SCO UnixWare® 7.1.4

Bringing Power, Value, Stability and Reliability to Your Business

Reviewer's Guide

June, 2004
Version 1.1

1. Reviewer's Guide Note

Thank you for your interest in reviewing SCO UnixWare 7.1.4. This guide provides detailed information on the following areas:

- Company Overview
- Product Introduction
- Features & Benefits
- Product Editions
- Optional Products & Services
- Hardware Requirements
- Availability
- Price
- Competitive Advantage
- Target Markets
- How to Install UnixWare 7.1.4
- Running OpenServer Applications

1.1 Summary of Contents

This package contains all of the software and documentation needed to conduct a review of SCO UnixWare 7.1.4.   Included in the package are:

- SCO UnixWare 7.1.4 software and documentation CD-ROMs
- This Reviewer's Guide

The minimum system configuration to run UnixWare 7.1.4 is a single processor, Intel Pentium, AMD or compatible server, with a 64MB of memory, 2 GB of disk space, and a 1028 X 768 VGA graphics monitor.   If OpenServer Kernel Personality is running, the memory requirements are 128MB and 4GB of disk space.   A 1028 X 1024 VGA monitor is recommended if running OpenServer Kernel Personality (OKP) or Merge.

If questions arise during the evaluation, please contact please contact Blake Stowell in Public Relations at (801) 932-5703 or by e-mail at bstowell@sco.com.

1.2 Disclaimer

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2. Company Overview

The SCO Group, Inc. (NASDAQ: SCOX) is the owner of the UNIX® operating system and a leading provider of UNIX-based solutions. The company has developed and licensed innovative technologies for more than 30 years.

SCO is a provider of software solutions for small- to medium-sized businesses (SMBs), and for Fortune 1000 replicated branch offices. SCO solutions include UNIX platforms; messaging, authentication, and e-business tools; and services that include technical support, education, consulting, and solution provider support programs.

Based in Lindon, Utah, SCO has a worldwide presence with representation in 82 countries. This infrastructure enables SCO to provide local support and dependable solutions to businesses around the world. In addition, SCO has a channel of more than 11,000 solution providers, a developer network of nearly 8,000 and thousands of direct account customers.

Headquarters	Lindon, Utah	TTM Revenues	$70.4 million
Nasdaq	SCOX	Shares	15.2 million
Employees	275	Outstanding*	
Balance	Recently Added		Channel Offices &
Sheet	$50 Million Cash	Global sales	Representatives in 82 countries; 11,000 resellers

*Includes 2.9 million shares issuable upon the conversion of SCO's Series A Convertible

3. Product Introduction

SCO UnixWare 7.1.4 is the latest release of SCO's award winning, state of the art UNIX operating system.   This product contains all of the features that UnixWare 7 customers have come to expect: rock solid reliability and availability, unsurpassed scalability and high performance – all available in a platform that leverages the price / performance of industry standard servers.

UnixWare 7.1.4 is built to meet the performance and 24 x 7 x 365 availability demands of business-critical application environments. It delivers superior availability and on-line serviceability, by leveraging the latest innovations in industry standard technologies such as USB, Hot Plug PCI and PCI-X, Hot Plug CPU and Hot Add Memory and Multi-path I/O. It also allows for redundant HBAs, network cards and it ensures that the information critical to your business is dependable, accessible and accurate.

UnixWare 7.1.4 is the mature and proven operating system to support your most critical line of business applications, yet is affordably priced to host all compute needs. UnixWare 7.1.4 provides new features like Web Services APIs, etc. for new applications as well as backward compatibility for applications currently running on older versions of UnixWare.

UnixWare 7.1.4 supports the newest industry standard hardware platforms and peripherals and contains even more of the high performance, scalability and reliability features that you have come to expect from UnixWare. In addition to support for the latest hardware, there is a range of new features that increase security, provide more application options and flexibility and enhance the usability of UnixWare 7.1.4. As an added bonus, the most popular editions have been reconfigured and a new, low entry point edition has been introduced to provide even more value to help grow your business.

The Reliant®HA Clustering optional add-on product extends this already highly available platform and extends it to a whole new level. And because SCO is a business solutions company, you can be assured of timely feature upgrades that track technology advances, world class customer support and professional services options.

4. UnixWare 7.1.4 - Features & Benefits

UnixWare 7.1.4 supports the following features and utilities. Features listed in **bold type** are new in UnixWare 7.1.4.

