UnixWare™ Host Bus Adapter Update Release Notes

NOTES

These release notes acquaint you with the contents of software drivers available for new Host Bus adapters that have been certified for UnixWare Release 1.0 of the Application Server and the Personal Edition products, explain undocumented changes, discuss software notes and recommendations, and specify how to get information and support for your UnixWare products.

PACKAGE CONTENTS

UNIVEL offers UnixWare Host Bus Adapter driver software on the UnixWare Network Support Encyclopedia CD-ROM, and various on-line services. These drivers are also available through UnixWare reseller channels and the hardware vendor.

UNIXWARE NETWORK SUPPORT ENCYCLOPEDIA

If you received UnixWare Host Bus adapter software on the UnixWare Network Support Encyclopedia CD-ROM, you received IHV format software and UnixWare driver packaging software install scripts.

In addition, reseller information and tools are available on this CD-ROM. To load the updates from CD-ROM, follow the instructions in the insert followed by reading the UNIVEL *Update Manager Handbook* located on the CD-ROM.

UNIVEL ON-LINE SERVICES

If you retrieved Host Bus adapter software from a Univel on-line service, you should have retrieved one self extracting archive file named IHV[vendor abbreviation].EXE that contains the vendor's HBA driver software, a copy of the *Univel Host Bus Adapter Update Release Notes* in ASCII and PostScript(R) formats, and the driver software. A sample archive name for the UltraStor ULTRA 24FA driver is denoted as IHVUSC.EXE.

Execute IHVUSC through a DOS window on the UnixWare Desktop. This will unpack two documents containing both regular text and PostScript(R) versions of the release notes, a script for creating the IHV diskette denoted as mkIHVflp, and a compressed cpio archive of the HBA software. Please read these notes before attempting to install any drivers.

Each driver will require one 3.5-inch 1.44MB floppy diskette or one 5.25-inch 1.2MB floppy diskette.

#chmod 544 mkIHVflp

The mkIHVflp script can be executed either from the command line or by double clicking on the mkIHVflp icon.

#./mkIHVflp

Follow the installation instructions in this document for installing your UnixWare Host Bus adapter software from floppy.

If you received an IHV HBA Update from a UnixWare authorized reseller, you received either one 3.5-inch 1.44MB floppy diskette or one 5.25-inch 1.2MB floppy diskette for each driver that you wish to install on your UnixWare system.

FLOPPY DISKETTE PACKAGE

To load a Host Bus driver from floppy, follow the installation instructions located in this document.

DOCUMENTATION

Contained within each driver package directory is a regular text file and a PostScript(R) file of the release notes. Please read these notes before attempting an installation to note any restrictions or dependencies. The following list of additional support documentation is available on the CD-ROM, or various on-line services:

- *UNIVEL Update Manager Release Notes*, which guides you through the installation, maintenance, and redistribution of UnixWare updates.
- *UNIVEL UnixWare Hardware Compatibility Handbook*, which provides information on any newly supported hardware certified for UnixWare 1.0.
- *UnixWare Ethernet Adapter Update Release Notes*, which provides information and installation of any new Ethernet adapters certified for UnixWare 1.0.
- *UnixWare Host Bus Adapter Update Release Notes*, which provides information and installation of any new Host Bus Adapters certified for UnixWare 1.0.
- *UnixWare Application Notes*, which provides application instruction requirements for third party software applications.
- *UnixWare Top Issues*, which contains current support information in a Question and Answer format.

INSTALLATION INSTRUCTIONS FOR UNIXWARE HOST BUS ADAPTER UPDATE

This section provides step-by-step procedures for installing a UnixWare Host Bus Adapter Update. In addition, pre-installation requirements have been provided:

INSTALLING A HOST BUS ADAPTER UPDATE FROM THE UNIXWARE DESKTOP

This installation process is used for installing driver software to operate with additional controllers that are installed on the system, and are configured as dynamically loadable modules.

1. Double-click on the Application Setup icon. (See "Using Application Setup" in Chapter 11 of the *User Handbook* for more information.)

2. After the system has finished cataloging the contents of the media, a list of packages is displayed in icon format. In this example the fdtbihvha package is the only icon that is displayed.

3a. Click on the fdtbihvha adapter package icon.

3b. Click on the Application option in the menu bar.

3c. Click on the Install menu item. The Add Application: <fdtbihvha> screen is displayed, and the installation is in progress.

