

SCO OpenServer Release 5.0.7 Update Pack 2 Release and Installation Notes

This document provides installation instructions, new feature descriptions, and release notes for SCO OpenServer™ Release 5.0.7 Update Pack 2.

These *Release and Installation Notes* contain critical information that you need to know before and after installing SCO OpenServer Release 5.0.7 Update Pack 2. Familiarize yourself with the information that is relevant to your system, then install the Update Pack according to the instructions in this document.

NOTE Unless otherwise noted, this document supplements the SCO OpenServer Release 5.0.7 *Late News* (which are still relevant). As information becomes available after the publication of these *Release and Installation Notes*, it is added to the SCO OpenServer Release 5.0.7 *Late News* document, available from the SCO web site at:

<http://www.sco.com/support/docs/openserver>

These *Release and Installation Notes* cover the following topics:

- About Maintenance Packs and Update Packs (page 2)
- Before installing the Update Pack (page 3)
- Installing the Update Pack (page 4)
- New features in the Update Pack (page 10)

About Maintenance Packs and Update Packs

There are two support “tracks” that are available to SCO OpenServer Release 5.0.7 customers:

Maintenance Packs

A Maintenance Pack (MP) is a collection of security updates and fixes for reported problems. Maintenance Packs are made available periodically and can be downloaded and installed free-of-charge. Maintenance Packs are cumulative, so only the latest one needs to be installed.

Update Packs

An Update Pack (UP) is a collection of some of the new features and product enhancements that will be included in the next SCO OpenServer release. Available only for registered subscribers to the SCO Update Service, Update Packs are released on a quarterly basis, providing customers a simplified and streamlined process for deploying new technology and keeping systems updated.

Update Packs supplement the Maintenance Packs. Each Update pack requires the installation of a corresponding Maintenance Pack. Update Packs are cumulative, so you only need to install the latest Maintenance Pack plus the latest Update Pack to bring the system up to date with the latest features and enhancements.

Obtaining Update Packs

SCO OpenServer Update Packs (and Maintenance Packs) are available for download from the SCO OpenServer Release 5.0.7 Supplements web page:

<http://www.sco.com/support/update/download/osr507list.html>

Customers can also opt to receive Update Packs on CD-ROM. For more information, please contact your software supplier or go to the SCO Update Ordering web page:

http://www.sco.com/products/openserver507/model_numbers.html

A registered SCO Update Service license is required to install SCO OpenServer Update Packs. See “Registering your SCO Update Service license” (page 4) for more information.

Before installing the Update Pack

Update Pack 2 can only be installed on an SCO OpenServer Release 5.0.7 system. Previously released Update Packs do not need to be removed before proceeding.

Before you can install SCO OpenServer Release 5.0.7 Update Pack 2, you must:

1. Install the SCO OpenServer Symmetrical Multiprocessing (SMP) product if you want to use Hyper-Threading Technology. The SMP product must be installed **before** Maintenance Pack 1 and Update Pack 2.
2. Install Maintenance Pack 1 on your SCO OpenServer Release 5.0.7 system and reboot.

See the *SCO OpenServer Release 5.0.7 Maintenance Pack 1 Release and Installation Notes* for installation information.

NOTE If you are using remote printing and you do not intend to install the CUPS component of Update Pack 2, you should also install the MP1 Supplement. See the MP1 Supplement README for information.

3. Verify that an SCO Update Service (SUS) Enabler license is installed on your system. See “Licensing Update Packs” (this page) for more information.
4. Verify that you have registered your copy of SCO OpenServer Release 5.0.7 and/or your SUS Enabler license. See “Registering your SCO Update Service license” (page 4) for more information.
5. Back up the data on your system and verify the integrity of the backup.

You are now ready to install Update Pack 2.