Feature	Description	Benefit
Supports up to 32 CPUs and up to 64 GB of memory	Sophisticated, hardened kernel that runs on low cost, industry standard servers and is capable of near-linear scaling as resources are added to the system	UnixWare 7.1.4 running on industry standard servers is a low entry cost platform that can grow incrementally as the business grows
Supports Dynamic Shared Memory, Async I/O, LWPs and POSIX threads and Fine grain locking,	Provides highly scalable Virtual Memory with a highly pre-emptible kernel and a reliable I/O subsystem with MPIO, etc.	UnixWare 7.1.4 is a high performance platform suitable for deploying on business critical servers for high end Data centers or for small to mid sized businesses.
Support for hot plug devices including SCSI PCI and PCI-X controllers, hot add memory and hot swap CPU	Hardware components can be removed or added while the system is running,	The hardware can be serviced or reconfigured without taking the system down and rebooting.
SCOadmin system administration tool	Has a graphical and character interface and can be run locally or remotely	The tool is easy to use and the admin function can be either centralized or distributed, based on the business requirements
UnixWare 7.1.4 has multiple personalities to run non-UnixWare applications in native mode	**Native OpenServer[1] and Windows binaries can run unchanged on UnixWare 7.1.4**	**Users can reduce operating costs by migrating multiple workloads to a smaller number of larger, more powerful servers; Helps reduce and control operating expenses**
The most popular Editions of UnixWare have been reconfigured.	**Additional users, CPUs and/or memory have been added as the standard default configuration in the several editions**	**Customers receive more value in the reconfigured editions. Customers who upgrade immediately benefit from the additional resources in the reconfigured editions.**
Introduction of new, low end Edition	**Small Business Edition, single CPU, single user and 1GB memory, with option to add additional resources, (e.g.. users, etc.) as necessary**	**Provides a very low cost entry price for a powerful, hardened OS that can support up to 32 CPUs & thousands of users. Ideal solution for edge of network servers, file and print, or low budget pilot projects**
Additional Security Features	**IPSEC provides firewall and tunneling, updated OpenSSL & OpenSSH provide secure data transmission over the internet**	**Additional security to safeguard the corporate LAN from outside intruders, and to protect the privacy of data**
Feature	**Description**	**Benefits**

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[1] The OpenServer Personality is new in UnixWare 7.1.4. The ability to run native Windows applications are features that are in previous releases of UnixWare.

Popular Open Source Solutions are included with the product	The Open Source Solutions include: Mozilla Web Browser, Apache Web Server, Squid Proxy Server, MySQL[2], Samba, PostgreSQL, PHP and Perl and for Web Services Development, PHP[2] and MySQL	SCO supports all of these solutions, giving customers one stop shopping, and peace of mind knowing that SCO's award winning support service is available for the solutions
Name Server Switch	Modular way of configuring name services	Allows customers to add new name services in a modular fashion without changing system libraries.
Media less network install (PXE boot)	Installation, and configuration can be done over the network drive	Ability to install and configure from a central location reduces errors and lowers the cost of administration.
Initial System Load and Upgrade Process Updates	Improved installation process, including the ability to load HBA drivers from CD ROM in addition to floppy; Improved upgrade process without intervening reboot; Single step to upgrade from either UW 7.1.1, 7.1.2 or 7.1.3	All of these features improve efficiency and productivity of system administration staff
New Hardware Support	Support for IDE driver with ATA-6 and support for >128GB	Lower cost for data intensive applications, (e.g., medical imaging, video surveillance, CAD/CAM); These drives offer comparable capacity and performance of higher cost SCSI drives.
New Hardware Support	USB 2.0 Support for printers	Customers can utilize the newest printers with the latest features
New Hardware Support	ACPI Hyper threading for Intel's latest chipsets	Higher performance on low cost, single CPU systems
New Hardware Support	Updated Adaptec, Qlogic HBA and Intel LSI HBA drivers along with new network and video drivers.	Customers have access to the most advanced peripheral devices
Web Services Substrate	Foundation layer for creating modern Web Service-based applications and Service Oriented Architectures; Includes a browser-based GUI for ease of use	Protects investment in legacy applications; The Web Services infrastructure facilitates the transformation of old system data into modern Web Services components without changing
Feature	**Description**	**Benefits**
SCOx Web Services Infrastructure	Libraries and development tools to support SOAP/XML calls from existing and new applications for developers who would like to	Allows current applications to be enhanced to interact with other applications running on other platforms or over the

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[2] MySQL and PHP are contained on the SCOx CD

