UnixWare 7.1.3 Update Pack 2 New Features and Notes

September 18, 2003

This document provides installation instructions, new feature descriptions, and release notes for Unixware 7.1.3 Update Pack 2. Complete UnixWare documentation is available on SCO Web Site under Documentation and Support. Your UnixWare system serves the UnixWare documentation set, including manual pages, on **http://*hostname*:8458** (where *hostname* is the network name or IP address of the UnixWare system).

Contents

Installation Notes

About Maintenance Packs and Update Packs

There are two support "tracks" for UnixWare 7.1.3:

Maintenance Packs

A Maintenance Pack (MP) is a collection of fixes for reported problems distributed as a single installable package. Maintenance Packs are made available periodically when such fixes are available, and can be downloaded and installed free of charge. Maintenance Packs are cumulative, so only the latest one needs to be installed. If installed individually, they must be installed in the order they are issued (i.e., MP1, MP2, etc.). A Maintenance Pack typically is accompanied by a single text file with installation instructions and release notes.

It is important to note that a Maintenance Pack cannot be installed onto a system that already has an Update Pack installed. This restriction ensures the integrity of the software installed on your system.

Update Packs

An Update Pack (UP) is a collection of features, enhancements, and problem fixes distributed as a single package or set, plus additional packages. Update Packs are made available quarterly (for a licensing fee) to registered customers of the SCO Update Service. Individual package and set images, as well as a CD image with all packages and sets included, are published on the Update Service download site. Update Packs are cumulative, and include all current Maintenance Packs, so only the latest Update Pack needs to be installed. If installed individually, they must be installed in the order they are issued (i.e., UP1, UP2, etc.). The online documentation, both DocView guides and traditional manual pages, is also updated with descriptions of new features and fixes.

In general, Update Packs can be installed on top of *previously issued* Maintenance Packs. Each Update Pack comes with full documentation, including installation and release notes (like the document you are reading now), that explain the target system requirements.

Switching Tracks

If you already have one or more Maintenance Packs installed, you can switch over to the UP track by installing an Update Pack with the same or later number. For example, If you have Maintenance Pack 2 installed, you can switch over to the UP track by installing Update Pack 2 or later.

If you are an Update Pack customer and want to switch over to the MP track, you must first remove all Update Packs installed on your system (in the reverse order they were installed), and then install the latest Maintenance Pack. For example, if you loaded UP1 and then UP2 onto your system, and want to switch over to the MP track, remove UP2 and then UP1 from the system. Once the Update Packs are removed, install the latest available Maintenance Pack.

Release 7.1.3 Maintenance Packs and Update Packs are available from the UnixWare 7.1.3 Supplements Web Page.

System Requirements

Update Pack 2 can be installed only on a Release 7.1.3 system with one of the following software configurations (MP means "Maintenance Pack" in the following table, UP means "Update Pack"):

Supported Configurations for Installing Update Pack 2
UnixWare 7.1.3 (no MPs or UPs)
UnixWare 7.1.3 + MP1
UnixWare 7.1.3 + MP1 + MP2
UnixWare 7.1.3 + MP2
UnixWare 7.1.3 + MP1 + UP1
UnixWare 7.1.3 + UP1

As shown, Update Pack 2 can only be installed on top of previously issued Maintenance Packs and Update Packs. For example, you must remove any Maintenance Pack later than MP2 using **pkgrm**(1M) *before* installing Update Pack 2. Use the **pkginfo**(1M) command or the **scoadmin application installer** to check your current software configuration.

Please Note: If you install Update Pack 2 on a system with MP1 or MP2 (or both) already installed, *do not* attempt to remove MP1 or MP2 from the system after installing UP2. This will lead to unexpected system behavior.

Obtaining Update Pack 2

Update Pack 2 is available to customers who have registered their copy of Release 7.1.3 at the SCO Update Service Registration web site. Once registered, you can download Update Pack 2 as instructed in the registration letter you receive via email, as either separate package datastream images or a single CD-ROM ISO image. The ISO image can be written to a CD-ROM using any Windows or Unix CD recording software, such as **cdrtools** on UnixWare. The ISO image file can also be mounted directly without being written to a CD, as shown in the procedure below. Customers can also register to receive Update Packs on CD-ROM directly from SCO. For more information, please go to the UnixWare 7.1.3 Supplements Web Page.

Licensing Update Pack 2

A registered SCO Update Service (SUS) Enabling license is required to install the Update Pack Set. If you attempt to install the **uw713up2** set on a system that does not have a registered SUS license, the installation will fail.

An SUS Enabling license can be purchased when you order Release 7.1.3 as part of your License Edition (e.g., Base, Departmental, Enterprise, etc.). It can also be purchased separately. Contact your software supplier if you do not have an SUS license.

To check your current licenses, launch the SCOadmin License Manager from the graphical desktop, or from the command line (as **root**):

```
scoadmin license
```

The License Manager's main screen displays the currently installed licenses. One of these should mention the SCO Update Service. If you do have a SCO Update Service license installed, it must also have a "**Y**" in the **Registered?** column, in order to install the Update Pack Set.

The entire process of installing licenses on your system and registering your SCO Update Service license is described in the online documentation under **Installation and Licensing>Getting Started Guide>CD Contents, Licensing, Installation Profiles, and Support**. The *Getting Started Guide* is also available on the UnixWare Doc Web Page.

Update Pack 2 CD Contents

Update Pack 2 consists of a single Update Set named **uw713up2**, as well as a number of additional updated packages. See the next section for installation instructions.

Update Pack 2 CD Contents

Package/Set	Description
uw713up2.image Set	The Update Pack 2 Set installs these packages: • **libc** - Updated Runtime C Library • **libthread** - Updated Runtime Thread Library • **uw713u2** - Other updates that did not require a package recut
adpu320 package	New Adaptec Ultra320 Family PCI SCSI HBA d2.0
adst70 package	Updated Adaptec Ultra160 Family PCI SCSI HBA d3.14
basedoc package	Updated online topics
baseman package	Updated manual pages
basex package	Updated X11R6 Base X Runtime System
glib.image package	New Library of utility functions for Gtk 1.2.10 (required for Mozilla)
gtk.image package	New Gimp ToolKit 1.2.10 - runtime library for graphical user interfaces to X (required for Mozilla)
iir package	New Intel Integrated Raid (IIR) HBA Driver Package 2.33
j2jre131 package	Updated Java 2 SE 1.3.1_08 Runtime Environment 1.3.1
j2plg131 package	Updated Java 2 SE 1.3.1_08 Java Plug-in (Netscape and Mozilla)
j2pls131 package	Updated Java 2 SE 1.3.1_08 Demos and Debug
j2sdk131 package	Updated Java 2 SE 1.3.1_08 Software Development Kit
libIDL.image package	New Library for creating CORBA Interface Definition Language (IDL) files 0.6.8 (required for Mozilla)
mozilla.image package	New Mozilla Internet Browser 1.2.1
mpt package	New LSI Logic Fibre Channel HBA Driver
nd package	Updated Network Drivers
nics package	Updated Netdriver Infrastructure and Configuration Subsystem
openssh package	Updated Secure Shell remote access utility 3.4p1; replaces **telnet** and **rlogin/rsh**
openssl package	Updated Secure Sockets Layer / TLS cryptography toolkit 0.9.7
qlc2200 package	Updated QLogic PCI Fibre Channel HBA Driver
samba package	Updated Samba 2.2.4 - A Windows SMB/CIFS fileserver for UNIX
sambamb package	Updated Samba 2.2.4 - A Windows SMB/CIFS fileserver for UNIX (multibyte)
uli package	Upgrade Wizard for Update Pack 2
xdrivers package	Updated X11R6 Graphics Drivers (NVIDIA driver)
xserver package	Updated X11R6 X Server
zlib package	Updated zlib - General Purpose Data Compression Library 1.1.4

Installation Procedures

You can install the Update Pack from a single CD ISO image, or from separate package images (see Obtaining Update Pack 2).

Please see the section Known Problems and Workarounds before beginning installation of the Update Pack.

Installing Update Pack 2 from CD

The procedure below shows you how to install the Update Pack using the Upgrade Wizard, from either a mounted ISO CD image, or from a CD to which the ISO image has been written.

NOTE: You *must* install the **uw713up2** set before installing any of the other packages available with Update Pack 2. This is done automatically by the Upgrade Wizard.

If you are applying the Update Pack to a newly installed or upgraded Release 7.1.3 system, be sure to reboot the system after the Release 7.1.3 installation or upgrade is complete and *before* you apply Update Pack 2.

1. Log into the system as **root**.
2. Do *one* of the following:
   a. If you have a CD with the Update Pack image on it, insert the CD into the primary CD drive and go to the next step.
   b. If you have the CD ISO image, use the **marry**(1M) and **mount**(1M) commands, as in this example, to mount the CD ISO image as a device:

```
# marry -a /var/spool/pkg/uw713up2CDimage.iso
/dev/marry/var/spool/pkg/uw713up2CDimage.iso
# mount /dev/marry/var/spool/pkg/uw713up2CDimage.iso /install
```

3. Install the **uli** (Upgrade Wizard) package from the CD. Use either the SCOadmin Application Installer from the graphical desktop, or the following command line:

```
# pkgadd -d device uli
```

   where *device* is **cdrom1** if you followed Step **2a**; or, **/install** if you followed Step **2b**.

4. Once the **uli** package is installed, launch the Upgrade Wizard. Do *one* of the following:
   a. If you are using a CD in the CD drive (Step **2a**), start the Upgrade Wizard by launching SCOadmin from the graphical desktop and selecting **Upgrade Wizard**; or, enter the following at a shell prompt:

```
# uli
```

   b. If you are using a mounted CD ISO image (Step **2b**), start the Upgrade Wizard from the command line by entering the following command:

```
# uli -f device
```

      where *device* is the name of the directory where you mounted the ISO image in **Step 2b** (**/install** in the example).

5. When the Upgrade Wizard starts, a screen displays a message that the Upgrade Wizard will install the Update Pack software. Select **Next** to continue.
6. The Upgrade Wizard displays the Software License Agreement. Select **Accept** to continue.
7. If you followed **Step 4a** and used the **uli** command with no options, skip to the next step.

Otherwise, if you followed **Step 4b** and used **uli -f**, a screen is displayed that lists the primary CD drive and the directory you specified, with the directory selected as the default installation device. Select **Next** to continue and install from the directory.

8. The Wizard checks the contents of the installation device for the Update Pack. Select **Next** to continue and begin installing the Update Pack.