Licensing Update Packs

An SCO Update Service (SUS) Enabler license is required to use any of the Update Packs for SCO OpenServer Release 5.0.7. This license is available in two forms:

- the SCO OpenServer Release 5.0.7 with SCO Update bundled product includes the SUS Enabler license in the operating system license
- you can purchase an add-on SUS Enabler license to supplement the basic SCO OpenServer Release 5.0.7 license

To determine if your SCO operating system is bundled with SCO Update, run:

```
/etc/brand -L | grep 'a120;'
```

If this command returns output, your operating system license also contains the SUS Enabler license.

To verify that an add-on SUS Enabler license was successfully installed, run the **License Manager** and check that the SCO Update Service is displayed in the list of currently installed licenses.

See “Licensing and registering SCO OpenServer products” in the *SCO OpenServer Handbook* for information on using the **License Manager** to install and verify licenses.

If you do not have an SUS Enabler license, contact your software supplier or go to the SCO Update Ordering web page:

http://www.sco.com/products/openserver507/model_numbers.html

Registering your SCO Update Service license

Both your SCO OpenServer Release 5.0.7 license and SCO Update Service Enabler license must be registered before you can install an SCO OpenServer Release 5.0.7 Update Pack. You can do this at the SCO OpenServer Product Registration web page:

<http://www.sco.com/support/registration>

NOTE If you haven't already registered your operating system license, you can simply register the SUS Enabler license. The operating system license is automatically registered at the same time.

After you register the SUS Enabler license, you will notice that an additional SCO OpenServer Update Service license automatically appears in the **License Manager**. This license is generated and installed on your system when you complete the SCO registration process. When you see this license in the **License Manager**, it means that the SCO Update service has been successfully activated.

See “Registering SCO OpenServer products” in the “About SCO OpenServer systems” chapter in the *SCO OpenServer Getting Started Guide* for more information on registering products and licenses.

Installing the Update Pack

NOTE Read “Before installing the Update Pack” (page 3) prior to starting this procedure.

You can acquire and install SCO OpenServer Release 5.0.7 Update Pack 2:

- directly over the Internet using the SCO Update function in the **Software Manager** (page 5).

- by downloading the UP media images from either the SCO web site or FTP site (page 6).
- from the SCO OpenServer Release 5.0.7 Supplement CD-ROM (page 7).

If there are multiple systems on your TCP/IP network that require Update Pack 2, you can load or install the UP on a software server and use it as a centralized distribution point. See “Installing the Update Pack across the network” (page 9) for more information.

Update Pack 2 can be installed directly on top of Update Pack 1. Should you need to remove either of the Update Packs, however, see “Removing an Update Pack” (page 9).

Installing the Update Pack using SCO Update

The new SCO Update feature of the **Software Manager** allows you to install Update Pack 2 directly over the Internet. This approach saves you the time — and extra hard disk space — of first downloading installable image files from the SCO web or FTP sites.

NOTE SCO OpenServer Release 5.0.7 Maintenance Pack 1 adds the SCO Update feature to the **Software Manager**. Reboot the system after the Maintenance Pack 1 installation is complete to ensure the SCO Update feature is available.

To use SCO Update:

1. Log in as *root*.
2. Start the **Software Manager** by double-clicking on its icon on the desktop, or by entering the following at the command-line prompt:

```
scoadmin software
```

3. From the **Software** menu, select **SCO Update**. The system connects to the SCO Update server.

The **Install Selection** window displays all of the SCO OpenServer Release 5.0.7 update packs, maintenance packs, drivers, and so forth that are currently available.

4. Highlight Update Pack 2 and click on **Install**.

The Update Pack software is automatically installed on your system.

WARNING SCO Update displays one or more warnings if the Update Pack contains fixes for software features that are not currently installed on your system. If you do not plan to install the affected package (for example: SMP), you can ignore such messages and click on *Continue*. However, if you do plan to install this package later, you should stop the update process, install the package in question, and restart the update. This ensures the fixes are applied properly (and avoids potential problems).