INSTALLING A HOST BUS ADAPTER UPDATE FROM THE COMMAND LINE

1. Double-click on the Accessories icon located in the Desktop folder.

2. Double-click on the Terminal icon in the Accessories folder. A terminal window is displayed.

3. Insert the IHV HBA Adapter diskette into a 3.5-inch floppy or 5.25-inch floppy drive.

   You need to be superuser (id=0) to execute the following command:

4. Mount the diskette as shown below:

   #mount -r /dev/dsk/f03ht /Disk_A (1st 3.5-inch floppy drive)
   #mount -r /dev/dsk/f13ht /Disk_B (2nd 3.5-inch floppy drive)
   #mount -r /dev/dsk/f0hht /Disk_A (1st 5.25-inch floppy drive)
   #mount -r /dev/dsk/f15ht /Disk_B (2nd 5.25-inch floppy drive)

5. Execute the package installation command:

   # pkgadd -d /Disk_[A or B]

   The terminal window will display a list of packages located on the diskette available for installation.

6. Select the package or press the ENTER key to take the default package installation process.

INSTALLING A HOST BUS ADAPTER UPDATE

FOR NEW UNIXWARE INSTALLATIONS

1. Follow the installation instructions outlined in the *UnixWare Installation Guide*.

2. The installation mechanism will prompt for an IHV HBA diskette in place of UnixWare boot floppy two. At this point insert the UnixWare IHV HBA update diskette into the floppy drive.

   The system installation process will configure the adapter board to the default options stated in the description notes located in this document.

3. After UnixWare has been installed, the installation mechanism will re-prompt for the IHV diskette. At this point the driver software will install via the pkgadd command. Insert the diskette once again to complete the IHV HBA installation process.

REMOVING A HOST BUS ADAPTER UPDATE FROM THE UNIXWARE DESKTOP

The Host Bus adapter package can be removed from the system only if the package is associated with a second controller and the driver is configured as dynamically loadable. The following instructions provide a brief overview on removing UnixWare packages.

1. Double-click on the System_Setup icon located in the desktop folder.

2. Double-click on the Appl-n_Setup icon in the System_Setup folder.

3. The system will catalog the installed applications, and display them in icon format.

4. Click on the IHV HBA package icon, and click on the Application Remove option of the Application Setup: Installed - All menu bar.

REMOVING A HOST BUS ADAPTER UPDATE FROM THE COMMAND LINE

1. Double-click on the Accessories icon located in the Desktop folder.

2. Double-click on the Terminal icon in the Accessories folder. A terminal window is displayed.

3. You need to be superuser (id=0) to execute the following command:

   # pkgrm <IHV HBA package name>

IHV HOST BUS ADAPTER UPDATE NOTES AND RECOMMENDATIONS

The following notes and recommendations apply to IHV HBA updates certified for UnixWare Release 1.0 of the Application Server and the Personal Edition products.

ADAPTEC AHA-1740/1740A/1742A HOST BUS ADAPTER

The Adaptec AHA-1740/1740A/1742A EISA-to-Fast SCSI host adapter has been designed to operate as shipped in standard EISA class computers and supports the more common single-ended SCSI interface. The AHA-1744 adapter however, is *not* supported or certified to operate with UnixWare.

The following configuration has been certified to operate with UnixWare:

NEW INSTALLATION

The controller configuration information should be adhered to when installing UnixWare on this board. If the adapter is to be configured for enhanced mode, the card is required to be physically installed in SLOT 1 of your system. The I/O address for SLOT 1 is determined by the software. The IRQ should be set to 9 to install the operating system. This can be modified once the system has been installed.

EXISTING INSTALLATION CONFIGURATION

1. If the operating system has already been installed using this controller and it has been configured for 16-bit compatibility mode, the sdevice entry will require a manual edit to accommodate the I/O address changes for enhanced mode operation. You will not need to move the adapter from the current SLOT that it is located, but the following starting and ending I/O address will need to be updated. After the IHV HBA package has been installed via the desktop or through a terminal window using the pkgadd command, edit the /etc/conf/sdevice.d/adse driver configuration file with the appropriate I/O address selected below:

   slot 1 starting I/O address = 1C80 ending = 1CFF
   slot 2 starting I/O address = 2C80 ending = 2CFF
   slot 3 starting I/O address = 3C80 ending = 3CFF
   slot 4 starting I/O address = 4C80 ending = 4CFF
   slot 5 starting I/O address = 5C80 ending = 5CFF
   slot 6 starting I/O address = 6C80 ending = 6CFF
   slot 7 starting I/O address = 7C80 ending = 7CFF
   slot 8 starting I/O address = 8C80 ending = 8CFF

2. Edit the /etc/conf/sdevice.d/adse driver which is the NEW driver entry name for the 1740. You will need to remove the 4th line which denotes this driver as a dynamically loadable driver. If you DO NOT remove this entry, error conditions will occur, and your system WILL NOT boot.