9. The Upgrade Wizard automatically installs the Update Pack Set (see the CD Contents), displaying installation messages in a new window.

10. When the Upgrade Wizard finishes installing the Update Pack Set, it displays the **Package Selection List**, a list of the additional packages on the CD that are not installed automatically by the Update Pack Set. If the Wizard detects previous versions of any of the Update Pack CD packages on your system, the updated version on the CD appears in the **Chosen Packages** list on the right. Use the **Remove** button to move packages that you don't want to install from the **Chosen Packages** list to the **Available Packages** list. Any packages that remain in the **Available Packages** list will not be installed.

    NOTE: Some packages on the CD may not be presented in the **Package Selection List**. This happens when the Upgrade Wizard does not find a previous version of the package on your system. In order to install such a package using the Upgrade Wizard, you need to first install the package from the original UnixWare 7.1.3 media used to install the system (along with any prerequisite packages).
    After you are done installing software with the Upgrade Wizard, see the section Installing Additional Packages after the Update Pack Set and use **pkgadd**(1M) instead of the Upgrade Wizard to install the Update Pack 2 version of any package not listed for selection by the Upgrade Wizard. If a package installation fails because a prerequisite package was not found, you will first need to install the prerequisite package from Update Pack 2 or the original UnixWare 7.1.3 media.

    When you are finished choosing packages, select **Next** to continue.

11. A summary of your package selections and the space they require on your hard disk is displayed. Select **Next** to confirm your selections and continue. Select **Previous** to go back to the previous step and change the **Package Selection List**.

12. After you confirm your package selections, the Upgrade Wizard installs the packages you selected. It displays a progress bar as each package is installed. When the Wizard is done, select **Finish** to exit.

13. If you followed **Step 1a**, go to the next step.

    Otherwise, if you followed **Step 1b**, unmount the CD image and delete the **marry** device:

    ```
    # umount /install
    # marry -d /dev/marry/var/spool/pkg/uw713up2CDimage.iso
    ```

14. Reboot your system to rebuild the kernel. From the Desktop, use the SCOadmin Shutdown Manager. From the command line, enter the following:

    ```
    # shutdown -i6 -g0 -y
    ```

15. When the system comes back up, you can log in and check the installation as shown in the section Checking Update Pack Installation.

    If you decide that you want to add additional packages from the Update Pack CD, see the section Installing Additional Packages after the Update Pack Set.

Installing Update Pack 2 from the Download Site

Separate images for the Update Set and all available packages on the CD (e.g., **uw713up2.image**, **nd.image**, etc.) are available on the SCO Update Service download site. These are in datastream format and must be installed using the **pkgadd** command. Follow this procedure to install the images you download.

NOTE: You *must* install the **uw713up2** set before installing any of the other packages available with Update Pack 2.

If you are applying the Update Pack to a newly installed or upgraded Release 7.1.3 system, be sure to reboot the system after the Release 7.1.3 installation or upgrade is complete and *before* you apply any Update Packs.

1. Download the set and package images from the SCO Update Service, and place them in */var/spool/pkg* (or any other directory that has enough free space to accommodate the images).

2. Enter the following to install the update set:

   ```
   # pkgadd -d /var/spool/pkg/uw713up2.image all
   ```

3. Enter the following command for *each* additional package image:

   ```
   # pkgadd -d /var/spool/pkg/imagename all
   ```

4. Reboot your system to rebuild the kernel. From the Desktop, use the SCOadmin Shutdown Manager. From the command line, enter the following:

   ```
   # shutdown -i6 -g0 -y
   ```

5. When the system comes back up, you can log in and check the installation as shown in the section Checking Update Pack 2 Installation.

Installing Additional Packages after the Update Pack Set

After you have installed the Update Pack 2 Set (**uw713up2**) and rebooted your system, you can use either the Upgrade Wizard or the **pkgadd**(1M) command to install any packages that you did not select when you installed the Set. The two following sections show you how to install additional packages using either the package images found on the SCO Update Service Download Site, or the packages on the Update Pack CD image.

If any desired package cannot be installed because a prerequisite package was not found, install the prerequisite package (either from the Update Pack or the original UnixWare 7.1.3 media), and then attempt to install the desired package again.

To install additional packages from the CD image:

Using the Upgrade Wizard will re-install the Update Set (**uw713up2**) automatically before installing additional packages. Use the **pkgadd** command if you want to:

- load additional packages without re-installing the Update Set
- install *.image* files from the download site or the Update Pack CD
- add any packages from the CD or CD ISO image not offered for installation by the Upgrade Wizard

1. **Use the Upgrade Wizard:**
   Follow the Installation Procedure, omitting Step 3.

   OR

2. **Use the pkgadd command:**
   Follow Steps 1 and 2 of the Installation Procedure, and then enter the following:

   ```
   # pkgadd -d device package...
   ```

   The *device* is **cdrom1** if you followed **Step 2a**; or, **/install** if you followed **Step 2b**. Replace *package* with the names of one or more packages on the CD (see CD Contents). This example installs the **nd** and **nics** packages from a mounted ISO image file:

   ```
   # pkgadd -d /install nd nics
   ```

To install additional package images from the web:

Separate images for the Update Set and all available packages on the CD (e.g., **uw713up2.image**, **nd.image**, etc.) are available on the SCO Update Service download site. These are in datastream format and must be installed using the **pkgadd** command. Follow this procedure to install the images you download.

1. Download the package images from the SCO Update Service, and place them in */var/spool/pkg* (or any other directory that has enough free space to accommodate the images).

2. Enter the following command for *each* package image:

   ```
   # pkgadd -d /var/spool/pkg/imagename all
   ```

3. Reboot your system to rebuild the kernel. From the Desktop, use the SCOadmin Shutdown Manager. From the command line, enter the following:

   ```
   # shutdown -i6 -g0 -y
   ```

4. When the system comes back up, you can log in and check the installation as shown in the section Checking Update Pack 2 Installation.

Checking Update Pack Installation

Once installed, use the following command to confirm that the **uw713up2** set has completely installed. The system should respond with output similar to that shown in the example below:

```
# pkginfo -lc set uw713up2
   PKGINST:  uw713up2
      NAME:  UnixWare 7 Release 7.1.3 Update Pack 2
       ...
    STATUS:  completely installed
```

If the STATUS field indicates anything other than `completely installed`, there was some problem during installation of the set. Re-install the set and record any error messages displayed. Then, check the Late News and Support web sites to check for additional Update Pack 1 notes.

To check the installation of other packages, use a command like the following:

```
pkginfo -l xdrivers
```

Update Pack 2 New Features

Update Pack 2 contained all the new features listed below, as well as the new features from Update Pack 1.

Features in the Update Set:

- Compatibility: New Tunable Parameters for 16-bit IPC
- Desktop Login: Default Desktop
- Filesystems: SCOAdmin Filesystem Manager Moved
- Hardware: PCI Serial Support
- Networking: DNS Manager Enhancements
- Printing: Increased Number of Print Jobs
- Security: Core Dump for setuid Processes
- Storage Management: Disk, Partition, and Slice Managers

Features in Other Packages:

- Hardware: Host Bus Adapter (HBA) Drivers
- Hardware: Network Interface Card (NIC) Drivers
- Hardware: Video Drivers
- Internet Browser: Mozilla 1.2.1
- Networking and Security: Updated OpenSSH and OpenSSL
- Online Documentation: Updated Guides and Manual Pages
- Security: Padding of Short Ethernet Frames
- Security: Updated zlib Data Compression Library

Features in the Update Set:

The features listed in this section are installed with the Update Pack Set. See the Installation Procedures section for how to install the Update Pack Set.

Compatibility: New Tunable Parameters for 16-bit IPC

Previously, the system calls shmget(2), msgget(2), and semget(2) returned 32-bit InterProcess Communication (IPC) IDs for shared resources under UnixWare. OpenServer and Xenix applications, however, expect IPC IDs that are positive, signed 16-bit numbers.

A new flag, `IPC_SMALLID`, may be passed in to the IPC routines listed above. If this flag is passed in, then, on success, the invoked function returns a 16-bit IPC ID. Otherwise, a 32-bit IPC ID is returned.

The `IPC_SMALLID` flag is introduced for use in cases in which a native UnixWare application requires a small IPC ID in order to share the ID and associated object with OpenServer or Xenix applications. For example, the Xenix emulator included with the OpenServer Kernel Personality (OKP) product uses `IPC_SMALLID` for every IPC ID it requests, so Xenix applications can use IPC as expected.

In addition to the `IPC_SMALLID` flag, three new tunables are also available for cases where the entire system must be tuned to return 16-bit IPC IDs to support OpenServer and Xenix applications. These tunables are `SHMSMALLID`, `MSGSMALLID`, and `SEMSMALLID`, and they affect the return values of **shmget**(2), **msgget**(2), and **semget**(2), respectively. Each has a default value of 0, and a range of values of 0 to 1. Each tunable controls whether the corresponding IPC system call returns a 16-bit ID by default. If the tunable is set to 0 (the default), then the corresponding routine always returns a 32-bit ID; if the tunable is set to 1, then the corresponding routine always returns a 16-bit ID.

The kernel has been modified to always return 16-bit IPC IDs to a running application that it recognizes as an OpenServer or Xenix executable, regardless of the setting of the above tuneables.

Desktop Login: Default Desktop

The dtlogin(X1) daemon has been enhanced to save the desktop chosen when a user logs in. The next time the same user logs in, the previously used desktop will be launched, unless the user chooses another from the **Desktop** menu on the Graphical Login screen.

Two new keywords that control this feature can be specified in the file */etc/default/login*:

`SAVEUSERGUI`
: which can be **YES** or **NO**. This is a system wide default which controls whether **dtlogin** remembers what window manager the user used last. The default value is YES.

`DEFAULTWINDOWMANAGER`
: which can be **cde**, **kde**, or **pmwm**. This is a system wide default. If a user hasn't logged into the system before and doesn't select a window manager from the dtlogin **Options > Session** menu, then the `DEFAULTWINDOWMANAGER` is used.

Once a user has logged into a graphical desktop, the **dtlogin** menu **Options > Session** will display the following choices:

```
[Last Desktop Session Selected]
Common Desktop Environment (CDE) and UNIX Personality
Panorama Session and UNIX Personality
KDE2 and Linux Personality (LKP)
Failsafe Session
```

(If you do not have LKP installed, the entry "KDE2 and Linux Personality (LKP)" will not be displayed.)

Your default window manager is either the system default window manager (DEFAULTWINDOWMANAGER) as specified in */etc/default/login* or the window manager you previously selected from the **Options > Session** menu. You can change your personal default window manager by selecting a new window manager from the **Options > Session** menu. Your personal default window manager overrides the system default window manager unless SAVEUSERGUI is set to NO.