If any Update Pack fixes were not installed because the corresponding feature was not present, the **Software Manager** shows the Update Pack as only partially installed. This is normal.

5. When the installation is complete, click on **OK**. The **Software Manager** lists Update Pack 2 among the installed software.
6. Exit the **Software Manager** by selecting the **Host** menu, then **Exit**.
7. Reboot the machine, if required. If the **Software Manager** relinks the kernel during the installation, you must reboot before the new kernel takes effect.

Installing the Update Pack from downloaded media images

To install Update Pack 2 from media images that you manually download:

1. Log in as *root*.
2. Download the Update Pack 2 media images from either the SCO web site or using FTP:
 - to use the web, go to the SCO OpenServer Release 5.0.7 Supplements web page:
<http://www.sco.com/support/update/download/osr507list.html>
 - to use FTP, go to the SCO Support Download Area:
<ftp://ftp.sco.com/pub/openserver5/osr507up>

Update Pack 2 consists of a number of media image files with names of the form *VOL.000.000*, *VOL.000.001*, and so forth. Because all updates use this same filename scheme, you should create a master directory with a unique subdirectory to store each update. The master directory could be */usr/updates*, */usr/spool/patches*, or whatever suits your system layout. The master hierarchy should be writable by *root* only.

Be sure to download all of the Update Pack 2 media image files.

3. Start the **Software Manager** by double-clicking on its icon on the desktop, or by entering the following at the command-line prompt:

scoadmin software

4. From the **Software** menu, select **Install New**.
5. When prompted for the host (machine), select the current host and then click on **Continue**.
6. Select **Media Images** as the Media Device, then click on **Continue**. (You may need to scroll down before you see the **Media Images** option.)
7. Enter the absolute pathname for the directory that contains the Update Pack 2 media images. For example:

/usr/spool/patches/507up2

Click on **OK**.

8. In the **Install Selection** window, make sure that the Update Pack is highlighted then click on **Install**.

WARNING SCO Update displays one or more warnings if the Update Pack contains fixes for software features that are not currently installed on your system. If you do not plan to install the affected package (for example: SMP), you can ignore such messages and click on *Continue*. However, if you do plan to install this package later, you should stop the update process, install the package in question, and restart the update. This ensures the fixes are applied properly (and avoids potential problems).

If any Update Pack fixes were not installed because the corresponding feature was not present, the **Software Manager** shows the Update Pack as only partially installed. This is normal.

9. When the installation is complete, click on **OK**. The **Software Manager** lists Update Pack 2 among the installed software.
10. Exit the **Software Manager** by selecting the **Host** menu, then **Exit**.
11. Reboot the machine, if required. If the **Software Manager** relinks the kernel during the installation, you must reboot before the new kernel takes effect.

Installing the Update Pack from CD-ROM

To install SCO OpenServer Release 5.0.7 Update Pack 2 from the SCO OpenServer Release 5.0.7 Supplement CD-ROM:

1. Log in as *root*.
2. Insert the SCO OpenServer Release 5.0.7 Supplement CD-ROM into the drive.

3. Start the **Software Manager** by double-clicking on its icon on the desktop, or by entering the following at the command-line prompt:

scoadmin software

4. From the **Software** menu, select **Install New**.
5. When prompted for the host (machine), select the current host and then click on **Continue**.
6. Select the appropriate CD-ROM drive as the Media Device, then click on **Continue**.
7. In the **Install Selection** window, make sure that the Update Pack is highlighted then click on **Install**.

WARNING SCO Update displays one or more warnings if the Update Pack contains fixes for software features that are not currently installed on your system. If you do not plan to install the affected package (for example: SMP), you can ignore such messages and click on *Continue*. However, if you do plan to install this package later, you should stop the update process, install the package in question, and restart the update. This ensures the fixes are applied properly (and avoids potential problems).

If any Update Pack fixes were not installed because the corresponding feature was not present, the **Software Manager** shows the Update Pack as only partially installed. This is normal.

