



Software Product Description

PRODUCT NAME: System V Environment for Tru64™ UNIX® Operating System Version 4.0F
(previously DIGITAL UNIX) **SPD 46.16.07**

DESCRIPTION

The System V Environment for Tru64™ UNIX® Version 4.0F (previously DIGITAL UNIX) provides UNIX System V Release 4 commands, libraries, and operating system tools to increase the System V compatibility provided by Tru64 UNIX. The System V Environment extends Tru64 UNIX Version 4.0F, providing compliance with the System V Interface Definition, Issue 3 (SVID3) Volumes 1, 2, and 3.

The System V Environment is an optional environment for Tru64 UNIX providing users with System V Release 4 system administration, programming tools, and general user commands. Using this environment, application programmers can more easily port their System V Release 4 applications to run on the Alpha systems. System administrators, who are experienced with System V Release 4 system administration, can use the tools that are most familiar to them.

Standards

SVID 3

The System V Environment for Tru64 UNIX Version 4.0F complies with the System V Interface Definition, Issue 3 (SVID 3), Vols. 1-3, with the exception of the Remote File System (RFS) and X11/NeWs OPEN LOOK portion of Volume 4. In addition, the X Window System, Version 11, Release 6 is supported. SVID 3 Volume 4 specifies requirements for the X Window System.

The Open Group

Tru64 UNIX is XPG4 Base branded. The System V Environment has not been branded but has been verified for XPG4 compliance.

The System V Environment extends Tru64 UNIX to provide nearly 98% of the API's listed in the XPG2 specification (also known as Spec 1170).

Bellcore's SOE II

The System V Environment for Tru64 UNIX Version 4.0F provides support for the operating system portion of the Technical Requirements (TR) for Bellcore's Standard Operating Environment, Issue II.

Libraries

The System V Environment provides common System V Release 4 library routines, which are either not provided or have different behavior than the routines provided in Tru64 UNIX base system.

These include some routines from the following libraries:

libc—Additional C language functions from the System V Release 4 (SVR4) libc library. These routines are provided in a separate library named "libsvr4.a".

libgen—miscellaneous library functions.

libnsl—miscellaneous networking functions.

libmalloc—alternate memory-allocation functions.

Thread-safe versions of libsvr4s (libc functions) and libnsl libraries are provided to assist in the development or porting of SVR4 multithreaded applications.

Shared library support is supported in the System V Environment.

Common SVR4 header files are also included to ease application migration.

A minimal set of SVR4 library routines provide different behavior from similarly named routines in Tru64 UNIX. In the System V Environment, these routines are provided in a separate library (libsvr4s.a) for the benefit of programmers wanting true SVR4 behavior. So, programs that use any of these library routines and are compiled with libsvr4.a will exhibit System V behavior rather than Tru64 UNIX behavior.

Character Interface

The following character interface libraries defined as part of the System V Release 4 Extended Terminal Interface (ETI) are provided:

Curses—Two libcurses libraries provide the SVR4 functionality. Tru64 UNIX base operating system provides XPG4 curses, which includes support for SVR4 curses and wide characters.

Forms—the libform library provides a terminal independent method of creating and customizing forms.

Menus—the libmenu library provides a terminal independent method of creating and customizing menus.

Panels—the libpanel library provides a terminal independent method of creating and customizing panels.

The forms, menus, and panels libraries are provided only in the System V Environment.

Additionally, the System V Environment provides Form and Menu Language Interpreter (FMLI), a programming language and interpreter that sets up and controls character cell interaction with the user.

Development Tools

The System V Environment extends Tru64 UNIX development tools for greater System V Release 4 compatibility, including enhancements to:

- The cc command
- Archive
- Cross reference tools

These enhancements supply SVR4 options that are not provided in Tru64 UNIX version of the tools.

Additional SVR4 development tools are provided to interactively examine a C program (cscope), to trace system calls, determine signals and faults (truss), and to provide a core image of a running process (gcore).