Filesystems: SCOAdmin Filesystem Manager Moved

The SCOadmin Filesystems Manager has been moved from the main SCOadmin screen (started from the CDE or Panorama Desktop menus, or from the command line with the **scoadmin** command), to a new **Storage** folder. The **Storage** folder also contains the new **Disk**, **Partition**, and **Slice** Managers, described below.

Hardware: PCI Serial Support

The **asy** and **asyc** drivers (see the asyc(7) manual page) are now configured by default to support up to ten total serial ports. The ports are named following the conventions described in the section Hardware > Configuring Serial Ports > Serial device node naming conventions in the online documentation. The drivers now support 16654 UARTS on the motherboard, as well as Digi Classicboard and Connecttech Blue Heat PCI cards.

PCI devices honor the **resmgr** entries created or modified by **dcu**(1M). Note that only scanned (i.e. not PCI) devices may be used for **kdb**(1M) or console devices.

For more information on the ConnecTech and Digi boards mentioned above, see the respective companies' web sites:

http://www.dgii.com/products/multiport%20serial%20cards/classicboard.jsp
http://www.connecttech.com/sub/Products/ProductList.asp

Networking: DNS Manager Enhancements

The DNS Manager (**scoadmin dns**) has been updated with the following fixes and enhancements:

- The DNS Manager will launch only one server deamon. In previous releases, the DNS Manager would invoke another DNS server when the Manager was started or terminated.
- Enhanced the Manager so that it does not remove configuration and zone data file information entered by other mechanisms (e.g., **vi**(1) or **h2n**(1M)). This was a problem in earlier releases.
- Enhanced h2n(1M) so that it will work properly with files created or edited by the DNS Manager (e.g., uses the same conventions, such as zone data file names). In previous releases, you could not use both tools on the same set of files.
- The **Server** pull down menu now adds options reliably to the current configuration. The DNS configuration file it produces is validated with the **named-checkconf** utility. It also cleans up appropriately when configuration options and statements are removed.
- **Add** and **Modify Zones** commands for the Primary server type have been improved:
    - The Modify command now performs more reliably.
    - Fixed issues of generating corrupted Zone Data Files via the Manager.
    - Greatly improved the allowed character set and format of MAILBOX type entries for the SOA and RP Resource Records (improved RFC2822 support).
    - Improved the allowed character set and format of the HINFO Resource Record.
    - Greatly improved the allowed character set and format of the TXT Resource Record.

Printing: Increased Number of Print Jobs

The System V LP printing subsystem has been enhanced to allow a maximum of 999 print jobs per printer, or class of printers. In previous releases, only 999 print jobs for the entire system were permitted.

Security: Core Dump for root Processes

By default, privileged processes (i.e., processes running as *root*) do not dump *core* files, to prevent unprivileged access to sensitive data that may be contained in the *core* file. (See the core(4) manual page for a description of *core* files.) A new tunable parameter (COREFILE_SECURE) has been introduced that, if set in the current environment of a privileged process, allows the process to dump a *core* file when a program exception occurs. Such core files should be protected from unprivileged access by ensuring the file permissions allow only owner access, and that the file is owned by *root*. You can do this using the following commands:

```
chmod 400 corefile
chown root corefile
```

COREFILE_SECURE can also be set for the entire system using the System Tuner. Enter **scoadmin system tuner** at a shell prompt, or launch SCOadmin from the desktop and select **System > System Tuner**.

Storage Management: Disk, Partition, and Slice Managers

Three new SCOadmin managers provide a graphical mass storage management interface:

Disk Manager
: Manages the logical and physical disk configuration, as well as I/O paths (including Multi-Path I/O). The other two managers can be launched from this interface to define disk partitions and partition slices.

Partition Manager
: Add and remove disk partitions. The **Slice Manager** can be launched from the Partition Manager to display the slices in a partition.

Slice Manager
: Displays slices defined within a disk partition.

These managers are grouped under a new **Storage** folder in the SCOadmin main window. Start SCOadmin from the CDE or Panorama desktop menus, or by entering **scoadmin** at a UNIX shell prompt. Managers can also be started from the command line using their names; for example, **scoadmin disk** starts the **Disk Manager**. Use the **Help** button on the main window of any Storage manager to display the online documentation, or look under the Mass Storage Devices Overview topic at the top level of DocView on **http://*hostname*:8458**.

Features in Other Packages:

The features listed in this section are contained in separate packages from the Update Pack Set. To install them, either select them from the Upgrade Wizard when you install the Update Pack Set, or follow the instructions in the section Installing Additional Packages after the Update Pack Set. See Update Pack Contents for the list of additional packages available.

Hardware: Host Bus Adapter (HBA) Drivers

The following HBA drivers are new or updated:

Adaptec Ultra160 Family PCI SCSI HBA d3.14 (adst70)

This updated version of the **adst70** driver fixes a panic that occurred previously on transition to **init**(1M) state 1.

Adaptec Ultra320 Family PCI SCSI HBA d2.0 (adpu320)

This new driver supports the following Adaptec Host Bus Adapters:

Adapter	Chip	Type
AHA29320x, AHA39320x	AIC-7901A, AIC-7902A4	Ultra320 SCSI

Intel Integrated Raid (IIR) HBA Driver Package 2.33 (iir)

This new driver supports the following Intel® Host Bus Adapters:

Adapter	Type
SRCFC22C	Dual Channel 2 Gb/s Fibre Channel RAID w/Ultra160 SCSI
SRCS14L	Four Port S-ATA RAID
SRCMR	Modular RAID on Motherboard Ultra160 SCSI
SRCU-31	Single Channel Ultra160 SCSI RAID
SRCU-31L	Single Channel Ultra160 SCSI RAID
SRCU-32	Dual Channel Ultra160 SCSI RAID

Diskette images of these drivers suitable for use during a new installation of UnixWare are available at ftp://ftp.sco.com/pub/unixware7/drivers/storage.

Also see the Compatible Hardware Page for the latest supported hardware and drivers.

Hardware: Network Interface Card (NIC) Drivers

The **nd** package contains the following updated NIC drivers.

The **bcme** Broadcom Server Adapter driver v6.0.15 supports these models:

```
3Com 3C996/3C1000/3C94X Gigabit Ethernet
Broadcom BCM5700 NetXtreme Gigabit Ethernet
Broadcom BCM5701 NetXtreme Gigabit Ethernet
Broadcom BCM5702 NetXtreme Gigabit Ethernet
Broadcom BCM5703 NetXtreme Gigabit Ethernet
Broadcom BCM5704 NetXtreme Gigabit Ethernet
Broadcom BCM5704S NetXtreme Gigabit Ethernet
Broadcom BCM5705 NetXtreme Gigabit Ethernet
Broadcom BCM5782 NetXtreme Gigabit Ethernet for hp
HP NC6770 Gigabit Ethernet
HP NC7760 Gigabit Ethernet
HP NC7761 Gigabit Server Ethernet
HP NC7770 Gigabit Ethernet
HP NC7771 Gigabit Ethernet
HP NC7772 Gigabit Server Ethernet
HP NC7780 Gigabit Ethernet
HP NC7781 Gigabit Ethernet
HP NC7782 Gigabit Ethernet
HP NC7783 Gigabit Ethernet
```

The **e1008g** Intel PRO/1000 Server Adapter driver v7.0.11 supports these models:

```
PRO/1000 Gigabit Server Adapter PWLA8490
PRO/1000 Gigabit Server Adapter PWLA8490G1
PRO/1000 F Server Adapter PWLA8490SX
PRO/1000 Gigabit Adapter PWLA8490SXG1P20
PRO/1000 T Server Adapter PWLA8490T
PRO/1000 T Server Adapter PWLA8490TG1P20
PRO/1000 XT Server Adapter PWLA8490XT
PRO/1000 XT Server Adapter PWLA8490XTL
PRO/1000 XT Lo Profile Server Adapter PWLA8490XTL
PRO/1000 XF Server Adapter PWLA8490XF
IBM Netfinity Gigabit Ethernet SX Adapter 09N3599
IBM Netfinity Gigabit Ethernet SX Adapter 30L7076
IBM Gigabit Ethernet SX Server Adapter 06P3718
IBM Gigabit Ethernet Server Adapter 22P4618
PRO/1000 MT Desktop Adapter PWLA8390MT
PRO/1000 MT Server Adapter PWLA8490MT
PRO/1000 MT Dual Port Server Adapter PWLA8492MT
PRO/1000 MF Server Adapter PWLA8490MF
PRO/1000 MF Dual Port Server Adapter PWLA8492MF
```

The **eeE8** Intel Pro100 PCI Adapter driver v2.5.4 supports these models:

```
PRO/100+ Management Adapter (PILA8900)
PRO/100 Server (PILA8480)
Pro/100B T4 (PILA8475B)
PRO/100 S Server (PILA8474B)
PRO/100 S Server (PILA8474BUS)
PRO/100+ Dual Port Server Adapter (PILA8472)
PRO/100+ Server Adapter (PILA8470)
PRO/100+ Server Adapter (PILA8470B)
PRO/100+ Dual Port Server Adapter (61PMCA00)
PRO/100 (PILA8465)
PRO/100B Adapter (PILA8465B)
InBusiness 10/100 Adapter (SA101TX)
PRO/100 S Management (PILA8464B)
Pro/100+ Management Adapter (PILA8461)
Pro/100+ (PILA8460)
Pro/100+ Management Adapter (PILA8460B)
Pro/100+ (PILA8460BN)
PRO/100 S Management (PILA8460BUS)
Pro/10+ (PILA8500)
Pro/10+ (PILA8520)
```

See the Compatible Hardware Page for the latest supported hardware and drivers.

Hardware: Video Drivers

The **xdrivers** package provides a new **nvidia** graphics driver that supports the following graphics cards from NVIDIA Corporation:

```
NVIDIA RIVA TNT2/TNT2 Pro
NVIDIA RIVA TNT2 Ultra
NVIDIA Vanta/Vanta LT
NVIDIA RIVA TNT2 Model 64/Model 64 Pro
NVIDIA Aladdin TNT2
NVIDIA GeForce2 MX/MX 400
NVIDIA GeForce2 MX 100/200
NVIDIA Quadro2 MXR/EX
```

Also see the Compatible Hardware Page for the latest supported hardware and drivers.

