HP-UX 11i December 2006 Release Notes

HP Servers and Workstations

Legal Notices

Publication History

This document is part of a series that describes what is new, changed, deprecated, or obsoleted in HP-UX 11i v1. Each document in this series pertains to the release date indicated in its title, and it describes the changes since the previous release of HP-UX 11i v1.[1]

Although the documents published prior to September 2005 are generally cumulative and include content published in prior editions, this is not the case starting with the September 2005 edition. From September 2005 on, the *HP-UX 11i v1 Release Notes* do not include changes documented in prior editions, except where they are summarized in Chapter 3, "What is New at a Glance," on page 37.

For the latest document in this series, see the HP-UX 11i v1 documentation on the Web at **http://docs.hp.com/en/oshpux11i.html**. The most recent documents in this series are also available on the Instant Information media.

To ensure that you receive new editions, you should subscribe to the appropriate product support service. See your HP sales representative for details.

Current Document in This Series

- *HP-UX 11i December 2006 Release Notes*, Edition 2, MPN 5992-2331

Previous Documents in This Series

- *HP-UX 11i December 2006 Release Notes*, Edition 1, MPN (retired)
- *HP-UX 11i September 2005 Release Notes*, MPN 5991-2814
- *HP-UX 11i December 2004 Release Notes*, MPN 5991-0671
- *HP-UX 11i June 2004 Release Notes*, MPN 5990-7288
- *HP-UX 11i December 2003 Release Notes*, MPN 5187-4505
- *HP-UX 11i September 2003 Release Notes*, MPN 5187-3612
- *HP-UX 11i June 2003 Release Notes*, MPN 5187-2783
- *HP-UX 11i March 2003 Release Notes*, MPN 5187-2255
- *HP-UX 11i December 2002 Release Notes*, MPN 5187-1841
- *HP-UX 11i September 2002 Release Notes*, MPN 5187-1361
- *HP-UX 11i June 2002 Release Notes*, MPN 5187-0172
- *HP-UX 11i March 2002 Release Notes*, MPN 5185-4391
- *HP-UX 11i December 2001 Release Notes*, MPN 5185-4304
- *HP-UX 11i September 2001 Release Notes*, MPN 5185-6522
- *HP-UX 11i June 2001 Release Notes*, MPN 5971-2229

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1. Note that the *HP-UX 11i Release Notes* for the initial release (December 2000) does not have a date in its title. It describes how the initial release of HP-UX 11i v1 compares to the last release of HP-UX 11.0.

- *HP-UX 11i Release Notes* (December 2000), MPN B3920-90091

HP Encourages Your Comments

Please direct comments regarding this guide to:

Hewlett-Packard Company
HP-UX Learning Products
3404 East Harmony Road
Fort Collins, Colorado 80528-9599

Or, use this Web form to send us feedback:

`http://www.docs.hp.com/en/feedback.html`

Typographic Conventions

We use the following typographical conventions.

audit (5)	An HP-UX manpage. *audit* is the name and *5* is the section in the *HP-UX Reference*. On the Web and on the Instant Information media, it may be a hot link to the manpage itself. From the HP-UX command line, enter "`man audit`" or "`man 5 audit`" to view the manpage. See *man* (1).
Book Title	The title of a book. On the Web and on the Instant Information media, it may be a hot link to the book itself.
Emphasis	Text that is emphasized.
Emphasis	Text that is strongly emphasized.
`ComputerOut`	Text displayed by the computer.
`Command`	A command name or qualified command phrase.
`Computer`	`Computer font` indicates literal items displayed by the computer. For example: `file not found`
`Filename`	Text that shows a filename and/or filepath.
`UserInput`	Commands and other text that you type.
`Variable`	The name of a variable that you may replace in a command or function or information in a display that represents several possible values.
[ ]	The contents are optional in formats and command descriptions.
{ }	The contents are required in formats and command descriptions. If the contents are a list separated by `|`, you must choose one of the items
...	The preceding element may be repeated an arbitrary number of times.

| Separates items in a list of choices.

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1 Overview of the Release Notes

What is in This Chapter?

The purpose of this chapter is to help you use these release notes along with related HP-UX documentation effectively. The following topics are covered in this overview:

- What is the Purpose of the HP-UX 11i December 2006 Release Notes? (see page 16)

- Where Should I Begin? (see page 17)

- Locating Release Notes for Other Versions of HP-UX (see page 18)

- Other Sources of Information about This Release (see page 19)

- What is in the Remaining Chapters? (see page 21)

What is the Purpose of the HP-UX 11i December 2006 Release Notes?