General User Commands and Utilities

For compliance with the Basic Utilities (BU_CMD) and Advanced Utilities Commands (AU_CMD) section of SVID 3, the System V Environment provides many general user commands and utilities. Some of these commands include: *find*, *more*, *nawk*, *ps*, and *date*.

System Administrator Commands

The System V Environment for Tru64 UNIX Version 4.0F provides common System V Release 4 system administration commands and utilities, enabling compliance with the Administered Systems Commands (AS_CMD) section of SVID 3. In addition to commands which have different options in System V Release 4 from Tru64 UNIX, the System V Environment provides system administration commands not included in Tru64 UNIX, such as *volcopy*, *sysdef*, *fstyp* and *mkfs*.

System Administrator Utility

The System V Environment for Tru64 UNIX Version 4.0F provides the System V Release 4 System Administration Utility (sysadm), a commonly used menu front-end to common system administration functions. Some of the tasks accessible from the sysadm menu system are as follows:

- Backup and restore services
- File system maintenance
- Printer control
- Machine management
- System setup
- User account management

Software Management Commands

The System V Release 4 software package management commands, also known as the 'pkg' commands are provided with the System V Environment. These commands give the system administrator the ability to install, check, and remove SVR4 software packages.

SVR4 Printing Subsystem

The System V Release 4 printing subsystem can be installed as an option to replace the BSD-based Tru64

UNIX printing subsystem. The System V Environment provides the SVR4 print commands and filters to schedule and control print requests. This SVR4 print subsystem also supports BSD print commands with Tru64 UNIX options.

The SVR4 PostScript Utilities for sending output to a PostScript printer are supported as a subset of the SVR4 printing subsystem.

The remote printing daemon (lpNet) is supported.

Users can install either the SVR4 print subsystem or Tru64 UNIX print subsystem. Although most of the BSD print options were added to the System V Environment SVR4 print subsystem, layered products with dependencies on Tru64 UNIX printing subsystem may not be fully interoperable with the SVR4 print subsystem.

Backup and Restore Services

The System V Environment for Tru64 UNIX Version 4.0F provides SVR4 backup and restore services (the bk* and rs* commands), a series of commands and scripts for making copies of system data and disk partitioning information. The SVR4 backup service includes tools for creating online history reports of the backups and status reports of current backup jobs.

Realtime Commands

The System V Environment supports Tru64 UNIX realtime kernel, which provides POSIX 1003.4 extensions. In addition, the System V Environment provides compliance with the Realtime Commands (RT_CMD) section of SVID 3. This includes the prcntl() system call to give system administrators the ability to display configuration information about class specific priorities.

Performance Management

The System Activity reporting commands (*sar*, *sadc*, *sa1*, *sa2*, and *timex*) provide the ability to track, store, and display system activity as described in the AS_CMD section of SVID 3. The *sar* command displays statistics about cpu utilization, buffer usage, disk and tape activity, paging, and other system activity.

In addition, the kernel profiling tools (prf*) measure and report on where the operating system is spending its time during operation.

User Account Management Utilities

The System V Environment for Tru64 UNIX Version 4.0F includes the User Account Management Utilities, which consist of *passwd*, *login*, *groups*, and *passmgmt*.

Dataless Configuration Support

The System V Environment supports Tru64 UNIX Version 4.0F dataless configurations as provided in the Tru64 UNIX Server Extensions Version 4.0F. Dataless configurations are defined as having a minimum of one disk which can be used for dumping, paging, and swapping.

Enhanced Security Support

The System V Environment supports the Security Integration Architecture (SIA) as provided by Tru64 UNIX operating system. The System V Environment supports enhanced security for password and group account management. It also supports audit trail facilities to track security events in Tru64 UNIX, and it supports access control lists (ACL's) to manage access to files for various levels of security.