Internet Browser: Mozilla 1.2.1

The Mozilla internet browser, version 1.2.1, is included in a separate package as an alternative to Netscape Communicator 4.61 (delivered in the base Release 7.1.3 system). If you install Mozilla using the Upgrade Wizard when you install the Update Set, all prerequisite packages will be installed as well. If you install Mozilla using **pkgadd**(1M), you will need to install them in the order shown (after installing the Update Set) to enable Mozilla on UnixWare 7.1.3:

- **basex**
- **xserver**
- **glib**
- **gtk**
- **libIDL**
- **mozilla**
- **j2jre131**
- **j2plg131**

The **j2re131** and **j2plg131** packages are required for Java plug-in support only.

For example, if you download all the *.image* files from the download site to */var/spool/pkg*, use the following commands to install these packages:

```
pkgadd -d /var/spool/pkg/basex.image all
pkgadd -d /var/spool/pkg/xserver.image all
pkgadd -d /var/spool/pkg/glib.image all
pkgadd -d /var/spool/pkg/gtk.image all
pkgadd -d /var/spool/pkg/libIDL.image all
pkgadd -d /var/spool/pkg/mozilla.image all
pkgadd -d /var/spool/pkg/j2jre131.image all
pkgadd -d /var/spool/pkg/j2plg131.image all
```

If you are using a mounted CD or CD ISO image (see Step 1 and 2 of Installing the Update Pack from CD), mounted under */install*, enter the following:

```
pkgadd -d /install basex
pkgadd -d /install xserver
pkgadd -d /install/glib.image all
pkgadd -d /install/gtk.image all
pkgadd -d /install/libIDL.image all
pkgadd -d /install/mozilla.image all
pkgadd -d /install j2jre131
pkgadd -d /install j2plg131
```

A **mozilla**(1) manual page is installed with the browser, and can be viewed with the **man**(1) command or with DocView on **http://*hostname*:8458**.

Using Mozilla in non-English Locales

The following notes apply to using the Update Pack 2 version of Mozilla in locales other than **en_US**.

1. The mozilla released in the Update Pack 2 has been built for the US English locales. All menus and help material are in English.

2. Localization of the user interfaces are provided by individual contributors to the Mozilla Localization Project. These typically:

    - provide localized chrome files and profile defaults.

- are provided in the form of Language Packs for specific locales that will will install and register the new chrome files into the mozilla release.

3. Language Packs currently available for Mozilla 1.2.1 are:

   Asturian, Belarusian, Breton, Catalan, Simplified Chinese (China), Traditional Chinese (Hong Kong), Traditional Chinese (Taiwan), Czech, Danish, Dutch, English (United Kingdom), Esperanto, Estonian, French, Galician, German, Greek, Hungarian, Italian, Korean, Lithuanian, Mongolian, Norwegian Nynorsk, Telugu, Turkish, Romanian, Russian, Slovak, Slovenian, Sorbian, Spanish (Latin America), Spanish (Argentina), Spanish (Spain), Polish, Portuguese (Brazil) and Ukrainian.

4. To install individual Language Packs, do the following as **root** in Mozilla:

   a. Select **Edit > Preferences > Appearance > Language/Contents**.
   b. Under **Installed Language Packs**, select **Download More**. This will download the MLP Status web page.
   c. Select the Language Pack desired under the Mozilla 1.2.1 heading. The language pack will be downloaded and installed and the chrome registry will be updated.
   d. Repeat for each additional language pack desired on the system.

   NOTE: Do not attempt to download Mozilla "Content Packs". These contain binaries and libraries compiled for locales on specific operating systems. There are currently no Content Packs for Mozilla running on UnixWare 7, and loading one of them may result in unexpected behavior.

5. Once a Language Pack is installed, it must be enabled in Mozilla. Select **Edit > Preferences > Appearance > Language/Contents**, and choose the Installed Language Pack desired. Then restart Mozilla for the new language pack to take effect.

6. When using Mozilla in a Japanese locale, Japanese characters may not be displayed as they are typed using the X input method (invoked by typing **Shift+Space**). The Japanese characters are instead displayed when **Enter** is pressed. This behavior is the default setting of the **xim.input_style** attribute in the Mozilla browser. To have characters displayed as they are typed in Japanese locales, add the following line to each user's java script preferences file (typically *$HOME/.mozilla/default/*/prefs.js*):

   ```
   user_pref("xim.input_style", "over-the-spot");
   ```

Online Documentation: Updated Guides and Manual Pages

The **basedoc** and **baseman** packages contain guide material and manual pages for the new features, enhancements, and fixes delivered with Update Pack 2. They assume that the packages of the same name from Release 7.1.3 are already installed. Online documentation is viewed using the DocView documentation server (**docview**), at **http://*hostname*:8458**, where ***hostname*** is the network node name of the UnixWare system (e.g., **system1**, **system1.yourdomain.com**, etc.) or **localhost**. The document you are reading now is found under *New Features and Notes*.

Networking and Security: Updated OpenSSH and OpenSSL

The OpenSSL package has been updated to 0.9.7 with a security fix that prevents a timing-based attack on cipher suites used in SSL and TLS. OpenSSL is an Open Source toolkit implementing the Secure Sockets Layer (SSL v2/v3) and Transport Layer Security (TLS v1) protocols as well as a general purpose cryptography library. A user level command, **openssl**(1), is provided that performs a variety of cryptographic functions.

Documentation for OpenSSL is packaged separately in **openssld** on the UnixWare 7.1.3 Updates and Upgrades CD #2. The following manual pages are installed under */usr/man*, and can be viewed via **man**(1) or the DocView **Man Pages** button (**http://*hostname*:8458**):

```
asn1parse.1   pkcs12.1     bio.3                md5.3
ca.1          pkcs7.1      blowfish.3           mdc2.3
CA.pl.1       pkcs8.1      bn.3                 OPENSSL_VERSION_NUMBER.3
ciphers.1     rand.1       bn_internal.3        OpenSSL_add_all_algorithms.3
crl.1         req.1        buffer.3             rand.3
crl2pkcs7.1   rsa.1        crypto.3             rc4.3
dgst.1        rsautl.1     d2i_DHparams.3       ripemd.3
dhparam.1     s_client.1   d2i_RSAPublicKey.3   rsa.3
dsa.1         s_server.1   des.3                sha.3
dsaparam.1    sess_id.1    dh.3                 ssl.3
enc.1         smime.1      dsa.3                threads.3
gendsa.1      speed.1      err.3
genrsa.1      spkac.1      evp.3                config.5
nseq.1        verify.1     hmac.3
openssl.1     version.1    lh_stats.3           des_modes.7
passwd.1      x509.1       lhash.3
```

For more information on OpenSSL see the OpenSSL Web Site.

The **openssh** 3.4p1 package has been updated to fix several minor problems with the location and file permissions of */etc/sshd.pid*, and the location of */usr/X11R6.1/bin/xauth*. OpenSSH is a suite of network connectivity tools that encrypts all traffic to effectively eliminate eavesdropping, connection hijacking, and other network-level attacks. OpenSSH provides a variety of secure tunneling capabilities and authentication methods. This version fixes a major security vulnerability present in versions 2.3.1 to 3.3, and is built with privilege separation and compression turned on. SSH protocol versions 1.3, 1.5, and 2.0 are supported.

The OpenSSH suite includes:

- **ssh**(1) (**slogin**), alternative to **rlogin** and **telnet**
- **scp**(1) (alternative to **rcp**)
- **sftp**(1) (alternative to **ftp**)
- **sshd**(8), the SSH server daemon (alternative to **rshd**)
- **sftp-server**(8), the SFTP server daemon (alterative to **ftpd**)
- **ssh-agent**(1), the authentication agent, and associated tools: **ssh-add**, **ssh-keygen**, **ssh-keyscan**

Manual pages are provided for all of the above commands, as well as pages for the **ssh_config**(5) and **sshd_config**(5) SSH client and server configuration files. To display them, use the **man**(1) command or DocView on **http://*hostname*:8458**. For more information on OpenSSH, please go to the OpenSSH Web Site http://www.openssh.org/manual.html.

NOTE: You should install OpenSSL from the Update Pack *before* installing OpenSSH, even if you have a previous version of OpenSSL already installed.

Security: Padding of Short Ethernet Frames

Ethernet packets are required by RFC894 and RFC1042 to be a minimum of 46 bytes. Smaller packets are required to be padded with zeros to the 46 byte minimum, but the standards do not specify what part of the system (e.g., the kernel, the driver, etc.) should do the padding. As a result of this ambiguity in the standard, some drivers will pad Ethernet packets themselves (sometimes called "auto-padding") with random data obtained from a buffer. The information contained in the buffer is used as padding in the Ethernet frame, and therefore is available to any program that is monitoring network packets.

UnixWare closes this vulnerability by padding the Ethernet buffer with zeros at the DLPI level, before the driver (or any other entity) has an opportunity to pad the buffer with non-zero data.

The system is updated with this enhancement by the **nics** package.

Security: Updated zlib

The **zlib** data compression library package (*/usr/lib/libz.so*) has been updated to eliminate a security vulnerability due to a buffer overflow condition in the *gzprintf* function. The **zlib** Manual from the zlib Home Page is available as a manual page; enter **man zlib** or use the **Man Pages** button in DocView on **http://*hostname*:8458**.

Windows Interoperability: Samba 2.2.8a

Samba provides filesharing capabilities using native Microsoft SMB and CIFS protocols for interoperability with Microsoft operating systems. Samba 2.2.8a is provided in two versions: a single-byte version for Western locales (**samba**) and a multibyte version suitable for Asian locales (**sambamb**). The important difference between the two versions is the sorting algorithm used for file ordering which determines whether the file sorting is compatible with wide-character or ascii character code environments.