8. When the installation is complete, click on **OK**. The **Software Manager** lists Update Pack 2 among the installed software.
9. Exit the **Software Manager** by selecting the **Host** menu, then **Exit**.
10. Reboot the machine, if required. If the **Software Manager** relinks the kernel during the installation, you must reboot before the new kernel takes effect.

Installing the Update Pack across the network

You can install SCO OpenServer Release 5.0.7 Update Pack 2 from one SCO OpenServer Release 5.0.7 system onto another across a TCP/IP network. To do so, you need a software server, which you can create as described in “Installing and managing software over the network” in the *SCO OpenServer Networking Guide*. This server has a user account called *swadmin*.

Install or load Update Pack 2 on the software server using one of the installation procedures described in “Installing the Update Pack” (page 4). Also see “Installing and managing software components” in the *SCO OpenServer Handbook* for more information on loading software.

To install Update Pack 2 onto a local machine once the Update Pack is available from the software server, start the **Software Manager** and select **Install New**. In the **Begin Installation** window, you are prompted for the source location of the Update Pack. Select **From Another Host**. You need to provide the name of the software server, as well as the password of the *swadmin* user on the software server.

Removing an Update Pack

NOTE Update Packs, Maintenance Packs, and Supplements must be removed in reverse order of installation. For example, if you installed Maintenance Pack 1 followed by Update Pack 2, you would remove UP2 first, followed by MP1.

It is not necessary to remove previous Update Packs prior to installing Update Pack 2.

To remove an SCO OpenServer Release 5.0.7 Update Pack:

1. Log in as *root*.
2. Start the **Software Manager** by double-clicking its icon on the desktop, or by entering the following at the command-line prompt:
scoadmin software
3. Select the Update Pack in the list of installed software.
4. From the **Software** menu, select **Remove Software**. In the confirmation window, verify that you selected the correct software, then click on **Remove**.
5. When the **Removal complete** window appears, click on **OK**. The **Software Manager** should no longer list the Update Pack.
6. Exit the **Software Manager** by selecting the **Host** menu, then **Exit**.
7. Reboot the machine, if required. If the **Software Manager** relinks the kernel during the removal, you must reboot before the new kernel takes effect.

New features in the Update Pack

Update Pack 2 contains all the features contained in Update Pack 1, as well as the additional new features for this release.

Update Pack 2 provides the following:

- USB printer support (this page)
- CUPS printer subsystem (page 12)
- GIMP-print support (page 15)
- ESP Ghostscript release 7.07.1 (page 15)
- H2N Bind8 DNS parser (page 15)
- serial ATA support (page 15)
- PostgreSQL (page 15)
- updated IPC parameters (page 16)

Update Pack 1 provided the following:

- support for IDE hard disks larger than 137GB (page 16)
- extended shells (page 17)
- Info-ZIP (page 18)
- Hyper-Threading Technology (page 18)
- updated online documentation and manual pages (page 18)

USB printer support

This Update Pack includes support for USB printers. Although the support is general, it depends greatly on the capabilities of the printer. CUPS provides a small set of printer drivers (also called PostScript Printer Definition files, or PPD files). If the printer descriptions supplied with CUPS do not meet your needs, support for various “Windows-only” (GDI) printers is available by ESP Ghostscript (page 15) and GIMP-Print, (page 15) which are both part of Update Pack 2 and installed by default. Many “low-end” USB printers do not have image processing (rasterizing) capabilities and require the use of GIMP-print and ESP Ghostscript to process images and PostScript output.

Look for the driver in the Make/Model selection lists displayed by the CUPS graphical interface (page 13).