The *HP-UX 11i December 2006 Release Notes* describes what is new, has changed, or has been deprecated or obsoleted in the current update, as compared to the HP-UX 11i September 2005 Operating Environment update.

As with other HP-UX release notes, the *HP-UX 11i December 2006 Release Notes* does not completely document all the features of this release. Instead, it contains high-level information about what has changed, as well as pointers to more detailed operating system and product-specific documentation. Where appropriate, it also notes changes in the support of products. These release notes generally apply only to features that are delivered on the HP-UX 11i Operating Environments (OE) media and, where specified, the Software Pack (SPK) media.

For pointers to product-specific release notes, see the individual products documented elsewhere in this document. Additional product-specific release notes are often located in the `/opt` directory, in sub-directories named `[name]/newconfig/RelNotes` (where `name` represents the name of the product).

NOTE	The name of the initial HP-UX 11i release was simply "HP-UX 11i." Unlike its subsequent updates, it does not have a date in its name, although we may sometimes note parenthetically that it was released in December 2000.

Where Should I Begin?

This book is organized in such a way that you need only read Chapter 3, "What is New at a Glance," on page 37 for a quick overview of what is new, has changed, and has been deprecated or obsoleted in the current and previous releases of the HP-UX 11i v1 Operating Environments (OE) and Software Pack (SPK).

For further information about a particular item, you can go to the corresponding section in the remainder of the book or, if the item pertains to a previous release, to an earlier edition of this document.

NOTE   All features and products described in this document are delivered on the OE media, unless otherwise noted.

HP-UX system release notes can be found in the following locations:

- The HP-UX Instant Information media. See "HP-UX 11i v1 Instant Information Media" on page 20 for more information.

- At the Web site `http://docs.hp.com/en/oshpux11i.html`.

Be sure to consult the version most appropriate to your release. If you are concerned with just the initial (December 2000) release of HP-UX 11i, consult the *HP-UX 11i Release Notes*. If, on the other hand, you are concerned about an update of the initial release, then you should begin with the *Release Notes* version appropriate to that release. For instance, the *HP-UX 11i December 2006 Release Notes* would be most appropriate to the December 2006 update release.

For details on performing an installation, be sure to review the appropriate *HP-UX 11i Version 1 Installation and Update Guide* at the above Web site.

For critical, late-breaking cold-install and update issues not in the *HP-UX 11i Version 1 Installation and Update Guide*, you should also review the most recent media booklet, *Read Before Installing or Updating to HP-UX 11i Version 1*, which is also available at the above Web site.

NOTE   The most current version of these documents, as well as most HP documentation, can always be found at `http://www.docs.hp.com/`.

Locating Release Notes for Other Versions of HP-UX

Release notes for other versions of HP-UX are found in the following locations:

- HP-UX Instant Information media:

  See "HP-UX 11i v1 Instant Information Media" on page 20 for more information.

- The `/usr/share/doc/` directory of your HP-UX 11i v1 system:

  Please note, however, that the latest editions may not be contained in this directory and are instead located at the HP Documentation Web site.

- The HP Documentation Web site at `http://www.docs.hp.com/`:

  At the HP Documentation Web site, you will find the release notes pertinent to all previous releases of HP-UX, as well as release notes for various individual products:

  — HP-UX 11i v1.5: `http://docs.hp.com/en/hpuxos11iv1.5.html`

  — HP-UX 11i v1.6: `http://docs.hp.com/en/oshpux11iv1.6.html`

  — HP-UX 11i v2: `http://docs.hp.com/en/oshpux11iv2.html`

  See "The HP Documentation Web Site" on page 20 for more information.

Other Sources of Information about This Release

In addition to these release notes, you have many other sources of information related to the HP-UX 11i v1 release available to you on the Web at

`http://docs.hp.com/en/oshpux11i.html`

The following documents, which are found at the above Web site, may be of particular interest:

Read Before Installing or Updating to HP-UX 11i Version 1

HP-UX 11i Version 1 Installation and Update Guide

HP-UX 11i Version 1 Reference

Ignite-UX Administrator's Guide

Patch Management User Guide for HP-UX 11.x Systems

Software Distributor Administrator's Guide

Software Package Builder 2.0 Users Guide for HP-UX 11i v1 and 11i v2

HP-UX System Partitions Guide: Administration for nPartitions

*Managing Systems and Workgroup*s: This document provides simple, reliable guidelines and recipes for managing and administrating multi-system workgroups, as well as covering the basics of single-system administration.

Some or all of these documents are available on the Instant Information media and in printed form.

