

June 1998
ECG030/0698

Prepared by Unix Integration
Team

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Compaq and SCO UnixWare 7 Frequently Asked Questions

Abstract: UnixWare 7 is the newest release of Santa Cruz Operation (SCO) UNIX.

This paper addresses:

- New Features
- Licensing
- Upgrading
- Preparing for Installation
- Installation
- Support Issues

This paper presents the most important information available about UnixWare 7. This is a must reading for new and prospective technical users and for business managers, especially those in MIS departments.

Help us improve our technical communication. Let us know what you think about the technical information in this document. Your feedback is valuable and will help us structure future communications. Please send your comments to: SCO.Feedback@compaq.com

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Compaq and SCO UnixWare 7 Frequently Asked Questions
Integration Note prepared by Unix Integration Team

First Edition (June 1998)
Document Number ECG030/0698

Introduction

Compaq and SCO are strategic partners that work closely to ensure that both companies' products work well together. This paper is a must read document for both companies' customers considering installing and using SCO's newest offering, UnixWare 7, on Compaq servers. The focus of this paper is to present the most important and timely information about UnixWare 7 and to provide resources showing where more detailed information can be found.

1. What is UnixWare 7?

On March 10, 1998, SCO announced availability of their latest and most powerful UNIX operating system – UnixWare 7. The UnixWare 7 operating system delivers a family of purpose built (see next question regarding market segments), scalable UNIX operating environment based on the System 5 Release 5 (SVR5) kernel, with tightly integrated enterprise networking services, ideal for business critical computing. UnixWare 7 is designed to support diverse clients, to scale from small office server configurations to large-scale enterprise servers, and to provide high levels of reliability, availability, and serviceability. It also has unsurpassed performance and superb manageability.

UnixWare 7's new features include:

- New hardware support.
- Multipath I/O and file system improvements
- Native implementation of Novell Directory Services (NDS) ([Direct link to NDS](#))

Note: Details on NDS may be found at www.novell.com

- Memory Support up to 64GB
- Up to 32 CPUs supported
- Advanced 64 bit File system
 - 1 TB Files/File System
 - 76,500 TB storage capacity
- Advanced file and print services for MS Windows Clients
- Centralized, Online Backup via SCO/Cheyenne ARCserve
- Excellent support for a Web server
- Netscape FastTrack Server, LiveWire, and Proxy Server
- SCO Tarantella (two-user license)
- Integrated Java virtual machine
- Sun's Java Workshop and JavaStudio
- Loads of UNIX shareware extras
- Centralized, easy to use administration

2. What is the target market for UnixWare 7?

UnixWare 7 has been optimized for medium to large organizations looking for highly reliable, scaleable and performing departmental and enterprise business server solutions. The UnixWare 7 family of products consists of "purpose-built" operating system configurations that are complimented by a range of optional services and development tools. UnixWare 7 operating system configurations include:

Enterprise Edition:	For high-end enterprise servers to run large-scale business applications and databases for decision support and on-line transaction processing.
Departmental Edition:	For departmental servers in medium or large organizations to run applications and reliably share business critical information with any client including PCs, NCs, terminals and any Java-enabled browser client.
Intranet Edition:	An industrial strength intranet/Internet server for enterprise-wide web publishing. It is also an ideal foundation for e-commerce, extranet and Internet applications.
Messaging Edition:	For departmental and enterprise-wide Internet mail and messaging servers with powerful and reliable remote messaging capabilities, universal client access and simplified administration via built-in directory services.
Base Edition	A solid foundation for building dedicated or specialized server environments, such as telecommunications equipment and other embedded systems. It also excels as a powerful graphical workstation
The near future	In the second half of 1998, SCO will target UnixWare 7 to the small-to-medium business and replicated-site markets, where the SCO OpenServer 5 system has a high penetration. For these markets, SCO will provide additional UnixWare 7 configurations and migration tools.

3. What are the differences between the editions?

The following table outlines the features found in each edition

Legend: O = Optional Services (add-on), I= Included in Edition, ***Bold Italics*** = Also available as Optional Service