NOTE You do not have to install CUPS to enable USB printer support. USB device nodes are also available from the SCOAdmin **Printer Manager** and use the form `/dev/usb/lp.ID`, where **ID** is an identifier indicating the parent controller. For example:

`/dev/usb/lp020011.1`

The following printers have been tested and appear to work:

Canon BJC-85 (configured with GIMP-print driver)
HP LaserJet 4 with D-Link USB to parallel converter cable
HP Photosmart P1000
Epson Stylus C82 (configured with GIMP-print driver)

WARNING

- USB printer support is not designed to replace parallel printer support for existing installations. We strongly suggest that you retain an existing parallel connection rather than switch to the USB interface. It is likely that the printer will behave differently than you have come to expect. If you want to attach a new printer to your system and the printer provides both a parallel interface and a USB interface, we suggest that you use the parallel interface. Our testing suggests that many printers supporting both interfaces deviate from the USB specification.
- Any fax and scanner capabilities provided by printers are not currently supported (regardless of the driver used).
- The `usb(HW)` manual page states that printers can be attached and removed from the USB bus at any time. However, the printer must be re-attached to the same USB port to which it was first configured. If you hook it up to a different port on a hub, it will no longer be recognized by the print system.

USB printer hang issue

Under certain circumstances, USB printers have been observed to hang during a print job and cannot be accessed without a reboot. A fix for this issue will be made available as a Support Level Supplement (SLS). The current work-around is to simply reboot the system.

usbprobe command

The `usbprobe` command line utility is provided to display the USB devices connected to the system. (Several levels of detailed information are available; run `usbprobe -h` for a list of options.) The output looks like this:

```

Path - Address - Description
-----
0 - 1 - Hub "UHCI Root Hub"
1 - 2 - Hub "General Purpose USB Hub"
1.2 - 3 - HID "Microsoft Basic Optical Mouse"
1.3 - 4 - Printer "Hewlett-Packard PhotoSmart P1000"
1.4 - 5 - HID "QTRONIX USB Keyboard and Mouse"
1.6 - 6 - Mass Storage "Iomega USB CDRW6402EXT-B"
1.7 - 7 - Mass Storage "Iomega USB Zip 100"
1.5 - 8 - Printer "Canon BJC-85"

```

NOTE `usbprobe` does not work with EHCI controllers.

CUPS printer subsystem

This Update Pack includes version 1.1.19 of the Common UNIX Printing System (CUPS). When installed, both the CUPS and standard (SYSV) print systems are active. Although both systems use the same command names, the options and behavior differ somewhat (each print system has a separate set of commands stored in `/usr/lib/lp/cups` and `/usr/lib/lp/sysv`):

accept cancel disable enable lp lpadmin lpmove lpr lpstat reject

Both command sets are supported. To make it easier to use the commands, you can define the default command set (SYSV or CUPS) to be used when a print command (such as `lpstat`) is entered on the command line. This can be done in any of three ways:

- on a system-wide basis in `/etc/default/lpd`. The default entry is for the SYSV print system:

```
PRINT_SYSTEM=SYSV
```
- on a per-login basis by including `PRINT_SYSTEM=CUPS` or `PRINT_SYSTEM=SYSV` in the environment.
- by including `--sysv` or `--cups` as the first argument in the print command line (example: `lpstat --sysv -t`).

When the pathname is not supplied, the commands from the default print system are executed. You can use the full pathname to run a command belonging to the non-default print system. In a similar way, you can access the man pages for the two printer systems by supplying the relevant section name in the `man(C)` command (1 or 8 for CUPS man pages, C or ADM for the SYSV man pages):

Command	CUPS	SYSV
accept	8	ADM
cancel	1	C
disable	8	C
enable	8	C
lp	1	C
lpadmin	8	ADM
lpmove	8	ADM
lpr	1	C
lpstat	1	C
reject	8	ADM

CUPS Administration

The CUPS distribution includes a web-based administrative interface that is configured on port 631 (<http://localhost:631>).

NOTE The CUPS web-based administrative interface requires entering the *root* password, but does not accept the presence of meta-characters. If your *root* password contains meta-characters (non-alphanumeric, such as punctuation or other symbols), you may have trouble logging in to the CUPS web-based administrative interface. In this case, either use the **passwd(C)** command create a new *root* password containing only alpha-numeric characters, or use the supplied command-line tools for CUPS configuration.