Note the following when installing Samba:

- If you are upgrading from a previous release of Samba on UnixWare, save a copy of your existing */usr/lib/samba/lib/smb.conf* file before you begin installation, so you can restore any settings that might be affected by the upgrade.
- If Samba fails to start, make sure the directory */usr/lib/samba/private* exists, that it has 755 permission, and is owned by user *root* and group *bin*; then, start Samba, as shown:

  ```
  # cd /usr/lib/samba
  # mkdir private
  # chgrp bin private
  # chown root private
  # /etc/init.d/samba start
  ```

- By default, */tmp* is automatically shared. This can be a security concern, since various system utilities keep temporary data in */tmp*. To remove the */tmp* share, log into SWAT (see above) and select the **Shares** icon. On the next screen, highlight the **tmp** share in the list box and select the **Delete Share** button.
- Samba cannot run together with Advanced File and Print Sharing (AFPS; found on the Optional Services CD #3), nor with the NetBIOS protocol running. If Samba will not start, do the following to determine if AFPS or NetBIOS are running, and disable them if necessary:

  1. Enter:

     ```
     # cd /etc/rc2.d
     ```

  2. Determine if either of the following files exist in this directory:

     ```
     S74netbios
     S99ms_srv
     ```

     If these one or both of these files exist, enter the appropriate command or commands shown below:

     ```
     # mv S74netbios s74netbios
     # mv S99ms_srv s99ms_srv
     ```

  3. Reboot the system:

     ```
     # shutdown -i6 -g0 -y
     ```

  4. Start Samba:

     ```
     # /etc/init.d/samba start
     ```

- Samba is configured with the SWAT (Samba Web Administration Tool) utility using a web browser on **http://*hostname*:901**; links to all the Samba documentation are provided from there. To start SWAT:

  1. As root, enter:

     ```
     # /usr/lib/samba/sbin/swat
     ```

  2. Point a web browser at **http://localhost:901**.

  3. Log in to SWAT as *root*.

  4. The main SWAT screen provides links to all the Samba documentation. Select the Status icon to start the Samba daemons.

- To start, stop, and restart Samba from the command line, use the **/etc/init.d/samba** command, as in this example:

  ```
  # /etc/init.d/samba start
  ```

  To enable Samba at system startup, enter the following:

  ```
  # /etc/init.d/samba enable
  ```

  Samba will now start up automatically whenever the system boots. The **disable** parameter returns Samba to manual startup.

- Localization settings in both the single-byte and multibyte versions are accessed from the SWAT Home Page by clicking on the **Globals** tab, and then selecting **Advanced View**. Set appropriate values for your locale for the client code page, the character encoding system, and the other options (each option has context-sensitive help). Please refer to the documentation for **smb.conf** for futher details.

- **Note**: the **smbfs** file system and associated commands (**smbmnt**, **smbmount**, **smbumount**) are not supported on Release 7.1.3. Other client tools, such as **smbspool**, are supported.

More Samba documentation and other resources are provided on the Samba Home Page.

Update Pack 1 New Features

Update Pack 2 contains the following features that were delivered previously with Update Pack 1.

DocView Enhancements

The DocView documentation server displays the UnixWare documentation set on port 8458, and is enabled by

default for network access. Point any browser on your network at **http://*hostname*:8458**, where *hostname* is the network node name of the UnixWare system.

Two enhancements have been made to DocView:

Automatic Indexing

A **cron**(1M) script has been added that generates the DocView index automatically when changes are made to the installed documentation. The cron job runs every day at 0310 hours (3:10 AM local time), and is installed by default. This process can take a significant amount of time depending on the amount of documentation being indexed and available system resources. The cron job is enabled and disabled using the following commands:

```
# /usr/lib/docview/conf/set.rundig.cron --add
# /usr/lib/docview/conf/set.rundig.cron --remove
```

DocView Print Service

A new printing interface has been added that allows you to pick a group of topics to be printed as a book.

Selecting the **Print Book** button at the top of the DocView screen opens a copy of the DocView Site Map, from which you can select topics for printing by turning on the check boxes next to the listed topics. At the top of the Print Service screen, select whether you want to generate a PostScript or PDF file. Specify a title for the book, and the heading level to be used in the table of contents.

When you on the **Submit** button, the selected topics are collected, formatted for printing, and paginated. The cover and custom table of contents are generated and added to the beginning of the document.

When DocView is finished preparing the file, it displays a screen telling you the size of the file and the number of pages in the document. Select the **Proceed with download** button to start downloading the file to your browser (or save it to a file on your local system).

The resulting PDF file can be viewed with any PDF viewer (such as **xpdf** on UnixWare, or Acrobat on Windows) or PDF-enabled browser. The PostScript file can be printed to a PostSript printer via **lp**, as in this example:

```
$ lp -T PS -d printer file
```

Note that the assembled PDF or PostScript file is limited to about 1.5MB of HTML text, or about 600 pages. If your selections exceed this limit, an error message is displayed. Select your browser's **Back** button to go back to the Print Service screen and turn off some of your selections.

Emergency Recovery CD Support

The **emergency_disk**(1M) command now supports creating an emergency recovery boot CD, as an alternative to using boot floppies. In previous releases, a set of emergency recovery floppy disks was required to boot the system. This meant that your system had to have a 3.5-inch floppy disk drive in order to be restored from emergency recovery media. This is a problem for newer systems that do not support IDE floppy drives. Now, **emergency_disk** can create a boot CD using CD-R or CD-RW media on an IDE, SCSI, or USB recordable CD drive, so that boot floppies are no longer required. See the **emergency_disk**(1M) manual page for more information.

Note that the **cdrtools** package (found on the UnixWare 7.1.3 Optional Services CD #3) is required to create an emergency recovery boot CD, and that only CD-R, CD-RW, and DVD+RW drives that work with **cdrtools** are supported for emergency recovery.

To test a particular drive to see if it will work with **emergency_disk**, enter the **cdrecord** commands shown below. The first command returns the arguments you need in the second command. The second invocation of **cdrecord** should return the string shown as part of its output:

```
# /bin/cdrecord -scanbus
```

```
# /bin/cdrecord -inq dev=scsibus,target,lun
...
Device seems to be: Generic mmc CD-RW.
...
```

The following CD drives are known to work with emergency recovery:

CenDyne/AOpen 48X12X50 USB
HP DVD+RW 200i ATAPI
LITE-ON LTR-52246S IDE
Plextor CD-RW 16/10/40A ATAPI
Plextor CD-RW 24/10/24U PX-W2410A USB
Yamaha CD-RW CRW8824S SCSI

Problems have been observed with the **IOMEGA ZIPCD USB** drive and the **OPTORITE CD-RW CW4802 IDE** drive.

To prevent a timeout problem when burning a CD using an IDE CD-RW drive, the following value in */etc/conf/pack.d/ide/space.c* is changed by the installation of the Update Pack from:

```
int  atapi_timeout=10;
```

to:

```
int  atapi_timeout=1000;
```

If you use **cdrtools** to burn CDs on an IDE hard drive but do *not* install the Update Pack, you can make the above change manually, and then reboot to rebuild the kernel.

Emergency Recovery Master Boot Record Option

When restoring the system using emergency recovery boot media (CD or floppy), a new option to write the master boot record (MBR) of the primary hard disk is displayed. This option writes the UnixWare MBR to the boot sector of the primary hard disk. This option is useful if the disk is known to have a valid operating system (OS) on it, yet the error `No OS found`, `No operating system`, or a similar message is displayed when you attempt to boot from the disk. Writing the MBR may permit the disk to boot without further recovery. Note that any other OS boot loader in the boot sector (such as **grub**, **lilo**, or System Commander) will be overwritten by this option.

Host Bus Adapter Drivers

The following Host Bus Adapter (HBA) drivers are new or updated:

mpt
A new LSI Logic PCI to SCSI and Fibre Channel host adapter driver for LSI Logic Ultra320 and Fibre Channel chipsets. For supported devices and other information, see **mpt**(7).

qlc2200
Updated QLogic PCI FC host adapter driver to fix problems reported when removing disks from an IBM ESS Storage Area Network (SAN) Cabinet. For supported devices and other information, see **qlc2200**(7).

These drivers are not installed by the Upgrade Wizard (**uli**), unless (in the case of **qlc2200**), a previous version exists on the system. To install them, use the **pkgadd** command. Follow Steps 1 and 2 of the Installation Procedure, and then enter the following:

```
# pkgadd -d device package...
```

The *device* is **cdrom1** if you followed **Step 2a**; or, **/install** if you followed **Step 2b**. Replace *package* with the names of one or both of the drivers. This example installs the **mpt** driver from a mounted ISO image file:

```
# pkgadd -d /install mpt
```

See the Compatible Hardware Page for the latest supported HBAs and drivers.

Network Card Drivers

The **nd** package on the Update Pack CD contains updated versions of the following network interface card (NIC) drivers, which now support the indicated network cards:

eeE8

```
PRO/100+ Management Adapter (PILA8900)
PRO/100 Server (PILA8480)
Pro/100B T4 (PILA8475B)
PRO/100 S Server (PILA8474B)
PRO/100 S Server (PILA8474BUS)
PRO/100+ Dual Port Server Adapter (PILA8472)
PRO/100+ Server Adapter (PILA8470)
PRO/100+ Server Adapter (PILA8470B)
PRO/100+ Dual Port Server Adapter (61PMCA00)
PRO/100 (PILA8465)
PRO/100B Adapter (PILA8465B)
InBusiness 10/100 Adapter (SA101TX)
PRO/100 S Management (PILA8464B)
Pro/100+ Management Adapter (PILA8461)
Pro/100+ (PILA8460)
Pro/100+ Management Adapter (PILA8460B)
Pro/100+ (PILA8460BN)
PRO/100 S Management (PILA8460BUS)
Pro/10+ (PILA8500)
Pro/10+ (PILA8520)
```

e1008g

```
PRO/1000 Gigabit Server Adapter PWLA8490
PRO/1000 Gigabit Server Adapter PWLA8490G1
PRO/1000 F Server Adapter PWLA8490SX
PRO/1000 Gigabit Adapter PWLA8490SXG1P20
PRO/1000 T Server Adapter PWLA8490T
PRO/1000 T Server Adapter PWLA8490TG1P20
PRO/1000 XT Server Adapter PWLA8490XT
PRO/1000 XT Server Adapter PWLA8490XTL
PRO/1000 XT Lo Profile Server Adapter PWLA8490XTL
PRO/1000 XF Server Adapter PWLA8490XF
IBM Netfinity Gigabit Ethernet SX Adapter 09N3599
IBM Netfinity Gigabit Ethernet SX Adapter 30L7076
IBM Gigabit Ethernet SX Server Adapter 06P3718
IBM Gigabit Ethernet Server Adapter 22P4618
PRO/1000 MT Desktop Adapter PWLA8390MT
PRO/1000 MT Server Adapter PWLA8490MT
PRO/1000 MT Dual Port Server Adapter PWLA8492MT
PRO/1000 MF Server Adapter PWLA8490MF
PRO/1000 MF Dual Port Server Adapter PWLA8492MF
```

You can select the **nd** package when you use the Upgrade Wizard to install the Update Pack CD. To add the **nd** package separately, see the instructions in the section Installing Additional Packages after the Update Pack 1 Set.

The UnixWare 7.1.3 **nd** package can also be installed on Release 7.1.2 (also known as OpenUNIX 8.0.0) or Release 7.1.1 to update the network drivers or to take advantage of the enhanced **tcpdump** functionality (see tcpdump Enhancements).