Of additional interest is the *HP-UX Networking Ports Reference Guide*, which can be found in the "I/O Cards and Networking Software" section of `http://docs.hp.com`:

Additionally, the following Web sites may be of interest in obtaining a variety of information regarding the HP-UX 11i v1 release:

Application Availability Matrix: `http://hp.com/go/softwareinfo/MATRIX`

HP 9000 Server Family Overview:
`http://www.hp.com/products1/servers/HP9000_family_overview.html`

Enterprise Servers, Workstations, and Systems Hardware Documentation:
`http://docs.hp.com/hpux/hw/`

Product Manuals:
`http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp?locale=en_US&contentType=SupportManual&docIndexId=179166`

HP Software Depot: `http://hp.com/go/softwaredepot` (note URL has changed)

HP Software Releases and Media:
`http://www.hp.com/softwarereleases/releases-media2/index.html`

Software Transition Kit and Software Solutions: `http://hp.com/go/STK`

IT Resource Center (ITRC): `http://itrc.hp.com`

Developer & Solution Partner Program (DSPP): `http://www.hp.com/dspp`

Development Resource Central: `http://devresource.hp.com`

The HP Documentation Web Site

The HP Documentation Web site provides the latest HP-UX documentation and updates. The site is found at

`http://www.docs.hp.com/`

HP-UX 11i v1 Instant Information Media

The Instant Information media provides HP-UX documentation. With this media, you can view documentation supporting the release before you install the software. The Instant Information media provides improved online presentation, print quality, and search capabilities.

HP-UX 11i Home Page

The HP-UX 11i Home page, "HP-UX 11i, the Proven Foundation for the Adaptive Enterprise," provides links to a wide variety of information about HP-UX 11i, including the HP-UX Information Library, the Software Depot, and the IT Resource Center, as well as information about hardware, operating environment services, and training courses. The page is found at

`http://www.hp.com/products1/unix/operating/index.html`

HP-UX Welcome Page

The HP-UX Welcome Page on your HP-UX 11i v1 system provides pointers to information that will help you use your HP-UX system.

Manual Pages

For the HP-UX 11i v1 release, the manual pages (manpages) are available on the HP-UX Welcome Page of your system, on the Instant Information media under the title *HP-UX Reference*, through the use of the `man` command, and on the Web at

`http://docs.hp.com/hpux/os/man_pages.html`

README Documents

README (or *Read Before Installing*) documents are booklets that contain information about the installation process that may not appear in the *HP-UX 11i Version 1 Installation and Configuration Guide*. Any product contained in the release may have a README document, so several README documents may be included. The README document specific to HP-UX 11i v1 is included with your media kit.

White Papers on HP-UX

White papers associated with the HP-UX 11i v1 release are available at

`http://docs.hp.com/en/oshpux11i.html`

Other white papers, including an HP-UX 11i v1 overview, can be found at the HP-UX Information Library at

`http://www.hp.com/products1/unix/operating/infolibrary/index.html`

What is in the Remaining Chapters?

The remaining chapters of these release notes are as follows:

- Chapter 2, "Introduction to HP-UX 11i Version 1," on page 23, provides an overview of the five Operating Environments, along with information about Software Pack and about compatibility issues.

- Chapter 3, "What is New at a Glance," on page 37, furnishes a quick overview of what is new, has changed, or has been deprecated or obsoleted in this and previous releases of HP-UX 11i v1.

- Chapter 4, "Workstation- and Server-Specific Information," on page 77, presents information regarding supported systems, networking and mass storage cards and drivers, as well as other information that is server- or workstation-specific.

- Chapter 5, "General System Administration," on page 99, includes information of particular interest to system administrators.

- Chapter 6, "Disk and File Management," on page 131, presents information regarding directory, file system, and disk management.

- Chapter 7, "Internet and Networking," on page 137, covers changes to networking functionality and Internet services.

- Chapter 8, "Security," on page 147, covers changes and enhancements to security services.

- Chapter 9, "Commands and System Calls," on page 153, includes information about new and changed commands and system calls.

- Chapter 10, "Libraries and Programming," on page 155, provides information of particular interest to programmers, including changes to compilers, editors, and libraries.

- Chapter 11, "Internationalization," on page 159, presents information about text fonts and converters relating to various international languages.

- Chapter 12, "Other Functionality," on page 161, includes additional applications or functionality in the Operating Environments.

2 Introduction to HP-UX 11i Version 1

What is in This Chapter?

This chapter provides an introduction to HP-UX 11i v1, along with an overview of the five Operating Environments and the features delivered on the Software Pack media. Also included is information about compatibility issues.