A list of available printers is generated at the time the CUPS print daemon (**cupsd**) is started (when the system enters multiuser mode). To regenerate the list (such as after connecting a new USB printer), enter the command:

```
/etc/init.d/cups restart
```

NOTE Do not change the configuration for a printer (such as dpi) while it is printing. This has been known to corrupt the output of the print job.

CUPS and Remote Printing (LPD)

Although CUPS supports LPD as both a server and a client, the CUPS LPD server implementation does not support access control (based on the settings in the */etc/hosts.equiv* and */etc/hosts.lpd* files). If your setup requires the use of the standard LPD, or you wish to use access control, do not install CUPS.

WARNING If you have never run **mkdev rlp** and you wish to do so, the CUPS package must be removed before running **mkdev rlp** and then reinstalled after remote printing is configured.

Using CUPS as an LPD client To configure CUPS so that jobs can be sent to a remote LPD printer, add a printer via the CUPS administrative interface and use the following settings:

Attribute	Setting
Device	LPD/LPR Host or Printer
Prototype device URI	lpd:// <i>hostname/printername</i>
Model/driver	Raw

NOTE If the printer was already configured for remote printing, the host and printer name are present in the */etc/printcap* file.

Using CUPS as an LPD server To configure CUPS so that remote hosts can send jobs to the CUPS printing system on the local host using the LPD protocol, follow the instructions found in the "Printing to LPD Servers" section of the "*CUPS Administrator's Manual*" in the online CUPS documentation.

WARNING Because only one service can listen for print requests on the LPD port, **mkdev rlp** must not be configured on the local host. If **mkdev rlp** has ever been run on the host, it must be run again either before CUPS (UP2) is installed or with CUPS temporarily removed as described previously. If you intend to use CUPS as an LPD server you should run **mkdev rlp** to de-configure remote printing before CUPS/UP2 is installed (this is because the CUPS configuration is lost when the package is removed).

CUPS **lpstat(1)** command

The CUPS **lpstat(1)** always reports the state of devices as having been last modified on January 1st at 00:00. For example:

```
Obie accepting requests since Jan 01 00:00
```

This is because the CUPS version of **lpstat** does not capture this information. The default date is generated so that applications that parse **lpstat** output will not fail.

CUPS and HP LaserJet 6 Printers (PCL)

There is a known problem with the default printer driver displayed in the CUPS administrative interface for the HP LaserJet Series PCL 6. You should instead select one of these drivers that are reported to work:

- HP LaserJet Series CUPS v1.1 (en)
- HP LaserJet 6 series, CUPS+Gimp-Printv4.2.5 (en)

GIMP-Print support

The Update Pack also provides the GIMP-Print (4.2.5) printer drivers for use exclusively with the CUPS printing system. GIMP-Print rasterizes bit images for printers that do not have built-in rasterizers (including many of the more inexpensive USB printers on the market).

ESP Ghostscript Release 7.07.1

The Update Pack includes the 7.07.1 release of ESP Ghostscript. This is installed by default in conjunction with GIMP-Print to provide better printer support with CUPS.

H2N Bind8 DNS Parser

h2n(ADM) translates */etc/hosts* to DNS files and creates a BIND conf file. This tool can be run once or many times. After converting your host table to DNS format, you can maintain the DNS files manually, or you can maintain the host table and run **h2n** each time you modify */etc/hosts*. (**h2n** automatically increments the serial number in each DNS file when it creates a new file.)

Serial ATA support

Serial ATA is supported by the **iir** driver only for the Intel RAID Controller (PCI) card Model SRCS14L. As a rule, motherboards with built-in Serial ATA controllers are not supported. However, certain motherboards with Intel chipsets (such as the i865p and i875p) include support for a legacy mode that presents Serial ATA drives as parallel ATA (IDE) drives to the operating system. (Such motherboards include a “Legacy” or “P-ATA Secondary” option in the BIOS.)