Please note the following when installing the Release 7.1.3 **nd** package on 7.1.1:

- You will also need to install **ptf7689b** (view text file | download) on Release 7.1.1 before installing the updated **nd** package; otherwise the latest **tcpdump** fails on Release 7.1.1 with the message `dynamic linker: tcpdump: binder error: symbol not found: strlcpy`.

- During installation on Release 7.1.1, the error `UX:grep: ERROR: cannot open /etc/inst/nd/mdi/shrkudi/Master: No such file or directory` is displayed. This error affects the UDI **shrk** driver only, which is not supported on Release 7.1.1. Use the MDI version of the **shrk** driver instead.

Networking: dlpid Performance Enhancements

Poor system and network performance has been observed on some systems when one or more of the Network Interface Cards (NICs) attached to the system is unplugged from the network. This was due to repeated failure indications being sent to the **dlpid**(1M) daemon.

In Release 7.1.3, a change was made to **dplid** to correct this problem. **dlpid** was changed to check the time between successive hardware failure indications. If the time difference is less than 10 seconds, **dlpid** sleeps for a 10 second interval before trying the device again.

dlpid has been further extended to sleep for a configurable duration between successive hardware failure indications, to allow the NIC to reset and come out of the failure mode, in cases where the default 10-second wait is not enough time for the NIC to reset. A new **dlpid** option, **-r**, is added to wait for the specified time. By default it is set to 10 seconds. If the pre-7.1.3 behavior is required (i.e., no wait between successive hardware failure indications), then **dlpid** can be started with the **-r** option set to 0.

PPP Enhancements

Various enhancements were made to the **pppd**(1M) daemon to enhance the reliability and scalability of Point-to-Point Protocol (PPP) connections. Most of these improvements were made to driver code, and so are not visible at the user level. Some are listed in the section Problems Fixed.

Printing PostScript Files on PCL Printers

An **lp**(1) filter has been added to allow printing of PostScript files (such as those created by Netscape) to be printed on PCL Printers (such as Hewlett-Packard). To enable this feature:

1. Install the latest **ghostscript** package from the Skunkware Web Site.

2. Define a PCL printer using the **scoadmin printer** interface.

3. Enter a command like the following to print a PostScript file on the printer.

   ```
   lp -TPS -dpcl_printer file.ps
   ```

   Where `pcl_printer` is the name of the printer and `file.ps` is the name of the PostScript file. This command (without the file name) can be specified in your browser's preferences to print files automatically to this printer.

tcpdump Enhancements

Version 3.7.1 of **tcpdump**(1M) is provided, along with its supporting library, **libpcap**(3) (version 0.7). The **tcpdump** utility allows you to view and save TCP headers passing through a particular network interface. Boolean expressions can be used to select only those headers that match the criteria given by the expression.

This version of **tcpdump** has many enhancements over the version (3.4a5) provided in UnixWare 7.1.3. Most notably, the new version does not require a dedicated network card for **tcpdump**. Multiple instances of **tcpdump** can be started to monitor the same card. See the **tcpdump**(1M) and **pcap**(3) manual pages. Also see the tcpdump web site for **libpcap** tutorials, as well as **tcpdump** and **libpcap** source code.

A number of changes to the MDI and DLPI interfaces were made to support the new version of **tcpdump**.

Two new MDI **ioctl** commands are added for MDI2.2 drivers, to turn promiscuous mode on and off: MACIOC_PROMISCON and MACIOC_PROMISCOFF. MACIOC_PROMISCON is compatible with MACIOC_PROMISC in MDI2.1.

The following DLPI2.0 features are also implemented:

- Allow sharing of SAPs by network interface cards.
- Support the DL_PROMISCON_REQ and DL_PROMISCOFF_REQ primitives.

To support the above changes, updated header files *dlpimod.h* and *mdi.h* are provided in the **nics** package for Update Pack 1, as well as the updated support for running tcpdump on a non-dedicated network card. **tcpdump**, **libpcap**, and related header files are provided by the **nd** package. If the **nd** package is installed without the updated **nics** package, the updated **tcpdump**, etc., are installed, but must be used with a dedicated network controller as in previous releases.

The updated **nd** package can also be installed on Release 7.1.2 (Open UNIX 8.0.0) and on Release 7.1.1 if the latest version of **tcpdump** is desired. The **nics** package is not supported and will not install on these earlier releases, however, so **tcpdump** on Release 7.1.1 and 7.1.2 will continue to require a dedicated network card.

UNIX95 Conformance

The following minor modifications have been made in order to maintain conformance to the UNIX 95 standard:

- The **dd** command was modified to accept and ignore a double dash (--) as an end of options indicator. Note that **dd** has no options that begin with a dash (-), so "--" can only appear as the leading argument and consequently has no real purpose.

- The **sort** command was modified *to remove* its previous (mistaken) UNIX 95 behavior. Previously, when using **sort -c** with the POSIX2 environment variable set, **sort** only indicated whether the input was sorted through its exit value. The sort command was changed for Release 7.1.3 to remove the dependency on the POSIX2 environment variable, so that **sort -c** will always return a diagnostic if the input is out of order.

- The two supported Korn shells (*/bin/ksh* and */u95/bin/sh*) did not recognize an integer literal with a leading **0** as being octal, nor a leading **0x** or **0X** as hexadecimal in arithmetic constructs. This does not match the intent of the POSIX.2 and OpenGroup shell specification. So, for example, the following output was seen in previous versions of the Korn shell:

  ```
  $ echo $((10+1))
  11
  $ echo $((010+1))
  11
  $ echo $((0x10+1))
  /u95/bin/sh: 0x10+1: arithmetic syntax error
  ```

  A change was made to work as intended when the POSIX2 environment variable is set:

  ```
  $ export POSIX2=on
  $ echo $((10+1))
  11
  $ echo $((010+1))
  9
  $ echo $((0x10+1))
  17
  ```

  Note that because integer constants like **010** have a silent change in behavior, this change requires POSIX2 to be set in the environment.

- Minor namespace changes to the following header files:

arpa/inet.h
netdb.h
netinet/in.h
netinet/in6_f.h
netinet/in_f.h
fmtmsg.h
grp.h
libgen.h
pwd.h
stdarg.h
strings.h
unistd.h
utmp.h
utmpx.h
wchar.h
sys/fcntl.h
sys/stat.h
sys/statvfs.h
sys/convsa.h
sys/stropts.h
sys/mman.h
sys/socket.h
sys/un.h
sys/regset.h
sys/siginfo.h
sys/ucontext.h
sys/fp.h

Problems Fixed

Update Pack 2 (**uw713up2**) contains all the fixes from Maintenance Pack 1 (**uw713mp1**), Maintenance Pack 2 (**uw713mp2**), and Update Pack 1 (**uw713up1**), plus additional fixes. See the lists below. The identifiers at the end of each description are SCO escalation and problem report numbers.

Problems fixed in Maintenance Pack 1

uw713mp1 contained the following fixes:

1. Prevents system panics previously caused when **fusers** examines an exiting process.
   fz526462

2. Prevents hangs seen on Compaq ML350 and ML370 Systems when hyperthreading (Jackson Technology) is enabled, i.e., when the boot parameter ENABLE_JT is set to YES.
   fz526444

3. Fixed problems with the CDE desktop help viewer.
   fz526501

4. Provides missing **scoadmin filesystem** files that were not installed when upgrading from UnixWare 7.1.1 or Open UNIX 8.0.0.
   fz526550

5. Provides updated */usr/include* files that were not installed when upgrading from UnixWare 7.1.1 or Open UNIX 8.0.0.
   fz526552

6. Provides a new **makewhatis**(1M) command that was not installed when upgrading from UnixWare 7.1.1 or Open UNIX 8.0.0.
   fz526526

7. Fixed **crash**(1M) to recognize changes to the *callout* structure.
   fz518517

8. Fixes issues target disk driver error recovery.
   fz520729

Problems fixed in Update Pack 1

uw713up1 contains all the fixes listed above for **uw713mp1**, plus the following additional fixes. Fixes listed with (MP2) at the beginning of the description are also included in Maintgenance Pack 2 (MP2); see Problems fixed in Maintenance Pack 2.

Security Fixes

9. (MP2) Closing file descriptors 0, 1 and/or 2 before **exec**'ing a **setuid** program can make this program open files under these file descriptors, which have special meanings for **libc** (`stdin/stdout/stderr`). Reading or writing to root-owned files can be made possible, since `stdin/stdout/stderr==opened_file`.
   erg712059/fz526562/CSSA-2002-SCO.43

10. (MP2) A rogue **talk** client is able to cause the **talk** demon to overrun a buffer, and could be able to compromise a machine running **talkd**.
    erg712055/fz521053/CSSA-2002-SCO.42

11. (MP2) Buffer overflow in XPR portion of *libnsl* library.
    erg712182/fz526861/CSSA-2003-SCO.7

12. (MP2) A command line buffer overflow in **ps** command can be exploited.
    erg712109/fz525292/CSSA-2003-SCO.1

13. (MP2) The implementation of *xdr_array* can be tricked into writing beyond the buffers it allocated when deserializing the XDR stream.
    erg501642/fz525725/CSSA-2003-SCO.7

14. (MP2) Fixed a security vulnerability in the **sendmail** binary that can be exploited by remote users to gain root access.
    fz527484/erg712247/CSSA-2003-SCO.5

15. (MP2) When using **ftp** to transfer a file with a pipe as the first character in its name (for example, `|xyz`), **ftp** executes the file on client machine.
    erg712227/fz527425/CSSA-2003-SCO.3

Networking Fixes

16. (MP2) Panic in PPP driver - *pppwsrv*() - due to a race condition.
    erg501673/fz526330

17. (MP2) Panic in PPP's **pcid** driver.
    erg501650/fz525867

18. (MP2) Communication problem between **pcid** and **ppp** driver.
    erg501678/fz526352

19. (MP2) The **ttymon** process sometimes stops listening to a port after PPP disconnect.
    erg501634/fz525626

20. (MP2) When receiving data from a TCP socket it may lock up indefinitely with data buffered up in the kernel

but never returned to the process.
erg501604/fz520887

21. (MP2) Connection server fails with the following error:

    ```
    10/24/02 17:14:51; 27209; cs: ioctl() set signal error; errno=22
    ```

    erg712153/fz526540

22. (MP2) Improved network printing performance.
    erg712041/fz520932

23. (MP2) If an **ftp** client host was reset (as in cycling the power) during the data transmission to the server, the **ftp**-data connection never times out on the server. If the client tries to use again the same port after reboot for an **ftp** transmission, the server responds with EADDRINUSE.
    erg501703/fz526973