Feature	Description	Benefits
	enhance their existing C/C++, PHP, MySQL, Perl and Java applications to have SOAP/XML calls; Tomcat Application Server to host java servlets.	**web.**
Java 1.4.2	**Support for Java2, Standard Edition**	**Application Developers can take advantage of the features in the latest version of Java**
PostgreSQL 7.4.2 MySQL 3.x	**Open Source Relational Database**	**Developers have the advantage of not having to pay license fees for a relational database, and are assured of SCO's commercial, award-winning support.**
Open Source Toolkit	**Full Set of GNU development tools, including gcc, gdb, gnu make**	**Developers don't need to be retrained in the use of other development tools; They can select the tool they are familiar with**
Provides Common UNIX Printing Subsystem (CUPS).	**Provides an alternate printing service to UNIX System V lpd.**	**Provides a highly scalable and reliable print server solution for a richer set of printers & options along with Web-based configuration**
New UnixWare and OpenServer Development Kit (UDK)	**C and C++ compilers, graphical debug tools, enhanced math library, diagnostic tools for dynamic memory allocation errors, etc.**	**Developers have greater flexibility in developing applications because the new toolkit runs on UnixWare 7.1.1, 7.1.2, 7.1.3 & 7.1.4 and also on OpenServer 5.0.6 & 5.0.7. Regardless of which platform the development kit is running on, a native binary can be created for any one of the listed six platforms.**
Pluggable Authentication Modules (PAM) scheduled for release with Maintenance Pack 1	**Exposed interface that allows the creation of customized authentication processes**	**Users can customize the level of security and utilize multiple authentication processes for different applications running on the same system**
Legacy Support	**Use of stable binary interfaces for device drivers**	**IHVs can use a single driver pack on releases of UnixWare as far back as UnixWare 2.1;**
Feature	**Description**	**Benefits**
Legacy Support	**Binary support for legacy applications**	**No need to recompile applications when the operating system is upgraded; Applications written for releases as far back as UnixWare 2.1 continue to run**

Optional Bundled Support Service	Traditional "break-fix" support for 6 months, 4 hour response time, 2 authorized technical contacts. Can be upgraded to full TEAM support when the business grows	New, cost-effective, high value support option for customers who have just a few servers, but need a high level of support.

5. UnixWare 7.1.4 Product Editions

UnixWare 7.1.4 is the most advanced deployment platform for industry standard Intel and AMD processor systems. UnixWare 7.1.4 is the trusted foundation for solutions where proven scalability, reliability, security and affordability are critical.

UnixWare 7.1.4 consists of a comprehensive family of six (6) pre-configured Editions, Optional Products and Add-on licenses.

UnixWare 7.1.4 Edition Summary

Small Business	Base	Business	Departmental	Enterprise	Data Center
1 User 1 CPU 1GB Memory	1 User 1 CPU 2GB Memory	10 Users 4 CPUs 4GB Memory	25 Users 4 CPUs 8GB Memory	50 Users 6CPUs 16 GB Memory Online Data Manager	150 Users 8 CPUs 32GB Memory Online Data Manager Event Logging w/ Relational Database

User Interface: CDE, Panorama, KDE, Character

OpenServer Kernel Personality (OKP) , Linux Kernel Personality (LKP), SCO Merge

Windows File and Print, Proxy Server, Firewall & Security Services, Relational Data Base, VPN Solution

Development Tools: C, C++, Java 2, Open Source Tool Kit, Graphical Debuggers, Enhanced Math Library, Web Services Substrate

Administration Framework		
TCP/IP, PPP, IPSec, IP Filtering	Sendmail System, POP, IMAP4	Integrated HTTP Server, Web browser

Scalable SVR5 Kernel with high availability, large memory and large filesystems

The **UnixWare 7.1.4 Small Business Edition (SBE)** This full featured edition of UnixWare is configured and priced for the small business user, or for a small to midsize workgroup within a large corporation. It is also an attractive offering as an edge of network server, or for environments that have minimal initial requirements, but need to quickly scale up. It is the new edition for customers that need a full featured, low cost server platform.

The **UnixWare 7.1.4 Base Edition** provides a solid foundation for building dedicated or specialized server environments, such as telecommunications equipment and other embedded or replicated systems. The Base Edition default configuration is similar to the Small Business Edition but the cost of adding additional users to the Base Edition is more economical than adding users to the Small Business Edition. The Base Edition is the right choice for customers who have initial limited user capacity requirements which are expected to grow quickly as the business matures.

The **UnixWare 7.1.4 Business Edition** has been packaged with additional CPUs and users in the standard, out of the box configuration. Instead of getting 5 users and 1 CPU, the new installation comes with 10 users and 4 CPUs. Customers who upgrade from a prior version of the Business Edition will get the additional 5 users and additional CPUs enabled on their systems.   The Business Edition is targeted for replicated sites or workgroups requiring reliable access to diverse applications, and the ability to expand system capability as the organization grows.

The **UnixWare 7.1.4 Departmental Edition** is targeted for departmental servers or replicated sites in medium or large organizations and is designed to run applications and reliably share business critical information with a wide range of client devices. The Departmental Edition default configuration has been increased from 2 CPUs and 4GB of memory to 4 CPUs and 8GB of memory, which provides additional capacity to simultaneously run multiple applications.

The **UnixWare 7.1.4 Enterprise Edition** provides a solid foundation for medium to high end database servers or application servers. The scalability and performance capabilities of the Enterprise Edition make it an excellent application server to support on-line transaction processing or decision support applications where response time and reliability are critical success factors.
The Enterprise Edition is licensed for 50 users, 16 GB of memory and the number of CPUs has been increased from 4 to 6.