Welcome to HP-UX 11i v1 December 2006

With HP-UX 11i, HP delivers a highly available, secure, and manageable operating system that meets the demands of end-to-end Internet-critical computing. HP-UX 11i supports enterprise, mission-critical, and technical computing environments. HP-UX 11i versions 1 and 2 are available on PA-RISC systems and HP-UX 11i version 2 is available on Itanium®-based systems.

HP-UX 11i v1 provides new hardware enablement, additional software functionality, and various HP-UX applications bundled into **Operating Environments**: integrated and tested software solutions containing the operating system and selected applications.

The performance of HP servers and applications with the HP-UX 11i v1 Operating Environments is as good or better as compared to HP-UX 11.0 installed in the same configuration. It must be kept in mind, however, that in the vast majority of cases, HP-UX is likely to be installed as part of one of the predefined HP-UX 11i Operating Environments.

The HP-UX 11i v1 Operating Environments provide numerous benefits, including lower cost as well as simplification of product ordering, installation, integration, and support. While the HP-UX 11i v1 Operating Environments provide these desirable benefits, they all involve more software components and daemons than a base HP-UX 11.0 or HP-UX 11i operating system. Because of this, an Operating Environment may have somewhat greater system overhead compared to a base operating system installation. This increase in system overhead, while modest, can nevertheless make it erroneously appear that system and application performance are degraded with HP-UX 11i v1 as compared to HP-UX 11.0. In fact, performance with HP-UX 11i v1 is generally better than HP-UX 11.0 when the software configurations are the same.

While not recommended, one of the options for installing HP-UX 11i v1 is as a base operating system only, without an Operating Environment. Installing HP-UX 11i v1 as a base operating system will give the greatest performance and the lowest system overhead but eliminates the advantages provided by the HP-UX 11i Operating Environments.

For more information on the Operating Environments, see "HP-UX 11i v1 Operating Environments" on page 27.

For information on disk and memory requirements, consult the *HP-UX 11i Installation and Update Guide*, available in the media kit, on the Instant Information media, and at the HP Documentation Web site at `http://docs.hp.com/en/oshpux11i.html`.

HP-UX 11i Release Names and Release Identifiers

Each HP-UX 11i release has an associated release name and release identifier. The following table shows the releases available for HP-UX 11i:

Table 2-1 **HP-UX 11i Releases**

Release Name	Release Identifier	Supported Processor Architecture
HP-UX 11i v1	B.11.11	PA-RISC
HP-UX 11i v1.5	B.11.20	Intel® Itanium®
HP-UX 11i v1.6	B.11.22	Intel® Itanium®
HP-UX 11i v2	B.11.23	Intel® Itanium® PA-RISC[a]

   a. PA-RISC is supported on HP-UX 11i v2 starting with the September 2004 release.

The *uname* (1) command with the `-r` option returns the release identifier.

You can also determine the update release date and the Operating Environment by entering the following:

```
# swlist | grep HPUX11i
```

The resulting output will list the current release identifier, update release date, and Operating Environment. For example:

```
HPUX11i-OE-Ent B.11.11.0509 HP-UX Enterprise Operating Environment
Component
```

The above revision string represents the following:

`B.11.11` = HP-UX 11i v1

`0509` = September 2005 Update Release

HP-UX 11i v1 Software and Driver Bundle Types

The HP-UX 11i v1 media contains all of the software and network driver bundles for your system to run the latest version of HP-UX 11i v1. Additional software and network driver bundles are included, which you may choose to either select or de-select prior to install or update. HP-UX 11i v1 contains three types of bundles:

- **Always-Installed**: Software and network driver bundles required by HP-UX 11i v1, as well as other always-installed bundles that are included as part of an operating environment. Examples include the core OS bundles, some software bundles, and some network and mass-storage drivers.

- **Default-Installed**: Software bundles that are installed by default. You can manually de-select the bundles before you install or update a system. Examples include Mozilla Application Suite and the HP-UX Web Server Suite bundles.

- **Selectable**: Software bundles that are *not* installed or updated by default. You must manually select these bundles before you install or update your system. Examples include Ignite-UX and HP Pay per use.

For a detailed list of the always-installed, default-installed, and selectable bundles, see Appendix C of the *HP-UX 11i Version 1 Installation and Update Guide*, available at `http://docs.hp.com/en/oshpux11i.html`.

In the following section, "HP-UX 11i v1 Operating Environments" on page 27, products are listed according to their bundle type.