PostgreSQL

PostgreSQL is an object-relational database management system (ORDBMS) based on POSTGRES, Version 4.2, developed at UC Berkeley. After the package is installed, PostgreSQL must be configured by running this command:

```
mkdev pgsql
```

This script allows you to view or change the application defaults and manage the administrative processes, including:

1. Enable PostgreSQL
2. Disable PostgreSQL
3. Start PostgreSQL postmaster process
4. Stop PostgreSQL postmaster process
5. Restart (or start) PostgreSQL postmaster process
6. Set PostgreSQL database owner
7. Set PostgreSQL database directory

You can also use the */etc/pgsql* script to start, stop, or query the PostgreSQL server daemon.

System V IPC parameters updated

Several tunable parameters for the System V Inter Process Communications (IPC) shared memory and semaphore facilities have been updated. The default settings were raised to values which should accommodate most commercial and open source databases without additional tuning. The maximum values of several parameters were also raised. The changes increase kernel memory usage by approximately 33K bytes.

Installation of this Update Pack raises the default and maximum values of these parameters as follows:

Parameter name	Previous default	Previous maximum	New default	New maximum
SEMAP	10	-	256	-
SEMMNI	10	-	384	-
SEMMNS	60	-	512	-
SEMMNU	30	100	150	8192
SEMMSL	25	-	50	-
SEMOPM	-	10	-	1024
SEMUME	-	10	-	25
SHMMAX	524288	-	10485760	-
SHMMNI	100	-	200	-

Individual parameters that have already been set higher than these values are not changed.

Support for IDE hard disks larger than 137GB

First provided in Update Pack 1.

The Update Pack is configured to accommodate a new, separately-available revision of the **wd**(HW) driver that supports IDE hard disks larger than 137GB. The new **wd** driver is available via SCO Update, the SCO web or FTP sites, or the SCO OpenServer Release 5.0.7 Supplement CD-ROM.

NOTE If you have a new IDE hard disk that is larger than 137GB that you want to add to your system, you should do so **after** you have installed the Update Pack and the new **wd** driver. If you want to use the disk as your root drive, you need to load the new driver at boot time (using the **link**(HW) bootstring) before beginning the installation.

If your system currently uses an IDE drive larger than 137GB, the new **wd** driver makes it possible to use the full capacity of the disk. To use the entire disk, however, you must manually reconfigure the drive to recreate the existing disk partitions or to create new ones. The **wd** driver *readme* explains this process in detail.

Instructions for installing the **wd** driver are provided in a *readme* file on the SCO web and FTP sites, or the SCO OpenServer Release 5.0.7 Supplement CD-ROM. **We strongly recommend that you review these instructions before installing the driver.**

To download the driver manually (page 6) from either the SCO web site or using FTP:

- to use the SCO web site, go to the SCO OpenServer Release 5.0.7 Supplements web page:

<http://www.sco.com/support/update/download/osr507list.html>

- to use FTP, go to the SCO Support Download Area:

<ftp://ftp.sco.com/pub/openserver5/drivers/OSR507/btld>

Extended shells

First provided in Update Pack 1.

The latest, stable versions of the GNU Bourne-Again Shell (**bash**), Z-Shell (**zsh**), and Extended C-Shell (**tcsch**) are included in this Update Pack. Documentation for each of the shells, including man pages and texinfo help, is provided when the shells are installed.

GNU Bourne-Again Shell (**bash**)

This popular shell from the GNU Project is a feature-rich shell that is largely IEEE POSIX P1003.2 compliant. It has most features of the Korn Shell (**ksh**) and is well suited to interactive use. Most existing shell scripts should run correctly with **bash**.

