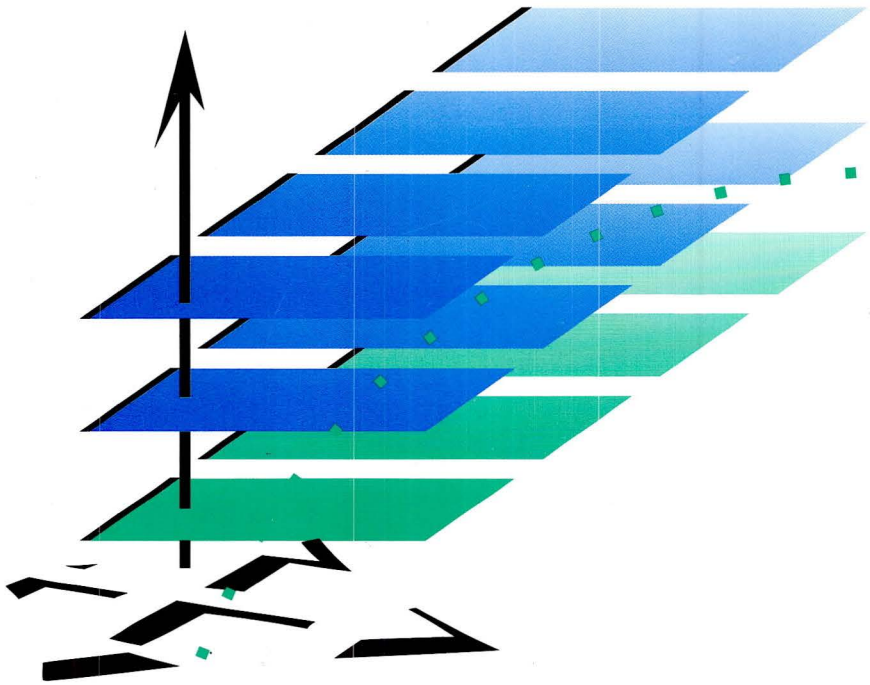

CONVEX

Guide to Exemplar Documentation

First Edition

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Guide to Exemplar Documentation

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Contents

Preface

The *Guide to Exemplar Documentation* is a catalog of software documentation available for users of Convex Exemplar computer systems. This manual lists documentation produced by Convex as well as documentation from other companies.

How this book is organized

This manual is divided into the following sections:

- Chapter 1 — Hardware Documentation
- Chapter 2— System Administration Documentation
- Chapter 3— Networking Documentation
- Chapter 4— General User Documentation
- Chapter 5— Compiler, Assembler, and Program Library Documentation
- Chapter 6— Software Development Tools Documentation
- Chapter 7— Supplementary Documentation
- Appendix A — Software Documentation Publishers

Core documentation and supplementary documentation

Core documentation is documentation that customers receive from Convex when they purchase a product. All Exemplar customers receive the hardware documentation described in Chapter 1. Customers who purchase SPP-UX receive a set of documentation that includes the manuals listed in Chapters 2, 3, and 4. Customers who purchase compilers and other products listed in Chapters 5 and 6 receive the core documentation for that product. Additional copies of all core documentation are available from Convex.

Supplementary documentation is documentation that is not required to use the operating system or its major products. Supplementary documentation is available for programs and utilities that are shipped with the operating system,

such as text editors, text formatters, mail programs, and products available from other vendors. Convex does not provide supplementary documentation with its products; you can order supplementary documentation from the companies listed in Chapter 6, from the software publishing companies listed in Appendix A, or from a book store that sells technical books.

Ordering documents

To order the current edition of this or any other Convex document, send requests to:

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Please include the order number (DSW or DHW number) or the exact title of the document.

Technical assistance

If you have questions that are not answered in this book, contact the Convex Technical Assistance Center (TAC) at the following locations:

- Within the continental U.S., call 1 (800) 952-0379.
- From Canada, call 1 (800) 345-2384.
- All other locations, contact the local Convex office.

You can also use the `contact` utility, if you would like to report any problems you may have with SPP-UX or its associated documentation. For more information, refer to the contact(1) man page on any Convex computer system.

Hardware Documentation

1

This chapter describes the Exemplar hardware documentation. This documentation covers the architecture and installation of Exemplar systems.

Exemplar Architecture

This manual provides technical information for the evaluation of the Exemplar product line and the optimization of applications that run on the Exemplar system.

Order Number

DHW-014

Part Number

081-023430-000

Audience

General users and programmers

Contents

This manual provides the following information:

- An introduction to the Convex implementation of scalable parallel processing in the Exemplar product line
- Description of memory systems
- Description of messaging mechanisms
- Description of synchronizations mechanisms
- Description of exceptions and interrupts
- Description of the I/O subsystem
- Description of performance monitors
- Description of system initialization and booting
- A glossary of terms

Exemplar Site Preparation Guide

This manual provides technical information needed to prepare a site for the installation of an Exemplar system.