Edition	Base	Departmental	Enterprise	Intranet	Messaging
Operating System					
SVR5 SMP kernel	I	I	I	I	I
Network User Licenses	1	25	50	1	1 (50 Mboxes)
Processors	1	2	4	2	2
Main Memory	512MB	4GB	64GB	4GB	4GB
Standards:UNIX 95(pending certification), XPG4.2, SVID 4.2, POSIX 1003.1, 1003.2 and FIPS-151-2	I	I	I	I	I
Designed to meet C2 & B2 Security	I	I	I	I	I
Hot Plug PCI, MultiPath I/O, I ₂ O	I	I	I	I	I
Network Install	I	I	I	I	I
Online Documentation	I	I	I	I	I
C Compiler/Libraries	I	I	I	I	I
C++ Compiler/Libraries	w/ UDK	w/ UDK	w/ UDK	w/ UDK	w/ UDK
Internet Services					
Netscape Navigator Gold	I	I	I	I	I
Netscape Communicator 4.0				I	I
Netscape FastTrack	I	I	I		I
<i>Netscape Enterprise Server 3.5</i> w/Indexing engine, SQL and ODBC connectivity	O	O	O	I	O
Netscape Directory Server 3.5	O	O	O	I	I
<i>Tarantella</i> 1-user	I	I	I	I	I
Java (JVM)	I	I	I	I	I
JDK, Java Workshop, Java Studio	w/ UDK	w/ UDK	w/ UDK	w/ UDK	w/ UDK
Networking					
TCP/IP w/ Internet utilities, IPv6 APIs & DHCP	I	I	I	I	I
Multilink, Multidomain PPP, SLIP	I	I	I	I	I
IPX/SPXII	I	I	I	I	I
NetBIOS	I	I	I	I	I
NetBEUI	w/AFPS	w/AFPS	w/AFPS	w/AFPS	w/AFPS
SNMP (MIB II)	I	I	I	I	I
LDAP	I	I	I	I	I
ISDN, Fast Ethernet (100MB, FDDI)	I	I	I	I	I
File and Print Services					

Legend: O = Optional Services (add-on), I= Included in Edition, ***Bold Italics*** = Also available as Optional Service

Edition	Base	Departmental	Enterprise	Intranet	Messaging
<i>Windows File and Print Services - VisionFS</i>	O	I	I	I	O
<i>Terminal Emulation - TermLite</i>	I	I	I	I	I
<i>Advanced File and Print - AFPS</i>	O	O	O	O	O
<i>NetWare Services</i>	O	O	O	O	O
NetWare UNIX Client	I	I	I	I	I
NFS, NIS	I	I	I	I	I
Mail and Messaging					
Sendmail	I	I	I	I	I
<i>Netscape Messaging Server 3.5</i> :Mail Quotas, Unsolicited Mail Filter, Email/HTML based admin	O	O	O	O	I
IMAP4, POP3, SMTP, MIME	I	I	I	I	I
Graphical and Character Clients	I	I	I	I	I
RAS Services					
<i>UnixWare 7 Disk Mirroring</i>	O	O	I	O	O
<i>Automated, Unattended Backup - SCO ARCserve/Open</i>	Lite	I	I	I	I
<i>Online storage management with RAID – UnixWare 7 Online Data Manager</i>	O	O	4	O	O
<i>High Availability Clustering - UnixWare 7 Reliant HA</i>	O	O	O	O	O
Graphics w/ Audio/Video Support					
X11R6, Motif Window Manager	I	I	I	I	I
CDE Desktop and Clients	I	I	I	I	I
Panorama Window Manager	I	I	I	I	I
Advanced Graphics Adapters	I	I	I	I	I
Audio Drivers	I	I	I	I	I
System Requirements					
Memory (Min/Max)	16/512MB*	32MB/4GB*	32MB/64GB	32MB/4GB*	32MB/4GB*
Disk Space (Min/Recommended)	500MB/1GB	500MB/1GB	500MB/1GB	500MB/1GB	500MB/1GB
Graphics (Recommended Min)	800x600 VGA	800x600 VGA	800x600 VGA	800x600 VGA	800x600 VGA

4. How does Compaq support UnixWare 7?

Compaq supports UnixWare 7 in the following ways:

- Driver development and testing for all currently shipping Compaq servers and server options
- Server and server option certification
- SmartStart integrated installation tool
- Technical Support Alliance
- Joint marketing efforts

Compaq also plans to add the following support:

- Compaq Insight Management support (3Q98)
- Recovery Server Option (3Q98)
- NonStop Clusters for UnixWare 7 (1Q99)

5. Can customers purchase UnixWare 7 from Compaq?

No. Customers should purchase UnixWare 7 from an Authorized SCO Reseller. Compaq will not distribute or sell UnixWare 7. Information on SCO Resellers is available at <http://www.sco.com/sales/salesint.htm>.

6. I bought my current SCO OpenServer 5 or SCO UnixWare 2.x licenses from Compaq. Am I eligible for UnixWare 7 upgrades offered by SCO?

Yes. These programs will be fulfilled through the SCO Authorized Reseller network. To qualify for upgrades or promotions, customers will be required to provide a copy of the Certificate of License Authenticity. For SmartStart customers this will be either:

- A copy of the SmartStart Activation Key Fax-Back form, or
- A printout generated by using the “uname -X” command on the licensed SCO server.