The **UnixWare 7.1.4 Data Center Edition** is unmatched in its ability to deliver the total performance and capabilities of proprietary, high cost, UNIX systems but because it runs on cost efficient Intel and AMD processor-based servers, it is a more affordable and cost effective solution. The Data Center Edition is built to meet the performance and 24 x 7 x 365 availability demands of business-critical application environments. The On-Line Data Management feature provides real-time management of data on redundant disks and file systems. It ensures that the information critical to your business is dependable, accessible and accurate. The Reliant®HA Clustering optional add-on product takes this already high availability and scalability to a whole new level. With support for multiple levels of redundancy and support for servers with huge disk and memory capacity, the Data Center Edition brings data center power with significant cost savings over equivalent proprietary RISC based UNIX server offerings. The Data Center Edition is licensed for 8 CPUs, 150 users, 32 GB of memory and RAID support with the Online Data Manager, and is scalable from there.

Optional Products and Services

UnixWare 7.1.4 supports thousands of users, up to 32 CPUs and up to 64GB of main memory. Additional Users, CPUs and Memory Upgrades and be licensed for any UnixWare 7.1.4 configuration (up to the defined limits) Other Optional products and services that can be licensed are:

Optional Add-on	Description	Benefits
ReliantHA 1.1.4	Up to 4 node failover clustering	Enhances the system availability beyond 99.999%.
On Line Data Manager and Disk Mirroring	Real time management of data and filesystems and data	Ensures information critical to the business is dependable,

	redundancy	accessible and accurate.
NetTraverse Merge 5.3.26c	Runs Windows applications on UnixWare	Provides additional flexibility in heterogeneous environments.
Advanced File & Print Server 4.02a	File and print utility	Packaged software option to support file and print services.
UnixWare & OpenServer Development Kit	Compilers, development tools and debuggers	Single development environment for creating binaries for UnixWare and OpenServer
SCO Support Services	Range of offerings tailored to the needs of SMB to enterprise customers	SCO's award winning support services provide one-stop shopping
SCO Update Service	Optional Add-on or bundled service provides e-mail notification and early access to new features; Locks in the cost of upgrading to the next release	SCO Update Service is a high value maintenance tool and the most economical way to upgrade to the next release of UnixWare; Solution providers can use it to maintain customer premise systems; For end users, it locks in the cost of upgrading to the next release of the operating system.

The new **UnixWare and OpenServer Development Kit (UDK)** contains C and C++ compilers and the graphical debug tool that enables the rapid development of applications for UnixWare Release 7.1.4. Key features of the new development kit include:
- extensive Java 2 development tools
- virtually complete conformance to the ISO/IEC 14882:1998 C++ Standard and the ISO/IEC 9899:1999 C Standard; C++ standard library
- enhanced math library
- enhanced graphical debugger
- new tool to diagnose dynamic memory allocation errors on UnixWare 7.1.4. This kit can be used to develop applications that can also be deployed on UnixWare 7.1.3, UnixWare 7.1.2 (OU8) and UnixWare 7.1.1.

The Compatibility Modules for SCO OpenServer™ continue to be supported with this development kit. The new kit can also be used to create binaries for SCO OpenServer Release 5.0.6 and Release 5.0.7. Details on using this feature are provided in the release notes.

The new UDK may be installed on a UnixWare 7.1.4, UnixWare 7.1.3, UnixWare 7.1.2, (OU8) UnixWare 7.1.1, OpenServer 5.0.6 or OpenServer 5.0.7 system as a free upgrade if the UnixWare and OpenServer Development Kit have been licensed on the system, otherwise a license key for the UDK will be required.

The new kit includes the Java™ 2 Standard Edition Version 1.4.2 SDK. This toolkit is a powerful development environment that is portable, object-oriented, platform independent, and especially well suited for developing Internet-enabled applications. The new kit includes the Java 2 Standard

Edition Version 1.4.2 SDK which includes the Java compiler, interpreter, classes, runtime environment and Mozilla Java plug-in module.

Also included is Release 2.0.4 of the supported Open Source Tool Kit.   This tool kit includes the GNU Tool Chain including a set of compilers, debugger, object tools, libraries and other open source tools that can be used to develop, enhance and compile UNIX programs for use on UnixWare 7.1.4, UnixWare 7.1.3, UnixWare 7.1.2 (OU8), and UnixWare 7.1.1.

6. Hardware Requirements

The hardware that you will need to support an installation of UnixWare 7.1.4 will vary depending on the installation options you choose. UnixWare 7.1.4 can be booted from CD-ROM or over a network. All installations have the following minimum requirements:

Processor
UnixWare 7.1.4 requires at least one Intel Pentium or AMD Athlon, Duron or Opteron microprocessor, or one that is 100 percent compatible. Many installations will require a 100MHz (or faster) processor for better performance. Systems running Merge from the Optional Services CD should have a 200MHz or faster processor.

Memory
 A minimum of 64 MB of RAM is required. If running OKP 128MB of RAM is the minimum requirement. As expected, performance is enhanced as more RAM is added.

Disk size and partitions
A hard disk of 2 GB or larger is the minimum required. If running OpenServer Kernel Personality (OKP) 4GB is the minimum requirement.   UnixWare can be installed in a partition that starts above 8GB.