FROM:

```
#ident   "@(#)/etc/conf/sdevice.d/adse.sl 1.0 4.1dt 06/26/92 xxxxx AT&T-USL"
#ident   "$Header: $"
$version 1
$loadable adse  #REMOVE THIS LINE!!!!!!!!!!!!!!!!!!!!!!!!!!
adse Y   -1  5   4   9   1c80 1cdc d0000    d3fff    -1
```

TO:

```
#ident   "@(#)/etc/conf/sdevice.d/adse.sl 1.0 4.1dt 06/26/92 xxxxx AT&T-USL"
#ident   "$Header: $"
$version 1
adse Y   -1  5   4   11  4c80 4cdc d0000    d3fff    -1
```

3. The next step requires a manual edit of the /etc/conf/sdevice.d/adsc driver. You will need to disable the 1540 driver entry by placing an "N" in the second field as shown below:

```
#ident   "@(#)/etc/conf/sdevice.d/adsc.sl 1.1 1.0 10/31/92 3987 Univel"
#ident   "$Header: $"
$version 1
adsc N   -1  5   1   11  330 333 DC000    DDFFF    5
```

4. Ensure all manual edits are correct that are outlined in steps 1-3 before you continue. If you miss a step before you rebuild the system kernel, problems WILL occur. If all edits have been made, rebuild the system kernel by changing directory into /etc/conf/bin and issue the following command:

```
#./idbuild -B
```

5. Reboot the system with the new configuration.

Future Domain TMC-7000EX EISA HOST BUS ADAPTER

The FDTB HBA Driver supports the Future Domain SCSI TMC-7000EX HBAcontroller. The following features are provided by the Future DomainTMC-7000EX HBA driver and controller:

- Intelligent EISA-SCSI Adapter controller (1 interrupt/command)
- Intel 80o96 firmware microprocessor
- Firmware supports SCSI commands, WD7000 emulation
- 32-bit first party DMA (bus master) data transfers
- SCSI bus arbitration including disconnects/reconnects
- Host Scatter/Gather data transfer (17 entries)
- Support for asynchronous, synchronous and fast sync SCSI-2
- Jumperless EISA configuration

The Future Domain 7000EX Device Driver has been certified for UnixWare products with the following hardware configuration:

Controller Configuration

Protocol Mode	DACB Protocol
BIOS Address Selection	DC000H - DFFFFH
Interrupt Selection	IRQ 10
Preempt Delay Control	32 BCLKS
ISA Mode Selection	Disable

SCSI Control Options

Motor Spin Up Sequencing	Device Auto Spin Up
SCSI Parity Control	Enable
Controller SCSI ID	7

For more information about the 7000EX controller, contact your local reseller, CompuServe or Future Domain at:

Future Domain, Corporation
2801 McGaw Ave.
Irvine, CA 92714
(714) 253-0440
(714) 253-0429 (Fax)

UltraStor ULTRA 24FA EISA HOST BUS ADAPTER

The ULTRA 24FA is a high performance EISA to SCSI controller supporting up to 7 SCSI devices (or up to 56 devices if a SCSI bridge controller is used). This controller is designed to support a variety of SCSI devices such as Hard disk, Tape, CDROM, DAT, WORM. MO rewritable disk, Scanner, Laser printer, etc. A high speed 32 bit microprocessor provides the local intelligence for controller command processing.

This intelligent controller features bus master 33MB/sec data transfers, low overhead SCSI command processing, command queuing, multi-threaded operation, scatter/gather, EISA auto-configuration and disk defect management.

The ULTRA 24FA EISA SCSI Device Driver has been certified for UnixWare products with the following hardware configuration:

UltraStor ULTRA 24FA SCSI Controller Enable

Controller Configuration

BIOS Address Selection	C8000h
Interrupt Selection	IRQ 14
Preempt Delay Control	64 BCLKS
ISA Mode Selection	Disable

SCSI Control Options

Motor Spin Up Sequencing	Device Auto Spin Up
Synchronous Negotiation	Controller Initiated Negotiation
Negotiation Starting Range	Start Negotiation at 10MByte/Sec
SCSI Parity Control	Enable
Drive Mapping Mode Selection	64HD/32 SCTR,2DRV
Controller SCSI ID	7

Floppy Control Option

Floppy Disk Controller	Disable
Third Floppy Drive Cable Select	Single Twisted Cable

For more information about the ULTRA 24FA controller, contact your local reseller, CompuServe or the vendor for technical assistance.