7. What upgrade paths to UnixWare 7 exist?

For customers who would like to upgrade from current or older SCO operating systems, such as OpenServer 5 or UnixWare 2.1.X, a complete listing of upgrade model numbers and pricing can be found on the SCO web site at http://www.sco.com/unixware/model_numbers/. The document titled *UnixWare 7 Configurations* contains this information. SmartStart customers should use either (a) a copy of the SmartStart Activation Key Fax-Back form or (b) a printout generated by using the "uname -X" command on the licensed SCO server for their proof-of-purchase.

SCO UnixWare 7 should be purchased from a SCO Authorized Reseller.

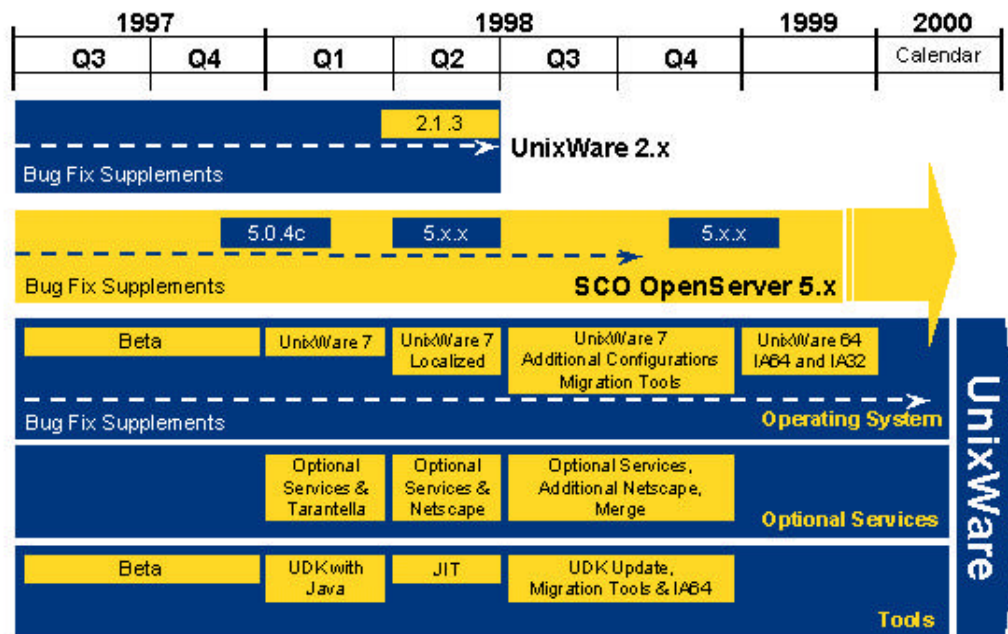
8. Can I update UnixWare 2.x to UnixWare 7? Is this an upgrade?

Upgrading to UnixWare 7 will require a new system install. The file systems are not compatible, and some planning and migration of existing files may be required.

UnixWare 7 Release Plans and Road Map

9. When are the planned release supplements and maintenance updates for UnixWare 7 scheduled?

The following chart shows SCO's key releases. In addition, a 3Q98 maintenance release has been scheduled. This will include PCI Hot Plug.



PCI Hot Plug Plans

10. I don't see any mention of PCI Hot Plug. Why not?

PCI Hot Plug support is not in the initial release of UnixWare 7. This is scheduled to be included in maintenance release in 3Q98.

Compaq Supported and Tested Hardware

11. Which of Compaq's servers support UnixWare 7?

The Compaq servers that support UnixWare 7 are:

- Prosignia
 - 200
 - 300
 - 500
- ProLiant
 - 800
 - 850R
 - 1200
 - 1500 Pentium
 - 1500 Pentium Pro
 - 1600
 - 2000
 - 2500
 - 3000
 - 4000
 - 4500
 - 5000
 - 5500
 - 6000
 - 6500
 - 7000

SmartStart Installation Support

12. What does SmartStart do?

Compaq SmartStart will aid the setup and configuration of a Compaq server with UnixWare 7 as follows:

- Auto-detects and configures the Compaq server hardware and options
- Ensures installation of all the correct Compaq drivers
- Provides a SmartStart interview that highlights and enables configuration of the features of Compaq servers such as Automatic Server Recovery (ASR).

13. How do I know if a particular version of SCO UnixWare 7 CD is compatible with my SmartStart?

As each version of SmartStart is released, it supports the current version of SCO UnixWare 7. It also knows how to handle any previous versions. If you obtain a later SCO version, however, you may also need to get a new version of SmartStart.

To help manage this easily, SmartStart will ask you to insert your SCO UnixWare 7 CD during the SmartStart process. SmartStart will check the operating system version and will inform you of any compatibility problems.