24. (MP2) After removing a network interface, **pkgchk nics** complains about missing files.
    erg712152/fz526505

25. (MP2) Repeated logins on virtual terminals (*/dev/vt02 ... /dev/vt08*) result in file descriptor leakage in **ttymon**.

    erg501636/fz525650

26. (MP2) When excessive short-lived **rlogin** sessions are being created, */var/adm/wtmp* and */var/adm/wtmpx* get out of sync and must be rewritten. While these files are being rewritten, no one can **rlogin** to the system. If these files grow quite large, this can take up to 20-30 minutes. Also under heavy load the short-lived **rlogin** sessions may leave in *utmp* the entries from sessions that have actually completed.
    fz526496/erg712151

27. (MP2) Can't write to **/dev/_tcp/*num*** tty device (**rlogin** connection).
    erg712250/fz526110

28. (MP2) Occasionally *bind*() returns EADDRINUSE for no apparent reason.
    erg712209/fz527217

29. (MP2) Fixed tape driver bug relating to SAN attached tape drives.
    erg712195/fz526396

30. (MP2) Fixed an NFS panic which can occur following certain types of transmission errors.
    fz526648

31. (MP2) Cleaned up code which handles dispatching of *tcp* timers.
    fz526796

32. (MP2) Panic in *tcp_close*.
    fz527439/erg712230

33. The function **write**(2) erroneously returns EISCONN on a raw socket.
    erg501681 fz526404

34. Fixed an NFS hang which can occur when mounting an NFS file system.
    fz526665

35. Unplugged network cable causes terrible interactive console performance.
    fz520663

36. System panic while running LSV **inet** stress tests (GetService).
    fz526345

37. The utility **cs**(1Mbnu) fails to include the phone number.
    erg501670, fz526315

38. PPP stability and scalability improvements.
    fz527328

Miscellaneous Fixes

39. (MP2) Multi-threaded application may hang in an unkillable *sleep*, during *exec*.
    erg712172 fz526750

40. (MP2) Fix for **sdiadd -n** panic on systems with a pre-DDI8 Host Bus Adapter (HBA). The problem was that *sdi_hot_add*() was not converting the older style SCSI address into the newer extended SCSI addressing scheme properly. The original fix set the address to -1's instead of 0's for the wildcard case. *pdi_hot* will set the SCSI address to all -1's to tell SDI that we want to scan the entire SCSI bus starting from absolute address 0/0/0/0 (controller/bus/target/lun).
    erg712223 fz527360

41. (MP2) Added minor command modifications required by The Open Group for UNIX95 certification. For details, see UNIX95 Conformance.
    fz526395/fz526629/fz527377

42. (MP2) The **emergency_disk**(1M) boot media hangs on system with more than 4 GB RAM.
    fz527578

43. (MP2) Added undocumented option **noquota** to the vxfs **mount** command to fix the problem where the output of **mount -p** when used in */etc/vfsta*b, is rejected by **mount** with the message:

    ```
    UX:vxfs mount: ERROR: illegal -o suboption -- noquota
    ```

    erg712190 fz526894

44. (MP2) The kernel can panic in *mod_dev_load* if a DDI8 driver does not get configured properly.
    fz526791

45. (MP2) Repeated logins on virtual terminals (*/dev/vt02* ... */dev/vt08*) result in file descriptor leakage in **ttymon**.

    erg501636 fz525650

46. System hangs due to multiple, racing calls to *stropen*.
    erg501706 fz527158

47. **lint**(1) previously warned about *_nanf*() and *nanf*() in *math.h*. Adding a `/*LINTED*/` line in front of each suppresses this noise.
    fz527588

48. The utility **cs**(1Mbnu) exits unexpectedly due to *fork*(2) failure.
    erg501710 fz527253

49. The **emergency_rec**(1M) command doesn't ignore commented entries in */usr/lib/drf/tapeconfig*.
    fz527399

50. The command **pwck**(1M) should print the line being processed, when errors are encountered.
    erg712157 fz518020

51. Fix locking of CD-ROM tray.
    fz527497

52. The command **sar -d** returns busy values > 100%
    fz521100 erg501658

53. Fixed bugs which caused the licensing daemons (**ifor_pmd**, **ifor_sld**, and **sco_cpd**) and the **idmknodd** daemon to be killed on transitions to **init** state 1 and never restarted.
    fz526649, fz526656

54. The **mousemgr** process could not be run in init state 1.
    fz527032

55. Updated **/sbin/usb** to only run when *usbd* is configured.
    fz527495

56. Fixed potential problem evaluating constant expressions in *full_optimization* **asm**(1) functions.

fz527501

57. Panic in the routine *v86bios0*().
    fz526652

58. Include support tool **sysinfo**(1M) in shipping product.
    fz519999

59. Intel's fix for p6update panics on prototype Pentium 4 Xeon system.
    fz521607

60. Kernel panic in *kmem_alloc*, from *tcpopen*.
    fz521356

61. New tunable COREFILE_SECURE. Privileged, **setuid** or **setgid** processes are prohibited from dumping core. A new tunable COREFILE_SECURE, if tuned to 0, will allow such processes to core dump.
    fz526524/erg712163

62. System hangs sporadically after calling *execv* directly after *fork1* in multithreaded applications.
    fz526597

63. Netscape postscript printing in **kole** (Korean) environment is broken.
    fz520071

64. If the Skunkware **ghostscript** package is installed, the PostScript files (such as those printed by Netscape) can be automatically converted for printing on the PCL printers (such as HP LaserJet). An example of command to enter in the Netscape print dialog:

    ```
    lp -T PS
    ```

65. Correctly display version of **dump** command with **-V** option.
    fz518607

66. Fix for missing charset attribute for Japanese documentation in DocView.
    fz526356

Development Fixes

67. Assembly peep-hole optimizer (**optim**) fix for three operand integer multiplication by one which was not caught by the global optimizer on C++ code.
    fz526555

68. C++ compiler fix: Unless in strict ANSI mode, allow an undefined inline function to be referenced if the point of reference is never used.
    fz526499 fz526480

69. Debugging information for a "long long" local variable assigned to register pair %ebx/%esi was incorrectly stated as %ebx/%esp. C and C++ compilers fixed.

Compatibility Fixes

70. (MP2) Fix for panic on certain OpenServer binaries.
    erg550013/fz514721

71. (MP2) *chown*() arguments of -1 do not work for OpenServer binaries
    fz526683

Problems fixed in Maintenance Pack 2

uw713mp2 contains all the fixes listed above for Maintenance Pack 1, the fixes marked (MP2) delivered with Update Pack 1, plus the following fixes:

Security Fixes:

72. **uudecode** does not validate the filename; it should not write to pipes or symbolic links.
    CSSA-2002-SCO.44

Networking Fixes:

73. KMA corruption in *tcp*.
    fz521356/erg712086

74. Status requests are not being automatically generated for a network printer if it is very busy resulting in job ids not being freed.
    erg501666/fz526164

75. Hangs and delays in streams caused by streams routines unnecessarily allocating large physically contiguous buffers.
    fz527550/erg712266

Compatibility Fixes:

76. Fixed system call restart code for OpenServer applications. Also modified code for the connect system call so that connect is properly restartable for OpenServer applications.
    fz527264

77. System hangs during boot up on older (Pentium III and earlier) IBM hardware.
    fz527522

78. Allow use of an ELF interpreter which contains a `PT_NOTES` section, as some older OpenServer libraries do.
    fz527571

79. Enable 16-bit IPC IDs for OpenServer and Xenix compatibility.
    fz527373

80. Implement support of `MAP_NOEOF` *mmap* flag for OpenServer applications running on UnixWare.
    fz527536

Miscellaneous Fixes:

81. Fixed an unrecoverable "internal error" experienced by the **debug** command when reading some core files from threaded applications. Fixed the recently added **-m** command line option to specify an alternate runtime library path when analyzing core files from other systems.
    erg501675/fz526224/fz526635/fz526681

82. The **vtoc** driver has been fixed to support disks whose physical sector size is an integral multiple of 512.
    erg501717/fz527726

83. System may refuse to take console input after 248 days, thereby appearing to hang, due to invalid time stamps in the **cmux** driver.
    fz527517/erg501720

84. The command **useradd**(1M) allows $ in usernames (SAMBA requirement)
    fz526483

85. The **ksh95** built in **pwd** command can output pathnames starting with //.
    fz199364

86. PSE memory remains unavailable after dynamically adding memory.
    erg712235/fz527455

87. System hangs in **vxfs** filesystem. Processes blocked waiting on a call to *vx_iget*.
    erg712184/fz526355

88. Restore the pre-7.1.3 *lookuppn* syntax so that third-party provided filesystems continue to work. The extra *root vnode* argument has been removed from *lookuppn*. A new *lookuppnx* function has been created with this extra argument.
    fz527503

Problems fixed in Update Pack 2

uw713up2 contains all the fixes listed above for Maintenance Pack 1, Update Pack 1, and Maintenance Pack 2,

plus the following additional fixes.

Networking Fixes:

89. Hangs and delays in streams caused by streams routines unnecessarily allocating large physically contiguous buffers.
    fz527550 erg712266

90. If two arp -d's are called in quick succession, one of the entries may not be deleted.
    erg711628/fz516107

91. When DNS is not configured, mailadmin (scoadmin mail) will not allow you to change any settings.
    erg712296/fz527783

92. System panic due to a race condition in tcp timers code.
    erg501722/fz527554

93. Fixed scoadmin DNS Manager' abnormal terminations; fixed corruption of DNS/BIND's configuration and zone data files caused by scoadmin DNS Manager; fixed ndc/rndc utility and interactions with DNS/BIND.
    fz518460 fz518604 fz521436

Compatibility Fixes:

94. If the name of remote system for a remote printer is not found in /etc/lp/Systems, lpsched does not complain at startup and later on coredumps when a status or cancel request is sent to that printer.
    fz527931

95. Remote print requests remain indefinitely in queue if remote system is down. They do not timeout even if timeout parameter is specified in /etc/lp/Systems for the corresponding remote system.
    fz527934

    WARNING: Since by default the timeout is set to 10 minutes, print setups with large network delays may suddenly experience timed-out jobs. For such systems, system administrators should either increase the timeout value or set timeout to "never" to restore old behavior.