Order Number

DHW-500

Part Number

081-022730-000

Audience

System and facility managers

Contents

This manual provides the following information:

- System definitions and specifications
- Electrical and environmental guidelines
- Facilities guidelines
- Preinstallation survey
- Summary of requirements
- Templates

System Administration Documentation

2

This chapter describes the SPP-UX system administration documentation. This documentation covers the installation and maintenance of the operating system and additional software products.

All of the documentation described in this chapter is shipped to each SPP-UX customer for each release of the operating system. Additional copies are available from Convex; see the Preface for ordering information.

SPP-UX and Utilities Release Notice

This bulletin contains a summary of the of the features in the current SPP-UX release and other information about the release.

Order Number

Part Number 710-0293530-000

Audience

System administrators and site managers

Contents

This notice provides the following information:

- Hardware and software prerequisites
- Optional software products
- Associated documentation
- New features
- Bug fixesSPP-UX Installation and Upgrade Manual

This manual describes how to install the SPP-UX operating system and associated software products on CONVEX Exemplar computer systems.

Order Number

DSW-852

Audience

System administrators

Contents

Read this manual to learn how to perform the following tasks:

- Install SPP-UX
- Install software products that run under SPP-UX
- Install patches and bugfixes to SPP-UX and software products
- Upgrade to a new release of SPP-UX

SPP-UX System Administration Guide

This manual describes the tasks involved in the administration and maintenance of SPP-UX. The manual covers both the command interfaces and graphical user interfaces for sytem administration.

Order Number

DSW-853

Audience

System administrators

Contents

Read this manual to learn how to perform the following tasks:

- Start up SPP-UX
- Shut down SPP-UX
- Use the System Administration Manager (SAM)
- Use the Complex Manager to create and manage processor subcomplexes
- Create and manage user login accounts
- Create and manage file systems
- Manage peripheral devices
- Connect and manage a network under SPP-UX
- Collect system accounting data and ceate system accounting reports

HP Open View Software Distributor Administrator's Guide

This manual describes how to use the HP OpenView Software Distributor (SD) product to install, manage, administer, and package software products.

Order Number

Hewlett-Packard J2325-90001

Audience

System administrators

Contents

Use this manual to perform the following tasks:

- Install software products
- Remove software products
- List software products
- Configure software products

Notes

This manual consists of two parts. Part I is applicable to SPP-UX system administrators; Part II describes the SD Product Packaging Utility, which is not needed for SPP-UX installation.

Exemplar Open Boot Quick Reference

This reference card summarizes the commands associated with the SPP-UX Open Boot firmware.

Order Number

DSW-854

Audience

System administrators and field engineers

Contents

Use this card to see a summary of the following SPP-UX Open Boot commands and related information:

- Boot commands
- Configuration parameters
- Device tree browsing commands
- Commands for creating and examining device aliases
- Help commands
- File loading commands
- Diagnostic test commands
- FCode (Forth language) interface
- PA RISC register commands
- Assembler and disassembler commands
- Breakpoint commands

Notes

For information about additional Open Boot documentation, see Chapter 7, *Supplementary Documentation*.

Networking Documentation

3

This chapter describes the SPP-UX networking documentation. This documentation covers the installation, configuration, and maintenance of Local Area Networks and network software products.

All of the documentation described in this chapter is shipped to each SPP-UX customer for each release of the operating system. Additional copies are available from Convex; see the Preface for ordering information.

Administering and Installing FDDI

This manual describes how to install and administer Fiber Distributed Data Interface (FDDI) networks.

Order Number

Hewlett-Packard J2156-61001

Audience

Network administrators

Contents

Read this manual to learn how to perform the following tasks:

- Load and configure FDDI network software
- Maintain FDDI network software
- Troubleshoot an FDDI network
- Perform network logging
- Perform network tracing

Notes

The FDDI installation procedures described in this manual differ significantly from the installation procedures under SPP-UX. For information on FDDI installation under SPP-UX, see the SPP-UX Installation and Upgrade manual.

The `fddinet`, `fddistat`, `lanscan`, and `linkloop` commands described in this manual are not implemented in SPP-UX.

Using NFS Services

This manual describes NFS Services and common NFS commands.