IHV HOST BUS ADAPTER KNOWN PROBLEMS AND RECOMMENDATIONS

NEW INSTALLATIONS

The post processing mechanism that is executed from the UnixWare third boot floppy inadvertently enables all host bus adapters located in the /etc/conf/sdevice.d directory. This problem causes error messages to be displayed on the console after the system has been rebooted for the first time. The error messages reflect the inability to access any non-used interrupt vectors and/or I/O addresses and shared memory addresses.

To eliminate this problem the following work around should be noted:

1. The following sdevice entries located in /etc/conf/sdevice.d should be disabled using the vi editor or by using the desktop text editor located in the Accessories folder. The second field of the driver entry should be changed from a “Y” to a “N” as shown below using the Adaptec 1542B driver as an example:

   /etc/conf/sdevice.d:
   adsc athd dpt ict mcesdi mcis mcst wd7000

NOTE: If other HBA drivers exist in the /etc/conf/sdevice.d directory, then these entries will also need to be disabled.

Before:

```
#ident   "@(#)/etc/conf/sdevice.d/adsc.sl 1.1 1.0 10/31/92 3987 Univel"
#ident   "$Header: $"
$version 1
adsc Y   -1   5   1   11   330  333  DC000    DDFFF    5
```

After:

```
#ident   "@(#)/etc/conf/sdevice.d/adsc.sl 1.1 1.0 10/31/92 3987 Univel"
#ident   "$Header: $"
$version 1
adsc N   -1   5   1   11   330  333  DC000    DDFFF    5
```

Once all files listed above have been disabled, the Unix system kernel will need to be rebuilt to reflect the changes as shown below:

/etc/conf/bin/idbuild

3. Shutdown and reboot the system to automatically rebuild the system kernel.

4. Once the system has been brought up, check the PDI interface by executing a terminal window through the Accessories folder or through the command line. You will need to be root to perform this operation:

#cd /etc/scsi
#./pdiconfig

The following sample out should be displayed:

```
adse "Adaptec SCSI EISA HBA" SCSI Y   0   0x9 0   0   5   9   4   0x1c80   0x1cdc   0xd0000  0xd3fff
adsc "Adaptec SCSI HBA" SCSI N   -1  0x0 5   0   5   11  1   0x330    0x333    0xdc000  0xddfff
athd "ISA (MFM,RLL,ESDI)"   DCD N   1   0x0 0   0   5   14  3   0x1f0    0x1ff    0x0 0x0
dpt "DPT SCSI HBA" SCSI N   -1  0x0 0   0   5   15  3   0x1170   0x1177   0xc8000  0xc9fff
ict "Non-SCSI Cartridge Tape"   DCD N   1   0x0 1   0   5   5   1   0x300    0x301    0x0 0x0
mcesdi   "Micro Channel ESDI"   DCD N   1   0x0 5   0   5   14  3   0x3510   0x351f   0x0 0x0
mcis "IBM MCA SCSI HBA" SCSI N   -1  0x0 0   0   5   14  3   0x3540   0x3541   0x0 0x0
mcst "Micro Channel ST-506"   DCD N   1   0x0 3   0   5   14  3   0x320    0x32f    0x0 0x0
wd7000   "WD7000 SCSI HBA" SCSI N   -1  0x0 6   0   5   15  3   0x350    0x357    0xce000  0xcffff
fdtb "Future Domain 7000ex SCSI HBA"   SCSI N   -1  0x0 0   0   5   10  1   0x0 0x0 0x0 0x0
```

5. If an error message is displayed indicating that the device cannot be found, the following operation is recommended to try to correct the device entries in the Portable Device Interface. This work around may not correct some HBA drivers that contains an internal cartridge tape unit such as an IDE controller.

Edit the HBA sdevice entry in /etc/conf/sdevice.d. Change the third field from a 1 or a 0 (depending on the device, the entry may vary) to a -1 as shown below:

From:

```
#ident   "@(#)/etc/conf/sdevice.d/adse.sl 1.0 4.1dt 06/26/92 xxxxx AT&T-USL"
#ident   "$Header: $"
$version 1
adse Y   0   5   4   9   1c80 1cdc d0000    d3fff   -1
```

To:

```
adse Y   -1  5   4   9   1c80 1cdc d0000    d3fff   -1
```

6. Rebuild the system kernel and reboot the system. Execute the pdiconfig command again to verify the correction. If an error condition occurs again, contact the reseller or Univel Technical Support for assistance.

HOW TO GET MORE INFORMATION AND SUPPORT

Most of the information you need is provided on the UnixWare Network Support Encyclopedia CD-ROM or various on-line services. If you need further technical assistance, contact your UNIVEL reseller. If you need applications compatibility information, contact your UNIVEL reseller or the application vendor, or call 1-800-4-UNIVEL and information will be faxed to you.

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