Mouse
A serial, USB or PS/2-compatible mouse is highly recommended for easy navigation of the graphical desktop interface.

Video
A Super VGA monitor and video adapter capable of at least 1024x768 resolution is required to run the graphical desktop. Systems running Merge from the Optional Services CD will require a 1280x1024 16-bit (or better) graphics adapter. The graphics adapter used during a fresh installation must have an IBM VGA compatible mode.

7. Availability

Orders are being taken now for the English, French, Spanish and German language editions of the UnixWare 7.1.4 Media Kit. The English version will ship by 28 May and the French, Spanish and German versions will begin shipping 4 June 2004. Other localized versions, including Japanese, Korean and Chinese will be available later in the year.

8. Price

Editions	Small Business	Base	Business	Departmental	Enterprise	Data Center
Price	$599	$799	$1,399	$2,299	$4,999	$9,999

Users	1	1	10	25	50	150
CPUs	1	1	4	4	6	8
Memory	1GB	2GB	4GB	8GB	16GB	32GB

The SCO Update Service is an efficient and cost-effective service for deploying new release and software upgrades. It is available bundled with the product license for an additional 20% of the product license list price, or unbundled at a cost of 25% of the software list price.   SCO Update Service entitles the customer to receive all update packs up to and including the next release of UnixWare.

Customers also have the option of purchasing SCO Support Services on a per server basis bundled with their Edition Server license. This is an economical option for customers who need break fix support from SCO with guaranteed response times, and named technical contacts. The list price for this service is a flat rate $1625 for six (6) months of support service added to the Edition license fee.

9. Competitive Advantages

SCO UnixWare has all of the reliability, availability, scalability, security and performance of the much higher priced alternatives on proprietary RISC platforms.   UnixWare runs on industry standard hardware which means:

- SCO UnixWare is more economical to deploy
- Customers who deploy UnixWare avoid vendor lock-in. If an OEM prices become too high, or their support becomes unacceptable, customers can easily move to a different vendor.
- Customers who have the freedom to move to other vendors have strong negotiating position with their vendors on price and service level issues.

But it's not just the fact that UnixWare runs on lower cost hardware that makes it a more economical choice. In a recent total cost of ownership analysis[3] that compared the software license fees and the upgrade and maintenance fees for SCO UnixWare, Red Hat Enterprise Linux and Microsoft Windows 2003 Server, SCO UnixWare was the least expensive system to deploy and maintain in five (5) out of seven (7) case studies. The case studies were randomly selected from the SCO customer base and represent actual customer configurations.

The resources and related costs required to maintain and upgrade any system are a significant component of the overall IT budget. UnixWare has lower overhead costs associated with it because it adheres to a stable set of APIs for application and device driver interfaces. This means that binary drivers and applications developed for releases of UnixWare dating back to UnixWare 2.1 will run, unchanged on UnixWare 7.1.4. Drivers and applications don't even need to be recompiled when the operating system is upgraded. No other OS vendor can claim this level of compatibility between releases.

UnixWare is also a highly resilient platform. In the 80's and 90's many users deployed their most critical applications on a dedicated server. During this period, IT budgets were not constrained, and dedicating a server to an application was the easiest way to ensure that one application failure did not impact other, critical applications.   The economic climate in 2004 is quite different. IT budgets are restricted and the cost of managing large number of servers is high and growing. (Staff costs are the most significant portion of most IT budgets.)   In order to improve productivity

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[3] Sullivan, J. M., "Total Cost of Ownership Analysis: SCO UnixWare, Microsoft Windows 2003 Server and Red Hat Enterprise Linux" May 2004

and efficiency, IT organizations are trying to consolidate their servers.   SCO UnixWare is the best platform choice for server consolidation projects because:

- It is highly fault resilient. Applications are insulated from other applications running on the same system to ensure a single failure has no impact on the other running applications.
- SCO UnixWare can host native UnixWare applications, OpenServer applications and Windows applications on a single server, simultaneously using the OKP and NetTraverse Merge features of UnixWare.
- Since SCO UnixWare supports 32 CPUs and thousands of users on a single system, the platform can easily scale as the business needs expand.

Software reliability and performance are only part of the story.   The ability of the operating system vendor to respond to customer requirements and to provide quality support is also important.

SCO publishes the UnixWare product roadmap that is created based on customer input.   Linux distributors have neither the knowledge nor the control of what the features will be in the next release of the Linux kernel.

SCO has been in the operating system business for over 20 years, and is an experienced vendor who understands what it takes to support commercial, production environments.   SCO offers a wide range of support options that are delivered by SCO's award winning support team.

10.   Target Market

UnixWare 7.1 4 consists of a set of six (6) pre-configured editions, Optional Products and Add-On Licenses. The highly scalable characteristics of SCO UnixWare 7.1.4 combined with the option to add additional resources make UnixWare suitable for several different types of applications, and target customers.