Order Number

Hewlett-Packard B1013-90008

Audience

Network administrators, NFS programmers, and NFS users

Contents

Read this manual to learn how to perform the following tasks:

- Use the RPC Program Compiler
- Use the Lock Manager
- Use the Remote Execution Service (REX)
- Understand interactions with HP-UX Access Control List
- Use the Network Status Monitor
- Use the Network Information Service (NIS)
- Use the Virtual Home Environment (VHE)

Notes

The following portions of this manual are not applicable to SPP-UX:

- Using named pipes and device files (Chapter 2)
- Using NFS in an HP-UX cluster environment (Chapter 3)
- References to the Local HP-UX product (Appendix A)
- Moving from RFA to NFS (Appendix B)

Installing and Administering NFS Services

This manual describes how to install, configure, and maintain the NFS Services product software. The manual also includes information for configuring and maintaining the Network Information Service (NIS) and for using the automounter.

Order Number

Hewlett-Packard B1013-90009

Audience

Network administrators and NFS users

Contents

Read this manual to learn how to perform the following tasks:

- Install NFS
- Configure and maintain NFS
- Configure and maintain NIS

Notes

The following portions of this manual are not applicable to SPP-UXSPP-UX:

- References to the Local HP-UX product (Appendix A)
- Moving from RFA to NFS (Appendix B)
- NFS in an HP-UX cluster environment (Appendix C)

Programming and Protocols for NFS Services

This manual contains overviews of Remote Procedure Call (RPC), External Data Representation (XDR), and Network Information Services (NIS). An RPC programming guide is also included, along with protocol specifications for RPC, XDR, and NIS.

Order Number

Hewlett-Packard B1013-90010

Audience

Network programmers

Contents

Read this manual to learn how to perform the following tasks:

- Create programs using remote procedure calls (RPCs) and the remote procedure call compiler (RPCGEN)
- Use the External Data Representation (XDR) protocol
- Use the Network Information Services (NIS) protocol

Notes

The routines and protocols described in this manual are applicable to SPP-UX. SPP-UX does not support NFS in an HP-UX cluster environment.

Using ARPA Services

This manual contains introductory information about the ARPA and Berkeley Services, a user's overview of internetwork mailing, and information on how to use the ARPA and Berkeley Services.

Order Number

Hewlett-Packard B1014-90006

Audience

Users of ARPA and Berkeley Services

Contents

Read this manual to learn how to perform the following tasks:

- Route network mail
- Log on to a remote host
- List remote host information
- List remote user information
- Perform remote file transfers using FTP or RCP
- Copy files on a remote host
- Execute commands remotely

Installing and Administering ARPA Services

This manual describes how to install, configure, and maintain the NFS Services product software.

Order Number

Hewlett-Packard B1014-90007

Audience

ARPA network administrators

Contents

Read this manual to learn how to perform the following tasks:

- Install ARPA Services
- Maintain ARPA Services
- Configure, maintain, and troubleshoot theHP Berkeley Internet Name Domain (BIND) server
- Configure and troubleshoot gated (a daemon that determines packet routing)
- Configure and troubleshoot sendmail (an internet mail routing service)
- Troubleshoot ARPA Services

Notes

References to utilities using /dev/lan*x* are not applicable to SPP-UX.

SPP-UX General User Documentation

4

This chapter describes the general end-user documentation for SPP-UX.

All of the documentation described in this chapter is shipped to each SPP-UX customer for each release of the operating system. Additional copies are available from Convex; see the Preface for ordering information.

HP-UX Reference

This manual describes commands, system calls, subroutine libraries, file formats, device files, and miscellaneous features of the HP-UX operating system. The manual consists of three volumes.

Order Number

Hewlett-Packard B2355-90004

Audience

General users, programmers, and system administrators

Contents

This manual is a compilation of the manual pages that are available on-line through the `man` command. It is intended for use by users who know how to use the system and need to know specific details such as command syntax or file formats.

Notes

This manual does not contain any of the manual pages that describe features of SPP-UX that differ from HP-UX. To see a list of manual pages that have been modified or created specifically for SPP-UX or other Convex software products, enter the following command on your SPP-UX system:

```
man -k Convex
```

Whenever there is an Convex manual mage for a topic, read the Convex manual page instead of the version in the HP-UX Reference manual.

A Beginner's Guide to HP-UX

This manual introduces the fundamental concepts of HP-UX.

Order Number

Hewlett-Packard B1862-90000

Audience

General Users

Contents

Read this manual to learn how to perform the following tasks:

- Log in and out of the system
- Manage files and directories
- Use basic operating system commands
- Do text editing
- Send and receive mail
- Use basic network services
- Maintain system security

Notes

The following features described in this manual do not apply to SPP-UX:

- PAM (the HP Personal Application Manager)
- `keysh` (HP's softkey version of the Korn shell)
- VUE (the HP Visual User Environment)

HP-UX Error Message Catalog

This catalog describes error messages related to HP-UX system commands and system calls. Error messages for compilers and other products are not included.

