List
3 - Enable/Disable BootBIOS
4 - Modify Soft Jumpers
```

Note Ensure that the diagnostic utility identifies itself as revision 8.3 or higher before continuing

4. Enter 1, Update Firmware. The program prompts you for the file name to download.
5. Enter the full path to the firmware file.

The following message is displayed (where # is the number of the host bus adapter).

```
Begin Down Load Process for Host Adapter # (0=No, 1=Yes, def=0)
```

6. Enter 1.

The new firmware is transferred to flash ROM. Once the process is complete, the following message is displayed:

```
Finished Down Loading Code for Host Adapter #
```

7. Press Enter to continue.



Update Firmware Version 3.30a7

Solaris (PCI) Procedure

Table of Contents

- [Introduction](#)
- [Firmware File Types](#)
- [Update Firmware](#)

Introduction

Updating firmware involves performing the following steps:

1. Decide which firmware file to use.
2. Load the firmware package using the driver utility for Solaris PCI bus (lputil).
3. Enable boot code if using the adapter's drives to boot the system.
4. Verify the update.

If you loaded the firmware package containing boot code, refer to the boot code Update Manual to enable boot code on the adapter. This procedure loads boot code on the adapter and enables boot code on the system.

Firmware File Types

A list of files is provided when you download your new firmware or in the firmware package readme.txt file.

.dwc and .awc Files

- **.dwc – preferred** Does not include POST code. If the update process is interrupted (such as by a power outage), the POST code is not affected and the download process can be retried.
- **.awc** – Includes POST code. If the update process is interrupted (such as by a power outage) during the POST code update, you may have to return the HBA to Emulex for repair.

The readme file that accompanies the firmware package indicates situations in which you must update the firmware with the .awc file.

Boot Code

Firmware is bundled with or without boot code. Boot code allows you to designate a Fibre Channel drive as the boot drive. If the adapter's devices will be used to boot the system, it is recommended that you use the firmware package that includes boot code. The update procedure will load both the new firmware and boot code at the same time. After updating, refer to the boot code manuals for procedures on enabling the boot code on your adapter.

Update Firmware

Prerequisites:

- The driver for Solaris is installed properly.
- The driver utilities kit (including lputil, which is used in this procedure) has been installed properly.
- The firmware file has been downloaded to a local drive.

Caution If you are using lputil to update firmware on an LP9802DC HBA, you must use lputil version 1.5a0 or later. For any other HBA, you can use lputil version 1.4a4 or later.

Firmware versions differ between adapter versions. Make sure you have downloaded the appropriate firmware for your adapter.

Load Firmware

1. Start the utility by entering the complete path to lputil. The path in the example reflects the default installation path. If the installation path was modified, adjust the command appropriately.

```
/usr/sbin/lpfc/lputil
```

2. From the Main menu, enter 3, Firmware Maintenance.
3. Enter 1, Load Firmware Image.
4. Enter the full path to the firmware file. The firmware is transferred to flash ROM.
5. Enter 0 twice to exit.

If you loaded a firmware package containing boot code, refer to the boot code Update Manual to load and enable boot code.



Update Firmware Version 3.30a7

DOS Procedure

Table of Contents

- [Introduction](#)
- [Firmware File Types](#)
- [Update Firmware](#)

Introduction

Updating firmware involves performing the following steps:

1. Decide which firmware file to use.
2. Load the firmware package using the LightPulse Utility for DOS (lp6dutil).

Firmware File Types

A list of files is provided when you download your new firmware or in the firmware package readme.txt file.

.dwc and .awc Files

- **.dwc – preferred** Does not include POST code. If the update process is interrupted (such as by a power outage), the POST code is not affected and the download process can be retried.
- **.awc** – Includes POST code. If the update process is interrupted (such as by a power outage) during the POST code update, you may have to return the HBA to Emulex for repair.

The readme file that accompanies the firmware package indicates situations in which you must update the firmware with the .awc file.

Boot Code

Firmware is bundled with or without boot code. Boot code allows you to designate a Fibre Channel drive as the boot drive. If the adapter's devices will be used to boot the system, it is recommended that you use the firmware package that includes boot code. The update procedure will load both the new firmware and boot code at the same time. After updating, refer to the boot code manuals for procedures on enabling the boot code on your adapter.

Update Firmware

Prerequisites:

- An Emulex driver is installed properly
- The firmware file has been downloaded to a local drive
- DOS 6.x or higher (program may not run in the DOS shell under Windows on all systems)
- DOS diagnostic utility version 8.3 or greater
- No memory manager programs like Expanded Memory Manager (EMM386) are currently running

This procedure uses the DOS utility (lp6dutil), which is installed with firmware.

Update Firmware

1. Boot the computer in DOS.
2. Start the utility by entering the complete path to lp6dutil. The path in the example reflects the default installation path. If the installation path was modified, adjust the command appropriately.

```
c:\>lp6dutil
```

3. Enter 5, Maintenance. The Maintenance Menu is displayed.

```
Maintenance Menu

1 - Update Firmware
2 - Display Program Load List
3 - Enable/Disable BootBIOS
4 - Modify Soft Jumpers
```

Note Ensure that the diagnostic utility identifies itself as revision 8.3 or higher before continuing

4. Enter 1, Update Firmware. The program prompts you for the file name to download.
5. Enter the full path to the firmware file.

The following message is displayed (where # is the number of the host bus adapter).

```
Begin Down Load Process for Host Adapter # (0=No, 1=Yes, def=0)
```

6. Enter 1.

The new firmware is transferred to flash ROM. Once the process is complete, the following message is displayed:

```
Finished Down Loading Code for Host Adapter #
```

7. Press Enter to continue.