Z-Shell (**zsh**)

This shell is best suited for interactive usage. It has highly programmable command and filename completion, is most compatible with the Korn Shell (**ksh**), and has features that C-shell (**csch**) users will find familiar. It also has a full FTP client that you can access with built-in shell commands, as well as a number of additional loadable modules. You can extend **zsh** with other third-party modules at any time.

Extended C-Shell (**tcsch**)

This is a Berkeley C-shell (**csch**) compatible shell with many improvements, bug fixes, and command line editing capabilities. Note that the SCO version of **csch** behaves differently from other implementations of **csch** (including **tcsch**) in implementation of the `||` and `&&` operators.

Info-ZIP

First provided in Update Pack 1.

This Update Pack includes the Info-ZIP package, which provides the **zip** and **unzip** compressor-archiver utilities. These commands are compatible with the DOS-based PKZIP tools created by PKWARE, Inc.

Manual pages for these commands are also installed on the system.

Hyper-Threading Technology

First provided in Update Pack 1.

This Update Pack adds support for the Intel® Hyper-Threading (HT) Technology. Hyper-Threading allows two series of instructions to run simultaneously and independently on a single Intel Xeon™ or HT-enabled Intel Pentium® 4 processor. With Hyper-Threading Technology enabled, the system treats a physical processor as two “logical” processors. Each logical processor is allocated a thread on which to work, as well as a share of execution resources such as cache memories, execution units, and buses.

Hyper-Threading Technology can be employed on a PC that is equipped with the following components:

- an Intel Xeon or HT-enabled Intel Pentium 4 processor
- a chipset that supports HT Technology
- a system BIOS that supports HT Technology

SCO OpenServer supports Hyper-Threading Technology via the SCO OpenServer Release 5.0.7 Symmetrical Multiprocessing (SMP) product. When SMP is installed, Hyper-Threading is enabled by default.

NOTE If you want to use Hyper-Threading Technology, the SMP product must be installed before Maintenance Pack 1 and any Update Pack.

An SMP license is not required to install SMP on a single-CPU system; simply select to **Defer** licensing during the installation.

See the **hyperthread(HW)** manual page for details on using Hyper-Threading Technology.

Updated online documentation and manual pages

The Update Pack includes additions and enhancements to the SCO OpenServer online guides and manual pages. Guides and manual pages that are distributed with a number of the new products in this Update Pack are also provided.

The complete set of documentation, including manual pages, can be viewed by any browser using the DocView documentation server. Manual pages can also be viewed using the **man(C)** command.

Update Pack 2 provides the following documentation:

- CUPS guides in the online documentation — including the *Overview of the Common UNIX Printing System*, *CUPS User's Manual*, *Software Administrator's Manual*, and *CUPS Security Report*.
- GIMP-print guides in the online documentation — including the *GIMP-Print User's Guide*, and *GIMP-Print, The Print Plugin for the GIMP*.
- **h2n**(ADM) — documents the BIND8 DNS parser.
- **giomap_noded**(ADM) — documents the USB device node daemon.
- **usb**(HW) — documents the USB device nodes and naming conventions.
- PostgreSQL guides (<http://localhost:8457/en/PostgresqlDoc/index.html>) — including the *Tutorial*, *User's Guide*, and *Administrator's Guide*.
- **hyperthread**(HW) — documents use of the Intel Hyper-Threading Technology on an SCO OpenServer system. (*First provided in Update Pack 1.*)
- **p6update**(HW) — documents the utility for modifying Intel Pentium processor microcode, based on microcode updates provided by Intel Corporation. (*First provided in Update Pack 1.*)

Regenerating the DocView search index

The DocView search system, based on the **htdig** search engine, requires that a search index be generated. Because indexing the SCO OpenServer online Documentation Library can take awhile, the index is not re-generated during the update installation.

To generate the search index, run the following command:

```
/usr/lib/docview/conf/rundig
```

For more information, see “Generating the search index” in Using DocView, which is accessible from the SCO OpenServer online Documentation Library.