Order Number

Hewlett-Packard Order Number B1862-90004

Audience

General users and system administrators

Contents

Use this catalog to help perform the following tasks:

- Correct syntax errors in system commands and system calls
- Identify and report system problems to your system administrator

Notes

This manual does not include any of the error messages that are unique to SPP-UX or other Convex products.

Compiler, Assembler, and Program Library Documentation

5

This chapter describes the documentation for the Convex compilers, assemblers, and program libraries that work under SPP-UX.

The documentation described in this chapter is shipped to customers along with each product. Additional copies of the Convex manuals are available from Convex; see the Preface for ordering information.

Exemplar Programming Guide

This manual describes efficient programming techniques for the Exemplar family of computers.

Order Number

DSW-067

Audience

C and Fortran programmers

Contents

This manual covers the following topics:

- A comparison of Exemplar systems, traditional vector/parallel computers, clusters, and other MPP systems
- The Exemplar programming model
- A programmer's overview of the Exemplar architecture
- SPP Series compiler optimizations
- Exemplar data partitioning
- Basic and advanced shared memory programming
- Message passing programming
- SPP Series optimization reports

Fortran User's Guide

This manual describes how to compile, run, debug, and analyze Convex Fortran programs.

Order Number

DSW-038

Audience

Fortran programmers

Contents

Read this manual to learn how to perform the following tasks:

- Compile, load, and execute a Fortran program
- Use Convex I/O facilities
- Call routines from other programming languages in Convex Fortran
- Use the Convex runtime library and runtime error processing
- Use Convex Fortran compiler directives
- Understand Convex Fortran calling conventions and data representation

Notes

This manual describes both the Convex Exemplar and Convex C-Series implementations of Convex Fortran. Differences between the two implementations are noted in the manual.

Fortran Language Reference Manual

This manual provides a complete description of the Convex Fortran language. It is intended to be used as a reference for experienced Fortran programmers.

Order Number

DSW-037

Audience

Fortran programmers

Contents

Read this manual for information about the following topics:

- Fortran program elements and program unit format
- Data types, constants, and variables
- Arrays and substrings
- Specification statements
- The DATA statement
- Assignment statements
- Control statements
- Files, units, and I/O statements
- Format specification descriptors
- Functions and subprograms
- CONVEX Exemplar-specific synchronization features
- Compatibility between Convex Fortran and other Fortran implementations

Notes

This manual describes both the Convex Exemplar and Convex C-Series implementations of Convex Fortran. Differences between the two implementations are noted in the manual.

Fortran Quick Reference

This booklet summarizes the elements of the Convex Fortran language and the interface to the Convex Fortran compiler. It is intended to be used as a reference for experienced Fortran programmers.

Order Number

DSW-037

Audience

Fortran programmers

Contents

Use this booklet to see a summary of the following topics:

- Compiler options
- Compiler directives
- Convex Fortran language statements

Notes

This booklet describes both the Convex Exemplar and Convex C-Series implementations of Convex Fortran. Differences between the two implementations are noted where appropriate.

C User's Guide

This manual describes how to compile, run, debug, and analyze Convex C programs.

Order Number

DSW-086

Audience

C programmers

Contents

Read this manual to learn how to perform the following tasks:

- Compile, load, and execute a C program
- Use Convex I/O facilities
- Call routines from other programming languages in Convex C
- Use the Convex runtime library and runtime error processing
- Use C pragmas
- Understand compatibility between Convex C and other C implementations

Notes

This manual describes both the Convex Exemplar and Convex C-Series implementations of Convex C. Differences between the two implementations are noted in the manual.

C Quick Reference

This booklet summarizes the elements of the Convex C language and the interface to the Convex C compiler. It is intended to be used as a reference for experienced C programmers.

Order Number

DSW-087

Audience

C programmers

Contents

Use this booklet to see a summary of the following topics:

- Compiler options
- Compiler directives
- Convex C language statements

Notes

This booklet describes both the Convex Exemplar and Convex C-Series implementations of Convex C. Differences between the two implementations are noted where appropriate.

MLIB User's Guide: LAPACK

This manual describes the Convex LAPACK software library. LAPACK is a collection of Fortran-callable subprograms for mathematical applications involving linear algebra, including linear equations, least squares, eigenvalue problems, and singular value decomposition.

Order Number

DSW-036

Audience

Fortran programmers

Contents

This manual describes Fortran-callable routines for:

- Simple drivers for linear equations
- Expert drivers for linear equations
- Computational subprograms for linear equations
- Drivers for linear least squares problems
- Computational subprograms for orthogonal factorizations
- Simple drivers for ordinary eigenvalue problems
- Expert drivers for ordinary eigenvalue problems
- Drivers for generalized eigenvalue problems
- Drivers for the singular value decomposition
- LAPACK auxiliary subprograms

Notes

This manual describes all implementations of Convex LAPACK. Differences between the various implementations are noted where appropriate.