Small Business Edition – This is full featured edition of UnixWare that is configured and priced for the small business user, or small workgroup server. It is also an attractive offering as an edge of network server, or in environments that have minimal initial requirements, but are expected to rapidly scale-up.

Base Edition - This is a solid foundation for building dedicated or specialized server environments, such as telecommunications equipment, and other embedded or replicated systems.

Business Edition – This edition is suitable for mid sized businesses that need a highly reliable, high performance, affordable solution. With this release of UnixWare, this edition has been reconfigured with additional processors and users to provide more value in the box.

Departmental Edition – This edition is for large workgroups or replicated sites and is designed to run applications and reliably share business critical information with a wide range of client devices.   It is also an excellent platform for server consolidation projects in small to mid sized business.

Enterprise Edition – This edition is built for high end data base servers or application servers. The performance and scalability capabilities of the Enterprise Edition make it an excellent application server to support on-line transaction processing or decision support applications.   It is also suitable for larger scale server consolidation projects.

Data Center Edition – This edition is built to meet the performance and 24 X 7 X 365 availability demands of business critical application environments. The On-Line Data Management feature provides real-time management of data on redundant disks and file systems.

11.　　How to Install UnixWare 7.1.4

UnixWare 7.1.4 is simple to install. A UnixWare system can be set up from a network; however the bootable CD ROM method is the easiest. For information on network install and other options, go to the UnixWare Documentation Web Site at http://www.sco.com/support/docs/unixware. Alternatively, you can explore the documentation that is included. This documentation includes a description of the contents of the CD-ROMs.

The information below is a simplified outline for installing UnixWare 7.1.4 on a system that supports a bootable CD-ROM.

Insert the UnixWare 7.1.4 Base Operating System (CD#1) CD-ROM and boot the computer from the CD. The CD boots and launches the installation utility. It will auto detect your hardware and make installing UnixWare 7.1.4 simple.

We will now walk though each of the screens presented during the installation. Note that during the installation, you can access online help from many of the screens by pressing F1. Use the F10 key to continue to the next screens.

Select Language

Choices include English, French, German, Spanish, or Japanese. Select your language (English is default) and press ENTER to continue.

You will be presented with the UnixWare 7.1.4 Welcome screen.

Press F10 to continue.

Define your Location

You will have several screens to define your location preferences. The first is a zone. The zone limits the locales and keyboard types in the next windows to conform to the character set associated with the zone selected. Choose a zone, selecting from Americas, Eastern Europe, Central Europe, Western Europe, Northeast Asia, Other, or All Locales. If you are unsure select All Locales.

Press F10 to continue.

Choose a Locale

The locale determines punctuation, currency, and system formats used. The choices presented hare are based on the zone you chose in the previous screen. Select from C (English), POSIX (English), English for Canada, English for USA, Spanish for Argentina, Spanish for Chile, Spanish for Mexico, Spanish for Venezuela, French for Canada.

Press F10 to continue.

Choose a Keyboard Type

The last of the localized options, there are 24 possible country options available based on the locale chosen above. The keyboard selection enables you to access the special characters, such as accented characters in European languages, supported by your keyboard.

Press F10 to continue.

Enter License Information

Press F8 to continue.

Select *Yes,* use an evaluation license to continue.

The evaluation license is activated for a 60-day evaluation license for a UnixWare 7.1.4 Business Edition. The Business Edition is a 10 user, 4 CPU license.

Additional HBA Drivers required?

If your vendor supplied you with an HBA diskette, choose "Install HBA drivers". A cdrom or removable USB storage media (USB floppy drive or flash memory device) may also be used. Note that the Base Operating System CD #1 itself can be used as an HBA cdrom to provide additional
SCSI HBA drivers not contained within the installation boot image, if the "Install HBA drivers" option is chosen. If no additional HBA drivers are required, choose "Proceed with installation".

Press F10 to continue.

System Node Name

Enter the computer, or node name for your system. This name is used by many programs to identify your system to others on the network. The name must be unique, be an alphanumeric string 3 to 63 characters in length, and it must begin with a letter.

Press F10 after entering the name.

Installation Type

Choose CD-ROM

Press F10 to continue.

Use Whole Disk for Installation?

With the installation source determined, UnixWare 7.1.4 now needs to prepare the destination drive. This screen shows the disk drives and allows you to specify to use the entire disk or to customize the disk partitions. Highlight the disk you want to install UnixWare 7.1.4 to and press F2 for a list of options. You can do one of the following:

- Use whole disk for UNIX
- Customize disk partitions
- Re-load partition information from disk

If you have existing data on other partitions you want saved, choose *Customize partitions.* It will take you to a partition configuration screen where you can modify and delete existing partitions or create new ones.

Select *Use whole disk for UNIX* and press Enter or F10 to continue.

Press F10 again to go to the next screen.

Configure Filesystems or Slices on Active Partition?

Advanced UNIX system users can manually configure filesystems and slices on the active partition, but most should choose to accept the default sizes and filesystem types.