14. What does the SmartStart Assisted Integration path do for me over the basic SCO UnixWare 7 install?

The SmartStart install assists with your SCO UnixWare 7 installation in three ways:

1. SmartStart configures your server and performs any hardware-specific preparation (e.g. setting up drive arrays).
2. SmartStart automatically makes the Compaq Extended Feature Supplement (EFS) available during the SCO UnixWare 7 install, so there is no need to create EFS diskettes and go through a separate installation step. The EFS will be installed without user intervention
3. SmartStart will compare your server hardware with the version of SCO UnixWare 7 that you are installing. If your SCO install requires newer drivers than those provided on your SCO media, SmartStart will prompt you to create a Host Bus Adapter (HBA) diskette for use during the install process.

Installation of UnixWare 7

Before Installation

15. What do I need to do before I begin my UnixWare 7 installation?

Before installation you need to perform the following steps:

- You will need installation media and activation keys from SCO. These are to be obtained from your authorized SCO reseller.
- You will need Compaq SmartStart and Support Software CD from Compaq. These items ship with each server and also with most options. A subscription service to receive updates is also available from Compaq.
- Determine all system requirements based on projected load.
- Install any additional memory, processors, disk drives, adapter boards, and so on.
- Configure the server using the Compaq Configuration Utility, making sure no hardware configuration conflicts exist.
- Note the controller order(s) & Host Adapter (HA) number(s), device interrupts, SCSI ID's, etc.

16. Are there any other special considerations for installing UnixWare 7?

The following points will help you plan the successful installation of your UNIX system.

- Ensure hardware integrity prior to beginning the installation. Replace any defective hardware, cables, input devices, or other components before beginning the installation.
- Obtain the latest Compaq utilities and ROMPAQ's prior to beginning the installation. These are available on Compaq's Web site, www.compaq.com.
- Obtain the proper ROMPAQ's prior to beginning the installation. These are available on Compaq's Web site, www.compaq.com.
- Be sure the system is configured in a logical manner prior to installation. See questions 15 and 17.

17. What are the most common pitfalls when installing UnixWare 7?

Invalid configurations cause the most problems. These problems include:

- System Configuration
- Boot Configuration Order
- HBA Number
- Device Configuration Conflict
- Integrated Drive Electronics (IDE) Controller Order
- Boards not correctly seated
- IRQ Conflicts

18. How should I decide how much RAM and disk to install?

A basic rule of thumb for RAM is a minimum of 32MB for a graphical OS with an additional 2 to 4MB for each concurrent user.

Hard Disk drive capacity requirements will vary on a system by system basis. The OS requires about 300MB to install. This does not include swap space, user file systems, the boot file system, room for the development system, logs, etc.

The minimal requirements to install UnixWare 7 on a Compaq server are a 1-GB hard drive and 32 MB RAM. A typical installation would have at least 4 GB of disk storage and 64 MB of RAM. Additional hard disk capacity and RAM may be needed for many applications.

Information about configuring your server for optimal performance varies tremendously from application to application, therefore please contact your application's vendor for further information.

Required Release Supplement

19. Should I install the UnixWare 7 release supplement?

Yes, there are a number of additional features added and newer versions of other features that are contained in the release supplement that Compaq considers necessary for proper operation of UnixWare 7. Also, in the uw7rs.txt file there are a number of corrections to the UnixWare 7 release notes. This supplement is required to successfully implement UnixWare 7 on a Compaq server.

The release supplement notes are at <ftp.sco.com>.

First, change directory: "cd Supplements/unixware7/rs700/".

The file name of the Release Supplement is "uw7rs.txt"

20. Where do I get the Release Supplement?

The release supplement can be found on SCO's anonymous FTP server (<ftp.sco.com>) in the directory /Supplements/unixware7/rs700/. The file, uw7rs.txt, is the Release Supplement Notes. It contains the directions for downloading and installing the release supplement and corrections to the release notes.

Drivers

21. What drivers do I need to install UnixWare 7 on Compaq Servers?

Compaq drivers are:

- “cpqsc” is the driver for all Compaq SCSI controllers used in servers including imbedded and option card versions of Fast-SCSI-2, Fast-Wide SCSI-2 and Wide-Ultra SCSI-2.
- “ida” is the driver for all Compaq Array controllers used in servers including SMART, SMART-2/E, SMART-2/P SMART-2SL, and SMART-2DH.
- “ide” is the driver for all IDE and Advanced Technology Attachment Packet Interface (ATAPI) devices including CD-ROM drives used in current servers. This SCO driver is not uniquely for Compaq systems .
- One or more of the NIC drivers, depending upon the NIC's your system contains:
 - "pvt" is the NIC driver for the AMD NIC's on the ProSignia 200, 300, and 500.
 - "cnet" is the NIC driver for Compaq Netelligent cards.
 - "n100c" is the NIC driver for the newest Compaq NIC's based on the Intel chips interface.