MLIB User's Guide: SCILIB

This manual describes the Convex SCILIB software library. SCILIB is a collection of Fortran-callable, Cray-compatible mathematical subprograms for scientific applications.

Order Number

DSW-360

Audience

Fortran programmers

Contents

This manual describes Fortran-callable routines for:

- Vector operations
- Matrix operations
- Linear equation solutions
- Eigenvalue and eigenvector computation
- Fast Fourier transforms
- Correlation and convolution
- Linear recurrences
- Sorting

Notes

This manual describes all implementations of Convex SCILIB. Differences between the various implementations are noted where appropriate.

MLIB User's Guide: VECLIB

This manual describes the Convex VECLIB software library. VECLIB is a collection of Fortran-callable mathematical subprograms for scientific applications.

Order Number

DSW-132

Audience

Fortran programmers (also C and Ada programmers; see **Notes**)

Contents

This manual describes Fortran-callable routines:

- Dense and sparse vector operations, including the Basic Linear Agebra Subprograms (BLAS)
- Matrix operations, including the Level 2 and Level 3 BLAS
- Linear equation solutions, including LINPACK
- Eigensystem problems, including EISPACK
- Sparse symmetric linear equation solutions
- Sparse symmetric ordinary and generalized eigensystem problems
- Skyline linear equation solutions
- Discrete Fourier transforms
- Convolution and correlation
- Linear recurrences
- Sorting and generating random numbers

Notes

This manual describes all implementations of Convex VECLIB. Differences between the various implementations are noted where appropriate.

Although the VECLIB routines were designed for use in Fortran programs, C and Ada programs can call VECLIB subprograms, as described in Appendixes A and B of this manual, respectively.

ConvexPVM User's Guide

This manual describes the ConvexPVM (Parallel Virtual Machine) product. ConvexPVM is a library of C- and Fortran-callable routines for message-passing programming.

Order Number

DSW-811

Audience

C and Fortran programmers

Contents

Read this manual for information on the following topics:

- Starting ConvexPVM
- ConvexPVM library routines
- Considerations for writing PVM applications
- ConvexPVM implementation details
- Using the ConvexXTRACE package, which consists of the `pvmon3` debugging and analysis tool and the `xtrace3` trace file viewing tool.

HP-UX Assembly Language Reference Manual

This manual describes the HP-UX Assembler for the PA-RISC processor.

Order Number

Hewlett-Packard 92432-90005

Audience

Assembly language programmers

Contents

This manual describes the HP-UX Assembler interface, statements, and macros.

Notes

The Convex SPP-UX assembler is based on the HP-UX Assembler. The information in this manual is applicable to the Convex assembler. For a description of Convex-specific extensions to the assembler, see the as(1) man page.

PA-RISC 1.1 Architecture and Instruction Set Reference Manual

This manual describes the architecture and the instruction set of the Hewlett Packard PA-RISC procesor.

Order Number

Hewlett-Packard 09740-90039

Audience

Assembly language programmers

Contents

Read this manual for information on the following topics:

- Organization of the PA-RISC processor
- Addressing and access control
- Flow control interruptions
- Instruction set
- Floating-point coprocessor

Notes

The Convex SPP-UX Assembler is based on the HP-UX Assembler. The information in this manual is applicable to the Convex assembler.

PA-RISC Procedure Calling Conventions Reference Manual

This manual describes the conventions for creating PA-RISC assembly language procedure calls.

Order Number

Hewlett-Packard 09740-90015

Audience

Assembly language programmers

Contents

Read this manual to learn how to perform the following tasks:

- Use the procedure stack
- Use PA-RISC registers
- Pass parameters
- Create standard procedure calls
- Create inter-module (external) procedure calls
- Create millicode procedure calls
- Unwind the stack

This manual has appendixes containing the following information:

- Standard procedure calls for higher-level languages
- PA-RISC Assembler procedure control
- The stack unwind library
- The stack unwind process

Notes

The Convex SPP-UX Assembler is based on the HP-UX Assembler. The information in this manual is applicable to the Convex Assembler.

Software Development Tools Documentation

6

This chapter describes the documentation for the Convex software development tools that work under SPP-UX.SPP-UX

The documentation described in this chapter is shipped to customers along with each product. Additional copies are available from Convex; see the Preface for ordering information.

CXdb Reference: Commands and Parameters

This manual is a general reference for the Convex Visual Debugger (CXdb). CXdb is an interactive debugger for Convex C and Fortran code. This volume provides a description of each CXdb command and its parameters.