You can modify slice and filesystem sizes and defaults, create separate user filesystems, and allocate raw slices for database use or future filesystem creation by choosing the customize option.

Select *Use default filesystem sizes and types* and press F10 to continue.

Configure special Disk Operations?

You may choose to customize surface analysis, boot block, and/or disk geometry. These options may erase all or part of your hard disk. You may choose either of the two following options:
- Use default disk options
- Customize disk options

Choose your option preference and press F10 to continue.

System Profile

There are several software profiles you can choose to install.

- License-Based Defaults: Package selection is based on the type of license you entered earlier. If you choose this selection, the appropriate services and packages will be correctly installed and licensed on your system.
- Small Footprint Server: Choose this profile, which contains the base operating system and networking but no graphics, to install on a system with limited memory or limited hard disk capacity.
- Full (All Packages): All packages that are standard in the Business Edition are installed. (excludes multi-processor support and language supplements)
- Custom Installation of Packages: You choose which services and packages to install.

If you have a multi-process system or a single CPU system with hyper threading install the OSMP package.

Choose *License-Based Defaults* and press F10 to continue.

System Services

If you choose to customize your configuration, check one or more system services to install or remove from the services list.

Press F10 to continue.

System Packages

If you configure services you can select additional packages to install or remove from the packages list.

Press F10 to continue.

Network Auto Detection and Configuration

The system will present you with the list of network adapters that it has detected.

Once you select from the list, you may choose to manually configure TCP/IP or automatically configure TCP/IP via DHCP.

Date and Time

Confirm the date, time, and time zone information. Correct if necessary.

Press F10 to continue.

Security Level

System security levels cover a wide range of topics, including password validity and aging, system access controls, login and terminal use restrictions, and auditing levels. These topics are categorized into four levels:

- Low: Choose this level for systems that are not widely or publicly accessed.
- Traditional: Choose this level when you want to network easily with other UNIX systems.
- Improved (C2): Choose this level when you want to maintain a high degree of security but allow users to share data more easily.
- High (Above C2): Choose this level, which blocks many networking services, when you have highly confidential data and many users. If you choose High, remote access to your system using telnet and rlogin is disabled. To enable these services, choose a lower security profile.

The system security level can never be increased, but it can be reduced by using the relax(1M) command. Choose *Traditional* and press F10 to continue.

System Owner

The system owner is a special type of account with administrative privileges similar to the root account. The system owner can run utilities, change network configuration, and add users, among other tasks.

Enter your name, provide a login name, and set your password. Press F10 to continue.

Create Root Password

The root account—also known as the super user, admin, or administrator—has many privileges on the system such as the ability to start and stop any program or access any file or directory on the system regardless of permissions. Therefore, great care should be taken to restrict access to this account and password.

Enter a password and press F10 to continue.

Save Installation responses?

After you answer the installation prompts and before installing software, you can save your responses to diskette for future use when re-installing this system or another UnixWare system.

A message displays stating that the installation is now ready to write data to your hard disk. You may press F3 to save your installation responses to a diskette or press F10 to proceed with software installation.

The disk will be prepared and software installation will begin. You will then be prompted to remove the cdrom and reboot, after which the system will be configured, and you will be prompted to insert the UnixWare 7.1.4 Base Operating System/Upgrade CD #2.

Press F10 to continue.

Accept License Agreement

Read and accept the license agreement to continue. Press F10 to continue.

A message window displays stating that the installation is now ready to write data to your hard disk. Press F10 to install the software.

This prepares the disk and copies the files to your computer. This amount of time this process takes will depend on your configuration. You will then be prompted to reboot, after which the installation will resume.

Mouse Configuration

The mouse is auto-detected and is setup as part of the installation process.

Select Additional Packages to Install

With your UnixWare 7.1.4 system base operating system installed, will now be prompted to select components to install from CD2. Some products are pre-selected. Following is the list of applications:

- (URW)++ Free X11 Fonts
- Java Communications (javaxcomm) API 2 .0
- Java 2 Standard Edition, version 1.4.2
- J2SE Runtime Environment 1.4.2
- Common UNIX Printing System (CUPS)
- Common Unix Printing System Development Environment
- Common Unix Printing System Documentation
- Gimp-print Printer Drivers
- ESP Ghostscript - PostScript/PDF Interpreter and Renderer
- PostgreSQL Database Management System
- Samba 3.0 based file/printer sharing
- Cdrtools - record audio/data Compact Discs / DVD from a master
- Squid Caching Proxy Server
- Open Source OpenLDAP software suite
- Open Service Location Protocol
- Compaq® PCI Hot-plug driver

- Desktop Management Interface
- Enhanced Event Logging System
- Intel PCI Hot-plug driver
- Enhanced Event Logging System
- EMC Symmetrix Disk Restamp Driver

Installation of the selected items will begin.