Additional drivers for Compaq server features and options not required to perform the Operating System installation will also be found in the Compaq EFS for UnixWare 7.

22. Where can customers obtain the drivers necessary to run UnixWare 7 on Compaq servers?

For latest Drivers:

Compaq web site at www.compaq.com

SCO web site at www.sco.com

Be sure to obtain and use the latest device driver versions that are compatible with the version of UnixWare 7 you have. Sources for these drivers are listed below. Compare the time-date stamp on the version from each source to obtain the newest version. Read the release notes to insure compatibility.

Sets of compatible drivers are released in kits. New releases and bug fixes flow through the various distribution paths at different rates. For example, the versions on the Compaq web site may be older than those in the SCO web site. The drivers in one version may be incompatible with some of the drivers in the next release. Please exercise due care.

Device drivers can be found:

- Compaq web site, www.compaq.com, the latest versions of Compaq's hardware device drivers for UnixWare 7 will be posted here (older versions may also be available).
- SCO web site, www.sco.com.
- SmartStart and Support Software CD-ROM
- UnixWare 7 as distributed on CD-ROM - Most drivers are on this CD. No HBA diskette is required to install the Operating System using these devices
- Look for "Compaq EFS 7.20 for SCO UnixWare 7". Updated versions of "cpqsc" and "ida" may be included in the Compaq EFS.

23. Do I need any additional drivers from Compaq to install UnixWare 7 on my Compaq system?

No. The HBA and NIC drivers required are already part of the base OS. Beyond drivers required for basic installation, you may need to install Compaq EFS 7.19 or later. When Compaq releases new controllers, they may or may not require updated drivers. The drivers required would be available in the EFS released at the same time as the new controllers. The SmartStart and Support Software CD shipped with the server will include the drivers.

Boot Controller Support

24. How do I select the boot controller for UnixWare 7? Which controllers can I select?

The boot controller will be the controller set to “Controller order....First” in the Compaq Configuration Utility.

Compaq servers will boot from the controller selected by Compaq System Configuration and assigned a controller order value of “first”. **If there are IDE hard drives in the server, the server must boot from IDE.** The IDE boot drive must be configured as master on the primary IDE interface. If no IDE drives are installed, any Compaq SCSI Controller or Compaq Array Controller (SMART-2) installed in the server can be selected as the boot controller. The Compaq Fibre Channel Host Controllers may not be selected as the “first” controller because there is no BIOS support for booting from the external storage attached to these controllers. Compaq System Configuration Utility will enforce these configuration rules. The boot controller selected using System Configuration will be assigned HBA 0 during the UnixWare 7 operating system installation.

Multiple CPU Implementation

25. Are there any special instructions for enabling multiple processors on Compaq servers?

The Operating System Multi-Processor (OSMP) must be selected as an additional package. On newer systems, select the Intel MPS Specification. On older machines (2000/4000 & 4500) use the Compaq Systempro/ProLiant module. Additionally, each CPU (beyond the initial 2) must be licensed.

26. The second CPU is not being recognized. Why and how can it be enabled?

- **Cause:** The cause can be one or more of the following:
 - The OSMP package is not installed.
 - In some dual processor systems, UnixWare 7 may not properly detect the MP specification type and defaults to Generic AT rather than Intel MPS.
- **Solution:** Re-install the OSMP package and insure Intel MPS is being selected.

27. Are there any special instructions for systems with multiple HBA controllers?

For systems with disks attached to HBA controllers other than the first controller, do not slice the additional drive(s) during the Initial System Load (ISL.) Wait until the installation procedure is complete.

- A hardware conflict is possible if the following conditions exist:
- An ATAPI CD-ROM
- No IDE additional hard drive
- One or more additional controllers of the same type as the boot controller

It is possible that the IDE controller will conflict with one of the other controllers on the unit number field in the resource manager database. This number is used for the HBA number of the controller. Such a conflict may cause the system to attempt a kernel rebuild and reboot on each system boot. This may be repaired by pressing <Escape> to interrupt the rebuild and boot the system. The Device Configuration Utility (DCU) should be used to set the unit number of the IDE controller to 1.

This problem will be fixed in the HBA included in a future Compaq EFS for UnixWare 7

For additional assistance, please call Compaq Technical Support.