Order Number

DSW-477

Audience

C and Fortran programmers

Contents

This manual provides the following information about each CXdb command:

- A description of the command
- The syntax of the command
- Examples illustrating use of the command
- Related concepts, parameters, and windows

Notes

This manual describes both the Convex Exemplar and C-Series implementations of CXdb. Differences between the two implementations are noted in the manual.

CXdb Reference: Concepts, Windows, and Messages

This manual is a general reference for the Convex Visual Debugger (CXdb). CXdb is an interactive debugger for Convex C and Fortran code. This volume describes the major concepts of CXdb, and provides a description of the CXdb windows and messages.

Order Number

DSW-478

Audience

C and Fortran programmers

Contents

This volume provides the following information about CXdb:

- The major concepts of CXdb
- Information on using CXdb windows, dialogs, and menus
- A list of all CXdb messages, along with explanations and suggestions for corrective action

Notes

This manual describes both the Convex Exemplar and C-Series implementations of CXdb. Differences between the two implementations are noted in the manual.

CXdb Quick Reference

This booklet summarizes the Convex CXdb product. It is intended to be used as a reference for experienced CXdb users.

Order Number

DSW-474

Audience

C and Fortran programmers

Contents

Use this booklet to see a summary of the following topics:

- Compiling your program for CXdb
- Getting started with CXdb
- Syntax and description of each CXdb command
- CXdb command aliases and abbreviations
- CXwindows mouse functions

Notes

This booklet describes both the Convex Exemplar and C-Series implementations of CXdb. Differences between the two implementations are noted in the manual.

CXpa Reference

This manual describes how to use the Convex CXpa product. CXpa is an interactive profiler for programs compiled by the Convex Ada, C, and Fortran compilers. CXpa allows the programmer to profile selected parts of a program, control a program's execution, and view performance information in reports or graphs.

Order Number

DSW-253

Audience

Ada, C, and Fortran programmers

Contents

Read this manual to learn how to perform the following tasks:

- Use the GUI, line mode, and batch mode CXpa interfaces
- Create basic block reports, loop reports, parallel region reports, and routine reports
- Create two- and three-dimensional performance graphs
- Monitor events specific to CONVEX Exemplar systems, including local and global read accesses, and network hits and misses

Notes

This manual describes both the Convex Exemplar and C-Series implementations of CXpa. Differences between the two implementations are noted in the manual.

CXpa Quick Reference

This booklet summarizes CXpa's options and commands. It is intended to be used as a reference for experienced CXpa users.

Order Number

DSW-252

Audience

Ada, C, and Fortran programmers

Contents

Use this booklet to see a summary of the following topics:

- Invoking CXpa
- Line mode commands
- Line mode key bindings
- Compiler options
- Report information

Notes

This booklet describes both the Convex Exemplar and C-Series implementations of CXpa. Differences between the two implementations are noted where appropriate.

CXtrace User's Guide

This manual describes the CXtrace performance analyzer. CXtrace is a trace-based analysis tools for measuring and displaying a program's performance.

Order Number

Part Number 710-029930-000

Audience

C and Fortran programmers

Contents

Read this manual to learn how to perform the following tasks:

- Insert performance monitoring routines into source code using `xinstrument`
- Use the CXtrace runtime performance monitoring library to measure and record aspects of program performance
- Use the `VK` (view kernel), `TV` (trace view) and `tally` tools to display program execution data

Supplementary Documentation

7

This chapter lists documentation for features and products that are part of SPP-UX.

Documentation about some of these topics is available from third-party sources; the availability of third-party documentation is indicated in the **Notes** section where applicable. A list of publishers of related books is provided in Appendix A.

The documentation listed in this section is not available through Convex.

The Ultimate guide to the `vi` and `ex` Text Editors

This book is a guide to the `vi` and `ex` text editors. It covers a range of topics from basic editing tasks to advanced topics.

Order Number

Hewlett-Packard 97005-90015

Audience

General users

Contents

Read this manual to learn how to perform the following tasks:

- Access the `vi` and `ex` text editors
- Start and end an edit session
- Create a new file
- Edit an existing file
- Save all or part of a text file
- Manipulate text within a file
- Undo mistakes
- Use text buffers
- Search for and replace text
- Display non-pronting control characters
- Work with files
- Merge and append text files
- Recover from errors
- Perform advanced editing

Notes

This book is published by Benjamin/Cummings Publishing Company, Inc, ISBN 0-8053-4460-8. Books on the topics covered in this manual are also available from other publishers.

Remote Access: User's Guide

This manual describes three facilities that allow users to remotely access a computer system: Kermit, UUCP, and `vt` (virtual terminal).