You will then be prompted for CD-ROM #3 (Optional Services CD), or you can defer this installation by pressing F8. Press F8 to defer the installation and the kernel will be rebuilt and the system rebooted. CD3 presents the following optional products:

- SCO Advanced File and Print Server
- NeTraverse Merge
- ReliantHA Clustering Solution

OpenServer Kernel Personality

An OpenServer License is required to install OKP.   The recommended method for using OKP is to set up your applications on an existing OpenServer system and then copy the OpenServer system over to the UnixWare/OKP system.   Migrating your application from a running OpenServer system has the advantage of preserving the application execution environment, eliminating the need to configure the application under OKP.

Alternatively, a fresh install of OpenServer can be done on the UnixWare System. If you are interested in installing and running OpenServer, contact Blake Stowell, Director of Public Relations, at (801) 932 5703 or bstowell@ sco.com

What now? Depending on how you intend to use UnixWare 7.1.4, you may want to perform one or more of the post-installation tasks. This guide will walk you through some of the most common features to use.

12.   Using UnixWare 7.1.4

UnixWare 7.1.4 is easy to set up, use, and manage. After installation you'll want to spend time using the interface and looking at the included applications. For most tasks, there are several ways to perform them. You can do many things manually from the command prompt, from a menu or utility included with the CDE GUI. Following are descriptions of how to perform some of the important tasks with UnixWare 7.1.4.

Logging into a Graphical Desktop

The taskbar is the starting point for the applications and tools and is located on the bottom of the desktop.

The choices of graphical desktops are:
*   CDE
*   Panorama
*   KDE
*   Failsafe
If networking is not installed and configured, use Panorama or Failsafe.

Launching a Terminal Window

A terminal window is a command line interface to the UNIX system. Also called a shell, a terminal window may be strictly character based when a character mode application is running in the graphical desktop.

CDE has a terminal window called dtterm. To run dtterm, expand the Personal Applications menu (computer monitor icon) on the CDE taskbar by clicking on the pointer above the icon. Click Terminal from the list of choices. You will be presented with a command prompt in the dtterm window.

If you are running Panorama, right click mouse on the desktop and choose xterm.

KDE has an icon for xterm that you can click and open.

Failsafe provides xterm and no additional functionality.

Launching SCOadmin Manager

SCOadmin is the group of management applications used to configure and maintain your UnixWare 7.1.4 system. Most SCOadmin managers are grouped under folders (directories) that correspond to an administrative area. It is best to be logged in as root when running the SCOadmin managers. You can access SCOadmin manager in several ways.

1. **From the CDE GUI**. Expand the SCO menu (SCO cypress tree icon) on the CDE taskbar by clicking on the pointer above the icon. Click SCO Admin from the list of choices.
2. **From Panorama**. Right click on the desktop and select SCOadmin

3. **From a UNIX shell**. At the # prompt enter, *SCOadmin*. If run from a dtterm shell in the CDE interface, SCOadmin will launch its GUI.

Using Docview

DocView is enabled by default in all system profiles except Small Footprint. It serves all the online documentation mentioned in this book on **http://localhost:8458**. DocView replaces the SCOhelp browser used in previous releases. For more information on DocView, see the *Release 7.1.4* section under *New Features and Notes* in the CD ROM Release Notes.

To start the docview server (or find out whether it is running), use the **/etc/docview** command. In most installations, DocView will start by default when the system is booted.

Running Login Sessions Simultaneously with Multiscreen Displays

With the multiscreens, you can run several login sessions on your console at the same time. You can switch between multiscreens using <Ctrl> <Alt> and simultaneously pressing F1-F8. This provides you with up to eight possible sessions that can be run simultaneously.

From the CDE desktop, press <Ctrl> <Alt> <F2>. This launches a new screen or UNIX session. Log in and you can begin work on the second ``screen''. Press <Ctrl><Alt><F1> to switch instantly back to the first screen. Switching between screens in this way can speed up procedures that require working in different programs. The console device is reached by pressing <Ctrl><Alt><Esc>.

13. **Running OpenServer Applications**

The base UnixWare 7.1.4 operating system runs OpenServer binaries using the Enhanced Application Compatibility package (ACP). In addition, UnixWare actually includes a selection of OpenServer tools and utility programs in /OpenServer/bin directory, along with supporting libraries in /OpenServer/lib and /OpenServer/usr/lib.

UnixWare 7.1.4 also has an OpenServer Kernel Personality (OKP) product, providing a more complete environment to run OpenServer applications:
- Chroot'd environment to a complete Openserver root directory
- Xenix Emulation to run Xenix binaries

OKP allows a business to leverage the power, scalability and availability of UnixWare all while continuing to support legacy OpenServer and Xenix applications. This method is very cost effective as the businesses do not need to incur the added cost of porting applications and data to UnixWare.

You can run OpenServer applications side by side with UNIX applications under the standard UnixWare 7.1.4 graphical desktop (called CDE). The easiest way to run OpenServer applications under the standard UnixWare 7.1.4 graphical desktop is to bring up a terminal window and simply type *openserver at* a command prompt. Then you can execute your favorite OpenServer utilities/programs.