System Partition

28. What is a System Partition, and why do I want one?

The System Partition is a reserved section of the boot drive that may contain among other items the Compaq System Utilities. Having these utilities loaded into this partition provides the ability to run them from the hard drive by simply pressing the <F10> key during boot-up. These utilities include:

- Compaq System Configuration Utility
- Compaq Array Configuration Utility
- Compaq ROMPAQs
- other Compaq Utilities

The utilities run faster when executed from the system partition and eliminate the need to store and keep track of diskettes. The utilities on the system partition can provide any information required by Compaq Technical Support to provide faster and more complete support to the customer.

Compaq strongly recommends that you store the utilities in the System Partition.

Otherwise, if you do not install and preserve this partition, then when you wish to run any of these utilities (Compaq System Configuration Utility, Compaq Array Configuration Utility, Compaq Diagnostics, and other Compaq Utilities) on your server, you first will need to:

- locate and boot from a SmartStart and Support Software CD, or
- locate diskettes previously created from the SmartStart and Support Software CD.
-

29. How do I keep an existing System Partition?

The following steps must be taken during installation

- Do not select “Use Entire Disk for UNIX” option for your boot drive when installing UnixWare 7. Select any other option. This allows you to preserve existing partitions on the drive.
- During the fdisk phase of the installation the system partition is displayed as partition 1. It will occupy a very small percentage of the boot disk (percentage will vary with disk size).
- Move the cursor to line two, press F2, & select UNIX. Tab to next field & press F2 again. Partition is now active. Tab into the size field and enter the remaining percentage to fill out the disk.

Note: Always leave at least 1 percent for the system partition, even if it occupies less than 1 percent of the disk.

Unrecognized Hardware

30. The installation does not recognize my CD-ROM, boot drive, other hard disk, NIC, second CPU, video adapter, mouse, ... What is wrong?

The system may not be properly configured. Check the release notes for UnixWare 7 for known problems.

The most frequent reasons for many of these problems are incorrect or incomplete installation of a peripheral. Turn the system off and check all the connections. Make sure all the cards and connectors are fully inserted.

If the system has been used for another purpose prior to loading UnixWare 7, attempt to restore the factory configuration. In particular, you may need to erase the system configuration stored in system non-volatile RAM (NVRAM) and then run Compaq System Configuration again. Select UnixWare 7 for the operating system to be installed. Check to see if System Configuration, Diagnostics, and/or the BIOS appear to fail to detect the devices in question.

If there are IDE interfaces in the system,, make sure there is at most one master device and at most one slave device on each IDE interface. If there is only one hard disk on the interface, then it must be the master. Make sure the controller you want as the boot drive with has been selected as “first” controller using System Configuration.

If you want to boot from a COMPAQ SCSI controller, make sure the boot disk is installed at SCSI ID 0. The BIOS should report all Compaq SCSI controllers as the system is booting. The SMART array controller should not report 0 logical drives. Run Compaq Array Configuration Utility if this occurs.

The Compaq mouse must be configured as a PS/2 mouse during operating system installation.

31. During the installation of UnixWare 7, I am getting a hardware conflict. How do I resolve this?

The next screen in the installation process gives you a detailed description of the conflict.

Problem: If the installation fails with an IRQ conflict at interrupt 15 with IDE and another device.

Cause: UnixWare 7 assumes there are two IDE controllers in the system. Any other device set at IRQ 15 will conflict with the secondary IDE controller even though there may not be a secondary IDE controller in the system.

Solution: Restart the installation.

- Enter the DCU → Software Device Drivers → Host Bus Adapters.
- Under NEW, press <F5> to create an IDE device.

Common Issues and Workarounds

CDE

32. How do I configure the Common Desktop Environment (CDE) to cause it to read the HOME/.profile each time a new terminal window is opened?

When the user logs onto the CDE the first time, a file named “.dtprofile” is created in the user’s home directory. View this file and read the comments at its beginning. Edit the \$HOME/.profile to include the recommended statements as described in the .dtprofile comments. The last line of the file should read “# DTSOURCEPROFILE=true”. To uncomment it, simply remove the “#” at the beginning of the line. These changes will be effective the next time you logon to CDE.

33. Why does the Delete Key not work on the CDE GUI?

This is a known issue. Using the Delete Key in DTERM under the CDE GUI environment does not work. The work around is to use Ctrl-C instead.

34. Why can't I run some system utilities in the GUI environment, when I select the window marked Console,?

Selecting Console from the GUI doesn't necessarily place you on the System Console. This will be addressed in a future release. In the meantime, pressing <Alt><SysRq> followed by <h> will place you on the true System Console where you may run any utilities.

Harmless, Duplicate, and Missing Messages

35. At system startup, why do I see the message "UX: sacadm: WARNING: Bad information from SAC"?

This is a known issue, but it does no harm. It will be addressed in a future release of UnixWare 7.