Order Number

Hewlett-Packard B1862-90011

Audience

General users

Contents

Read this manual to learn how to perform the following tasks:

- Communicate with a remote system directly or through a modem
- Communicate with a remote SPP-UX or non-SPP-UX system
- Transfer files to or from a remote system
- Execute commands on a remote system
- Create software that features access to a remote system

Notes

The section on the Kermit facility is not applicable to SPP-UX. Books on the topics covered in this manual arealso available from other publishers.

Mail Access: User's Guide

This manual describes two electronic mail facilities: `elm` and `mailx`.

Order Number

Hewlett-Packard B1862-90012

Audience

General users

Contents

Read this manual to learn how to perform the following tasks:

- Send and receive electronic messages
- Delete and save electronic messages
- Organize electronic messages
- Use aliases to simplify sending messages
- Select options and defaults for a mailer

Notes

Books on the topics covered in this manual are also available from other publishers.

Terminal Control: User's Guide

This manual describes three terminal control facilities: curses, ITE (internal terminal emulator), and Term0.

Order Number

Hewlett-Packard B1862-90013

Audience

General users and programmers

Contents

Read this manual to learn how to perform the following tasks:

- Use escape sequences and control codes to implement character enhancements
- Define user function keys
- Use escape sequences to position the cursor or assign colors
- Select and detect terminal characteristics from within software

Notes

This manual describes how terminal control utilities work on HP 9000 Series workstations. The utilities will work differently on other workstations and terminals, and are not available on some workstations.

Books on the topics covered in this manual are also available from other publishers.

Text Formatting: User's Guide

This manual describes the `nroff` text formatter and the `mm` and `tbl` formatting macro packages.

Order Number

Hewlett-Packard B1862-90014

Audience

General users

Contents

Read this manual to learn how to perform the following tasks:

- Use the `nroff` text formatting commands
- Use the `mm` memorandum formatting macros for `nroff`
- Use the `tbl` table preprocessor for `nroff`

Notes

Books on the topics covered in this manual are also available from other publishers.

Number Formatting: User's Guide

This manual describes three utilities for number processing:

bc - an arbitrary-precision desk-caculator language

bs - a utility for modest-sized, one-time programming tasks

dc - an interactive desk calculator

Order Number

Hewlett-Packard B1862-90015

Audience

General users

Contents

Read this manual to learn how to perform the following tasks:

- Perform simple arithmetic directly from the keyboard
- Perform standard trigonometric and exponential operations from the keyboard
- Define arithmetic functions
- Perform modest-sized, one-time, numeric programming tasks

Text Formatting: User's Guide

This manual describes three utilities for textprocessing:

awk - an arbitrary-precision desk-caculator language

ed - a utility for modest-sized, one-time programming tasks

sed - an interactive desk calculator

Order Number

Hewlett-Packard B1862-90016

Audience

General users

Contents

Read this manual to learn how to perform the following tasks:

- Invoke awk, ed, and sed
- Add, delete, and correct text
- Process data and text from files to create reports
- Manipulate columnar data
- Search files for character patterns
- Use shell secapes
- Write command scripts

Notes

Books on the topics covered in this manual are also available from other publishers.

Shells: User's Guide

This manual describes five user shell programs:

sh - The Bourne shell

csh - The C shell

ksh - The Korn shell

keysh - The HP Keyshell softkey interface for the Korn shell

pam - The HP Personal Applications Manager

Order Number

Hewlett-Packard B1862-90017

Audience

General users

Contents

Read this manual to learn how to perform the following tasks:

- Use the three basic shells: sh, csh, and ksh
- Use the keysh softkey interface
- Use pam, the Personal Applications Manager
- Execute a series of commands several times
- Redirect input and output
- Use pipes to connect the output of one program to the input of another
- Write shell scripts
- Customize your shell environment
- Use the command history buffer
- Use shell metacharacters

Notes

The sh, csh, and ksh shells are available to all users regardless of workstation or terminal type. The keysh and pam shells work only on HP 9000 Series workstations; you can use thses shells only if you are using an HP 9000 Series workstation running HP-UX.

Books about the sh, csh, and ksh shells are also available from other publishers.

FORTRAN/9000 Reference

This manual describes the HP FORTRAN/9000 programming language. It contains information on program optimization and porting to and from other FORTRAN 77 implementations.

Order Number

Hewlett-Packard B2408-90003

Audience

Fortran programmers

Contents

Read this manual to learn how to perform the following tasks:

- Learn FORTRAN/9000 features and requirements
- Learn the syntax and semantics of FORTRAN/9000
- Learn programming techniques in FORTRAN/9000
- Compile, link, run, debug, and optimize FORTRAN/9000 programs

Notes

The HP FORTRAN/9000 compiler is binary-compatible with SPP-UX. However, this compiler does not take advantage of the parallel processing and global memory features available in CONVEX Exemplar systems.