Miscellaneous Fixes:

96. System can refuse to take console input after 248 days, thereby appearing to hang, due to invalid time stamps in the **cmux** driver.
    fz527517 erg501720

97. Short-lived floating point temp value may be left on the floating point stack when used within the second or third operand of a conditional operator. This may result in a floating point stack overflow.
    fz527712

98. Potential floating point stack overflow detected in /usr/sbin/vxassist.
    fz527712

99. Shell metacharacters that are part of the options to the C++ compiler are properly preserved (escaped) for reuse during recompilation done as part of C++ auto template instantiation.
    fz527527

100. Fixed an unrecoverable "internal error" experienced by the debug command when reading some core files from threaded applications. Fixed the recently added '-m' command line option to specify an alternate runtime library path when analyzing core files from other systems.
     erg501675 fz526224 fz526635 fz526681

101. The vtoc driver has been fixed to support disks whose physical sector size is an integral multiple of 512.
     erg501717 fz527726

102. Fixed division by zero error in /usr/ccs/lib/optim encountered in calculating potential benefits of locals in a register for what appears to be a series of heavily nested loops.

103. Fix to ps -o time so that when the accumulated CPU time exceeds 24 hours, the number of days is no longer off by one.
fz527776/erg712295

104. Change the "enum boolean" tag in /usr/include/sys/types.h to "enum __boolean", removing the type/tag "boolean" from the user name space.
fz527818

105. Add support for Digi ClassicBoard/PCI and Connect Blue Heat serial cards.
fz527694

106. System hangs in vxfs filesystem. Processes blocked waiting on a call to vx_iget.
erg712184 fz526355

107. Restore the pre UnixWare 7.1.3 lookuppn syntax so that third-party provided filesystems continue to work. The extra "root vnode" argument has been removed from lookuppn. A new lookuppnx function has been created with this extra argument.
fz527503

108. Status requests are not being automatically generated for a network printer if is very busy resulting in job ids not being freed.
erg501666 fz526164

109. Display per-processor callouts as well as global callouts from the callout command.
fz527802

110. Enhanced the Printing subsytem to have a maximum of 999 printjobs per printer or class of printers rather 999 printjobs for the whole system.
erg501712/fz526370

111. Lpsched performs poorly when a large number of jobs (200+) are submitted at once.
erg501718/fz527462

112. The sdipath -o repair command can hang when run against active paths.
erg712254/fz527498

113. PSE memory remains unavailable after dynamically adding memory.
erg712235 fz527455

114. Periodic Local timeouts can migrate to global callout lists. If a driver uses a dtimeout interface to schedule a periodic callout on a particular cpu, the callout migrates to the global list after the first firing. This then allows allows callout to be scheduled on any cpu.
fz527675

115. scoadmin now includes a graphical disk manager
fz527823

116. xAPIC support for IBM xSeries x440 servers - allows multiple CECs to be used and more than 8 logical CPUs
fz526749 fz527522

117. Fix the ksh problem where an empty assignment (for example, ksh -c 'x=; echo ${x/y/z}') would cause a memory fault.
fz527943

118. Change umask to 022 so that /etc/ssh.pid is not world writable.
fz526605

119. Correct /usr/sbin/sshd binary to use /usr/X/bin/xauth instead of /usr/X11R6/bin/xauth.
fz526871

120. Added STO_386_COPY support to RTLD and the linker to aid in the evolution of the IA32 psABI.
fz527833

121. Add support for the BSD and Linux asprintf() and vasprintf() routines. These two routines are additional *sprintf() variations. Here, you pass the address of a "char *" into which is placed a malloc()d buffer of sufficient length to hold the entire sprintf() result. The caller is responsible for free()ing the buffer when done.
fz527834

122. Correct /usr/include/sys/nattr.h definition of NATTR_CSUM_MASK.
fz527534

Fixes Included in Additional Packages in Update Pack 2:

The following fixes are not included in the **uw713up2** set; they are installed with the indicated package provided on the Update Pack 2 CD and on the download site. See Update Pack 2 CD Contents.

1. **adst70** - Provide updated adst70 HBA driver to prevent a panic going into init 1.
fz527526

2. **basex** - Avoid potential duplicate data being flushed from buffers when the child process, used for initial house keeping, in the pseudo tty client open transport function exits.
fz527709

3. **nd** - Updated Intel PRO/100 driver (eeE8) to version 2.5.4. Bug fixes and new card support.
fz527508 fz527922

4. **nd** - Updated Intel PRO/1000 driver (e1008g) to version 7.0.11. Bug fixes and new card support.
fz527502 fz527911

5. **nd** - Correct typos in Intel PRO/1000 (e1008g) Drvmap file affecting hotplug support for certain NICS.
fz527792

6. **nics** - Short Ethernet frames are now padded with octets of zero to prevent information leakage.
erg712090 fz521367

7. **openssh** - SECURITY Provide rlogin/telnet login replacements to correct flawed kill routine.
fz526587

8. **openssl** - SECURITY Upgraded OpenSSL version to fix timing attack vulnerability.
fz527507

9. **samba** and **sambamb** - SECURITY Upgraded Samba version to fix security wholes where anonymous or remote users could gain root access.
fz527530 fz527681

10. **xdrivers** - Matrox G100/G200/G400 Series Graphics driver (mtx) doesn't close pcix driver causing xserver package to hang during installation.
fz527729

11. **xdrivers** - Provide support for Nvidia TNT2, GeForce2 and Quadro2 Graphics adapters.
fz527795

12. **zlib** - SECURITY Fix a zlib (gzprintf) format string overflow vulnerability by rebuilding the zlib library to use snprintf().
fz527490

Known Problems and Workarounds

DocView "Print Book" Problems with non-English Text

Problems have been observed with the DocView (**http://*hostname*:8458**) **PRINT BOOK** facility:

1. Some files do not print when selected from the **PRINT BOOK** list, or the incorrect content is printed instead. This occurs in C and non-C locales.

2. Multibyte files cannot be printed (this includes, for example, Japanese-language documentation from the **jabasedoc** package on the Localized Documentation CD in the UnixWare Media Kit) from the **PRINT BOOK** list. This is because the underlying engine in DocView for printing HTML (**HTMLDOC**) does not support multibyte files.

3. Some documents are not being printed in foreign languages when locale is properly selected and the foreign-language documentation is installed.

The workaround in all these cases is to display the files individually from the DocView **SITE MAP** interface (which is identical to the **PRINT BOOK** list), and use your browser's **Print** command to print the files.

For example, if you use the **PRINT BOOK** interface to print a *New Features* file and it does not work, click on the **SITE MAP** button on the DocView menu (**http://*hostname*:8458**) and select the name of the link that you wanted to print (the **SITE MAP** and **PRINT BOOK** lists are identical). Once the document is loaded into the browser, print it using your browser's **Print** command (**File > Print** in Netscape) to print to a local printer or to a file. The formats available depend on your local browser's setup.
527817

Installation: xAPIC Support

Update Pack 2 includes xAPIC support for IBM x440 systems. On some platforms, such as the IBM xSeries 360 (x360), the OS detects it should use xAPIC but the platform does not properly support it. If this happens, the symptoms are device timeouts (either a disk driver or HBA) very early during the boot process. The system will display a message stating that an HBA or disk command has timed out, and the system will become unresponsive (hang). If you are using a Multi-Processing (MP) system with Pentium 4 (Xeon) processors and this occurs do the following:

1. Reset the system.

2. When the system displays the UnixWare logo during the boot sequence, interrupt the boot by pressing any key.

3. At the **boot** prompt enter:

   ```
   USE_XAPIC=N
   boot
   ```

   The system should now boot normally.

4. Once the system is running, edit */stand/boot* and add the following entry to the file:

   ```
   USE_XAPIC=N
   ```

   This will ensure that you do not need to interrupt the boot process again.

Installation: OpenSSH requires OpenSSL

You may see the following error during installation of the OpenSSH (**openssh**) package:

```
##Executing postinstall script.
dynamic linker:  /usr/sbin/sshd: could not open libcrypto.so.0.9.7
Killed
/etc/init.d/opensshd: Error 137 starting /usr/sbin/sshd....Bailing.
```

This indicates that the OpenSSL (**openssl**) package is not installed; the installation of **openssh**, however, will still report success. To fix this, install the **openssl** package from the Update Pack 2 media and then re-install **openssh**.
527982

Installation: Timezone and Locale Clashes Display Warnings

If you install Update Pack 1 on a freshly installed UnixWare 7.1.3 system, you may see Warning messages during installation of the packages on the Update Pack 1 CD image. This happens most commonly when you specify the correct local time when installing UnixWare 7.1.3, but select a locale whose timezone differs from the local timezone. As a result, there can be a mismatch between the current system time and the time stamp on the files installed from Update Pack 1, which causes the following warning to be displayed:

```
WARNING: Reapply uw713u1 package.  Failure to do so may leave your
         system in an inconsistent state.
```

If this occurs, execute the following command:

```
pkginfo -l | grep INSTDATE | sort -u | more
```

Wait until the latest time returned by the above command has passed, and then reinstall the the **uw713u1** package:

```
pkgadd -d device uw713u1
```

Where *device* is the location of the mounted Update Pack 1 CD or CD image, or the location of the Update Pack image.
527540

Installation: Upgrade Wizard Exits if Space Pressed Repeatedly

When launching the Upgrde Wizard using the **uli** command from a desktop window, the Upgrade Wizard may exit unexpectedly if you press the space bar a few times while it is loading. To work around this, re-run the Upgrade Wizard.
527905

Installation: Warnings About Changed Files

During installation of Update Pack 1 on a system that was upgraded from a release prior to Release 7.1.3, warnings such as the following may be displayed:

```
UX:pkginstall: WARNING: /etc/conf/pack.d/msr/Driver.o <shared file is volatile>
UX:pkginstall: WARNING: /etc/conf/pack.d/pcid/Driver.o <shared file is volatile>
UX:pkginstall: WARNING: /etc/conf/pack.d/ppp/Driver.o <shared file is volatile>
UX:pkginstall: WARNING: /etc/conf/pack.d/pppml/Driver.o <shared file is volatile>
...
```

The Warnings displayed on your system will depend on the originally installed release. These Warnings are expected and can be safely ignored.
527406

Mozilla: Japanese characters are not echoed as they are typed

Japanese characters are not displayed as they are typed (using the X input method, invoked by typing a "shift-space") when filling a text or dialog box. The Japanese characters are instead displayed when "Enter" is pressed. This behavior is the default setting of the **xim.input_style** attribute in the Mozilla browser.

If users desire to have characters displayed as they are typed, they need to add the following line:

```
user_pref("xim.input_style", "over-the-spot");
```

to their preferences java script file, typically *$HOME/.mozilla/default/*/prefs.js*.