36. Sometimes when I expect a message to appear on the console, it doesn't appear or it appears twice. What causes this?

The syslogd daemon is the culprit. If you run `ps -e` and kill it by its PID, the problem will no longer occur. This is harmless and will be fixed in a later version of UnixWare 7.

37. When the system is booting, why do I see duplicate multicast route commands being executed?

When route entries are added to `/etc/inet/config` by the network configuration software, no check is made for duplicates. This is harmless and will be fixed in a later version of UnixWare 7.

Communication Failures and Slowdowns

38. After installing UnixWare 7 and rebooting, why is it that my system cannot communicate with some other systems? Why is the communication very slow?

Your system may be configured to use Domain Name Service (DNS) but has no gateway to one or more DNS servers. You must correct the DNS problem or disable DNS.

If your NIC is configured for Ethernet SNAP, change it to Ethernet II in the TCP/IP Advanced section of `netcfg`. More information on this failure is in the release notes.

39. Why doesn't the RTPM utility report NIC statistics?

This will be addressed in a future release of UnixWare 7. If you wish to observe NIC statistics in the meantime, see the `ndstat` utility main page.

40. Why does the cnet driver fail to start on my DeskPro 4000?

The problem has been corrected and a driver update will be available shortly on both SCO's and Compaq's ftp sites.

Key and Keyboard Support

41. Why doesn't the numeric keypad work in NetWare Licensing?

This is a known problem. It will be addressed in a future release.

42. Why doesn't the <Enter>key work in some SCOadmin utilities?

This is a known problem. It will be addressed in a future release. Use the mouse in place of the <Enter> key.

File System Support

43. When I try to create or copy a file greater than 2 GB, why does it fail?

By default, the file system configuration sets the file size limit to 2 GB. If you want to create files larger than this, you must configure the file system for a larger max file size. Your root file system is created by default, and it is set for nolargefiles. This can not be changed. User file systems can be created with largefiles enabled. See mkfs command, -o options: largefiles and nolargefiles.

44. Why does creating a virtual file system fail on some disks?

When Multi-Path I/O (MPIO) is enabled and the disk has no vtoc or UNIX partition, the virtual file system may fail. UnixWare 7 Release Supplement from SCO addresses this and other problems.

45. MPIO is turned off for customized installations. What is the workaround?

If MPIO is required on the system, install MPIO package after installation is completed.

CIM Agents

46. Is there a version of Compaq Insight Management agents for UnixWare 7?

Not currently, but Compaq plans delivery in 3Q98.

White Papers and Other Information Sources

47. Where can I get more information on UnixWare 7?

- The release notes that come with UnixWare 7.
- UnixWare 7 Hardware Development Kit (HDK) documentation
- The latest pre-release HDK documentation is available from SCO's documentation web server at:
<http://www.sco.com/unixware7/documentation>
- UnixWare 7 Release Supplement Notes
- The UnixWare 7 Release Notes is available from SCO's FTP server at:
<ftp://ftp.sco.com/Supplements/unixware7/rs700/uw7rs.txt>
- White papers, product references, market analysis, press releases about SCO, Compaq, and the partnership between SCO and Compaq are available at:
<http://www.compaq.com/products/servers/partners/sco>

Miscellaneous

48. Why did UnixWare 7 incorrectly configure my graphics device during installation?

UnixWare 7 may fail to configure the Cirrus Logic 54XXX family of graphics devices. This will be addressed in a future release of UnixWare 7. Switch to the System Console and run `/usr/X/lib/vidconf/vidconfGUI` to configure your graphics device manually.

49. I added a Smart-2 controller to my UnixWare 7 system. Why does it fail to boot?

UnixWare 7 keeps track of the boot device by bus number, controller number, and disk number. Adding disk devices and, in particular, any PCI bridge devices to your system may cause UnixWare 7 to lose track of which disk is the intended boot disk.

Remove the new controller and install it in a different slot. If possible, install it in a higher numbered bus and slot number. This issue should be fixed in a future release of UnixWare 7.

50. I am getting into a relink and reboot cycle. How do I escape?

There is a resmgr controller conflict. To escape from this dependency, when the prompt to reboot appears on the screen, press the <Escape> key to avoid the reboot. Start the DCU and correct the controller order to match the settings in the System Configuration utility. Attempt to reboot the system.

51. What causes circular dependencies when linking?

The message is issued during kernel re-link by one of the “id” tools. During the kernel re-link, it may attempt to load a driver that is already statically linked. Although this is a harmless condition, the message is reported to the user. A future version of the OS’s “id” tools will avoid attempts to load drivers that are already statically linked, eliminating occurrences of this warning message.