HP C/HP-UX Reference Manual

This manual describes the HP C/HP-UX programming language.

Order Number

Hewlett-Packard 92453-90024

Audience

C programmers

Contents

Read this manual to learn how to perform the following tasks:

- Write, modify, compile, and run HP C/HP-UX programs
- Identify HP C/HP-UX extensions to ANSI C
- Use HP C/HP-UX library functions
- Use HP C/HP-UX preprocessor directives
- Interpret diagnostic error messages
- Perform HP C/HP-UX code optimization

Notes

The HP C/HP-UX compiler is binary-compatible with SPP-UX. However, this compiler does not take advantage of the parallel processing and global memory features available in CONVEX Exemplar systems.

C Programming Tools

This manual provides a tutorial on some of the C language programming tools that are shipped with the HP C/HP-UX language product.

Order Number

Hewlett-Packard B1864-90009

Audience

C programmers

Contents

Read this manual to learn how to perform the following tasks:

- Use `lint`
- Use `lex`
- Use `yacc`

Notes

Books on the topics covered in this manual are also available from other publishers.

ADB Tutorial

This manual describes the Hewlett-Packard ADB debugger for core files and assembly language programs. ADB allows you to examine object files and core files that result from aborted programs, to print output files in a variety of formats, to patch files, and to run programs with embedded breakpoints.

Order Number

Hewlett-Packard 92432-90001

Audience

Assembly language programmers

Contents

Read this manual to learn how to perform the following tasks:

- Invoke ADB
- Use ADB interactively
- Display information
- Debug C programs
- Debug running processes

Notes

The ADB product analyzes core files created by programs compiled using one of the Hewlett-Packard compilers and core files created by Hewlett-Packard application programs. ADB does not work with core files created by programs compiled with the Convex compilers or with core files created by Convex application programs. (The Convex CXdb product works with both Convex and Hewlett-Packard format core files.)

Verdix Ada Documentation

Verdix provides a complete set of documentation for its HP Verdix Ada Development System (VADS). Convex customes who order the product from Verdix will receive a complete set of documentation from Verdix. Customers can order additional copies of the Ada documentation from Verdix.

Manual Titles

The Verdix Ada documentation set consists of the following:

- VADSself Documentation guide
- VADSself User's Guide
- VADSself Reference Guide
- VADSself Programmer's Guide
- VADSself Runtime System Guide
- VADSself Installation Guide
- VADSself Release Notes
- VADSself Quick Reference Card

Sun Open Boot Documentation

This documentation set describes the Sun Open Boot product. The Convex Open Boot firmware is based on the Sun Open Boot product; although there are differences in the details of the two implementations, the majority of the Sun documentation is applicable to the Convex version of Open Boot.

Manual Titles

- Open Boot PROM Architecture
- Open Boot Command Reference
- Open Boot Client Program Developer's Guide

Audience

System administrators, field engineers, and system programmers (device driver developers)

Notes

These manuals describe an implementation of Open Boot for Sun SPARC processors. The information about SPARC registers and other hardware features is not applicable to SPP-UX. The details of the Convex implementation of Open Boot are summarized in the *Convex Exemplar Open Boot Quick Reference* described in Chapter 2.

Copies of these manuals are available to Convex customers from the Convex Technical Assistance Center (TAC). See the Preface for information about how to contact the TAC.

Software Documentation Publishers

A

This appendix lists publishing companies that produce books on topics of interest to SPP-UX users.

Addison Wesley
One Jacob Way
Reading, MA 01867

Addison Wesley publishes the International Computer Science series dealing with UNIX®-related operating systems, programming languages, and networking.

Hayden Books
11711 North College
Carmel, IN 46032

The Hayden Books UNIX® System Library covers topics dealing with UNIX®-related operating systems and C language programming.

O'Reilly & Associates, Inc.
632 Petaluma Avenue
Sebastopol, CA 95472
1-800-338-6887

O'Reilly publishes the Nutshell Handbooks on topics dealing with UNIX®-related operating systems, as well as the X Window System series.

M&T Books
501 Galveston Drive
Redwood City, CA 94063
1-800-533-4372

M&T publishes technical books dealing with computer networking and computer languages.

PTR Prentice Hall
113 Sylvan Avenue
Englewood Cliffs, NJ 07632
201-592-2863

Prentice Hall publishes the Hewlett-Packard Professional Books series that covers topics related to the HP-UX operating system and Hewlett-Packard computer systems. Prentice Hall also publishes books dealing with operating systems, programming languages, and common applications programs.

ORDER NUMBER
DSW-851

DOCUMENT NUMBER
710-029130-000