Filesystem Support

The System V Environment filesystem support has been extended to include:

- Advanced File System (AdvFS)
- CD-ROM File System (CDFS)
- Memory File System (MFS)
- File Descriptor File System (FDFS)
- File on File Mount (FFM)
- Network File System (NFS)
- Proc File System (PRFS)

Multiprocessor Support

The System V Environment now provides support for managing and tuning symmetric multiprocessing systems. In addition, SVE supports SVR4.0 MP-compliant programming interfaces. SVR4 multiprocessor supported features include:

- Taking a processor off line; bringing a processor on line
- Binding a process to a particular processor

- Gathering and reporting multiprocessor statistics

HARDWARE REQUIREMENTS

Please refer to Tru64 UNIX V4.0F Software Product Description, SPD 41.61 for specific hardware supported.

Processor Restrictions

A minimum system configuration to run the System V Environment for Tru64 UNIX V4.0F includes:

- 64MB main memory
- One or more disk drives supported by Tru64 UNIX

Disk Space Requirements

Disk space in Kilobytes Required for Installation and Use:

	Root	/usr
Environment setup files	7	10
Base Compatibility Package	1	18,200
System Management Package	192	40,200
API and Development Tools Package	0	21,400
Print Package	0	18,000
Man Pages Package	0	3,200
Total	200	101,100

These counts refer to the disk space required on the system disk. The sizes are approximate; actual sizes may vary depending on the user's system environment, configurations, and software options.

Software Requirements

Tru64 UNIX Operating System Version 4.0F is a prerequisite for the System V Environment for Tru64 UNIX.

To use the System V Release 4 Development Tools subset, the Tru64 UNIX C Developer's Extensions is required.

Growth Considerations

The minimum hardware/software requirements for any future version of this product may be different from the requirements for the current version.

Ordering Information

Software licenses: QL-0J6A*.-**

Software Media and Documentation:

Tru64 UNIX media and documentation kit (QA-MT4AA-H8) includes the binary and online documentation for the System V Environment for Tru64 UNIX.

Hardcopy Documentation:

The following kits provide hardcopy documentation sets:

Startup Documentation Kit: QA-0J6AAA-GZ

Extended Documentation: QA-0J6AB-GZ

Software Product Services: QT-0J6**.-**

SOFTWARE LICENSING

This software is furnished only under a license. For more information about licensing terms and conditions, contact your local Compaq office.

License units for this product are allocated on an Unlimited System Use basis.

A binary sublicense for System V Release 4 is included in the System V Environment for Tru64 UNIX software license.

SOFTWARE WARRANTY

Compaq provides this software with a 90-day conformance warranty in accordance with the Compaq warranty terms applicable to the license purchase.

YEAR 2000 READY

This product is Year 2000 Ready.

Year 2000 Ready is defined: "Year 2000 Ready" products are defined by Compaq as products capable of accurately processing, providing, and/or receiving date data from, into and between the twentieth and the twenty-first centuries, and the years 1999 and 2000, including leap year calculations, when used in accordance with the associated product documentation and provided that all hardware, firmware, and software used in combination with such products properly exchange accurate date data with the products.

For additional information visit the DIGITAL Brand area on Compaq's Year 2000 web site located at: <http://www.compaq.com/year2000/>

To ensure that this product is Year 2000 Ready, the following testing process/methods were utilized:

- Code Inspection – All source code modules used to build this product were inventoried and inspected to ensure correct date handling for date data beyond the year 2000.
- System Date Handling – This product was tested to ensure that the system properly handles future time including but not limited to the following dates: December 31, 1999 to January 1, 2000 rollover; February 28, 2000; February 29, 2000; March 1, 2000; and January 1, 2001.
- Regression Testing – This product was tested using a comprehensive suite of regression tests for functional, performance, and standards compliance with system time set to future dates including dates in and beyond the year 2000.

To ensure that this product inter-operates properly with other hardware and software, the following testing process/methods were utilized:

- Year 2000 readiness was tested using supported hardware and firmware.
- This product has been tested for Year 2000 readiness while operating within a computer network of other systems.
- The Associated Products (shipped with the Tru64™ UNIX® media kit) have been tested in conjunction with the operating system for Year 2000 readiness.

SOFTWARE PRODUCT SERVICES

A variety of service options are available from Compaq. For more information, contact your local Compaq office.

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