Glossary

ASR	Automatic Server Recovery
ATA	Advanced Technology Attachment
ATAPI ATA Packet Interface	This is the specification for the IDE disk devices. It includes hard disks and CD-ROMS
BIOS	Basic Input / Output System. This is a software interface to the personal computers' hardware. It is stored in ROM in the server
CDE GUI	Common Desktop Environment Graphical User Interface. This is the Windows-like interface on SCO UnixWare 7
CCU	Compaq Configuration Utility
Compaq Insight Manager	Compaq provides a comprehensive data collection and display system called Compaq Insight Manager. This system collects data, monitors the data, and displays the results of its analysis to insure healthy performance of Compaq hardware.
Compaq Insight Management Agents	Compaq Insight Management Agents for SCO UnixWare 7 are software that collects information about the server while the UnixWare 7 operating system is running on the server. The Compaq Insight Manager or other systems management software may query this information via SNMP
DCU	Device Configuration Utility. This UnixWare utility is used to examine or modify the configuration of drivers and hardware known to the UnixWare Operating System recorded in the Resource Manager and other configuration files.
EFS	Extended Feature Supplement. The Compaq EFS for SCO UnixWare 7 is a collection of software packages, which enable the unique hardware features of Compaq servers running SCO UnixWare 7.
Ethernet	Ethernet is a specification for high-speed networking interconnects
FTP	File Transfer Protocol. This is a software specification for the transfer of data in a network.
GUI	Graphical User Interface. This generally refers to the visual presentation of displayed data and interaction with the user, through common tools such as a mouse and software devices including combo-boxes and scroll bars.
HA	Host Adapter
HBA	Host Bus Adapter
IDE	Integrated Drive Electronics; it refers to a standard disk interface specification. The newer related standard is EIDE (for Extended IDE). EIDE handles both larger capacity and more drives than IDE. IDE also refers to a class of CD devices, these are also known as ATAPI or ATA.
ISL	Initial System Load. The process of initially installing or loading the operating system onto the hard drive of the server.

Glossary (continued)

Java virtual machine	Java code is usually compiled into a pseudo-code that is run by an interpreter, the Java Runtime Machine (JRTM). The abstract world the JRTM and its interface are called the Java Virtual Machine
MPIO	Multi-Path I/O.
NIC	Network Interface Card.
NDS	Novell Directory Services
NVRAM	Non-volatile RAM includes CMOS, SRAM, and flash
OSMP	Operating System Multi-Processor
PCI	Peripheral Components Interconnect
PCI Hot-Plug	This is a new hardware extension to the PCI interface that allows the PCI slots to be individually electrically controlled to allow removal and addition of PCI adapter cards, while the system is running
PID	Process IDentifier. Number is used by system and user to address an individual software process
RAID	Redundant Array of Inexpensive Disks. A method of providing high performance and availability characteristics of high cost disk subsystems utilizing main stream disk drive technology.
RAM	Random Access Memory (used for storing the information needed for running the processes)
ROM	Read-only memory
RSO	Recovery Server Option
ROMPAQ	Compaq ROM firmware upgrades for Compaq Systems (servers) or Options (cards and peripherals)
SCO	Santa Cruz Operations, Inc
SCSI	Small Computer Systems Interface. An interface specification used mainly by high-speed disks.
SMART Array Controller	A family of Compaq disk controllers with an onboard processor for off loading the main CPU that provides RAID 0-5 capability. Grouping disks into a Disk Array can increase disk reliability and performance. Arrays are treated as a single logical device. Information is stored on the individual disks in a variety of ways that will provide high availability and high throughput. (See RAID).
SMART-2	A member of the Compaq's Smart Array Controller.
SmartStart	A Compaq software installation package designed to ease and speed -up installation on Compaq servers.

Glossary (continued)

SVR5	System 5 Release 5
System Partition	A section of the boot drive reserved for Compaq System Utilities
Tarantella	SCO Tarantella is a product that runs on UnixWare 7. It is a portable GUI specification and an application broker. For more detail, see SCO's website: www.SCO.com .
TCP/IP	<u>T</u> ransmission <u>C</u> ontrol <u>P</u> rotocol / <u>I</u> nternet <u>P</u> rotocol - protocol that runs across different network topologies (both LAN and WAN) that enable these networks to communicate with each other. IP is the central protocol of all Internet computing.
UNIX	An operating system originally developed by Bell Labs and now available from many vendors in many flavors.
UnixWare	When UNIX was purchased by Novell, they combined the name of their network operating system, NetWare, with UNIX to form UnixWare. SCO now owns UnixWare
VTOC	Volume Table Of Contents. A particular area of the UnixWare disk partition, which describes non-overlapping slices within the partition that may be used for different purposes such as file systems and swap space.

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