HP-UX 11i v1 Operating Environments

Overview

Operating Environments (OEs) are tested and integrated application bundles designed to work with the operating system and provide the functionality needed for your system's purpose. The following lists the currently available HP-UX 11i v1 OEs:

- **HP-UX 11i v1 Foundation OE (FOE)** — Designed for the demands of Web servers, content servers and front-end servers, this OE includes applications such as HP-UX Web Server Suite and Mozilla Application Suite. This OE is bundled as `HPUX11i-OE`. For more details, see "HP-UX 11i v1 Foundation Operating Environment" on page 28.

- **HP-UX 11i v1 Enterprise OE (EOE)** — Designed for database application servers and logic servers, this OE contains the HP-UX 11i v1 Foundation OE bundles and additional applications such as GlancePlus Pak to enable an enterprise-level server. This OE is bundled as `HPUX11i-OE-ENT`. For more details, see "HP-UX 11i v1 Enterprise Operating Environment" on page 30.

- **HP-UX 11i v1 Mission Critical OE (MCOE)** — Designed for the large, powerful back-end application servers and database servers that access customer files and handle transaction processing, this OE contains the Enterprise OE bundles, plus applications such as HP Serviceguard and HP-UX Workload Manager to enable a mission-critical server. This OE is bundled as `HPUX11i-OE-MC`. For more details, see "HP-UX 11i v1 Mission Critical Operating Environment" on page 30.

- **HP-UX 11i v1 Minimal Technical OE (MTOE)** — Designed for workstations running HP-UX 11i v1, this OE includes the Mozilla Application Suite, Perl, Technical System Configuration (TechSysConf), and VERITAS Volume Manager (VxVM). This OE is bundled as `HPUX11i-MTOE`. For more details, see "HP-UX 11i v1 Minimal Technical Operating Environment" on page 31.

- **HP-UX 11i v1 Technical Computing OE (TCOE)** — Designed for both compute-intensive workstation and server applications, this OE contains the MTOE bundles plus extensive graphics applications and Math Libraries. This OE is bundled as `HPUX11i-TCOE`. For more details, see "HP-UX 11i v1 Technical Computing Operating Environment" on page 32.

The following table details the supported OEs for HP Servers and Workstations:

Table 2-2   Supported Operating Environments for Servers and Workstations

	FOE	EOE	MCOE	MTOE	TCOE[a]
HP Commercial Servers	X	X	X		X
HP Workstations				X	X

a. Can be purposed as either a workstation or compute-intensive technical server.

HP-UX 11i v1 Foundation Operating Environment

The HP-UX 11i v1 Foundation Operating Environment is the standard OE from which the Enterprise OE and Mission Critical OE have been derived by adding appropriate applications. The HP-UX 11i v1 Foundation OE includes the base 64-bit HP-UX operating system, plus the following features. (For an overview of the features that are new or have changed in this release, see Chapter 3, "What is New at a Glance," on page 37.)

Always-Installed Features[1]

- Bundle11i
- Event Monitoring Service
- FEATURE11-11
- FDDI-00
- FibrChanl-00
- FibrChanl-01
- Gigabit Ethernet (GigEther-00, GigEther-01, and IEther-00)
- HP CIFS Client
- HP CIFS Server
- HP Instant Capacity (iCAP, formerly iCOD)
- HP WBEM Services for HP-UX
- HP-UX WBEM Fibre Channel Provider
- HP-UX WBEM IOTree Provider
- HP-UX WBEM LAN Provider for Ethernet Interfaces
- HP-UX WBEM LVM Provider
- HP-UX WBEM SCSI Provider
- HP-UX Peripheral Device Tool
- HWEnable11i
- Judy Libraries
- Logical Volume Manager (LVM)
- nPartition Provider
- ObAM
- Obsolescence Bundle
- Online Diagnostics
- OpenSSL
- PAM Kerberos
- PRMKernelSW
- PRMLibraries
- RAID-00
- RAID-01
- scsiU320-00
- Software Distributor (SD)
- SWGETTOOLS
- System Administration Manager (SAM)
- System Fault Management
- Update-UX
- VERITAS File System (base VxFS/JFS)
- VERITAS Volume Manager (base VxVM)

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1. For definitions of *always-installed*, *default-installed*, and *selectable*, see "HP-UX 11i v1 Software and Driver Bundle Types" on page 26.

Default-Installed Features

- Enhanced NPartition Commands
- Firefox
- Firefox Source
- GTK
- GTK Source
- GTK+ Libraries
- HP Global Workload Manager
- HP System Management Homepage
- HP-UX Secure Shell
- HP-UX Software Development Kit and Runtime Environment for the Java™ Standard Edition Platform
- HP-UX Web Server Suite (including HP-UX Apache-based Web Server, HP-UX Tomcat-based Servlet Engine, HP-UX Webmin-based Admin, and HP-UX XML Web Server Tools)
- Instant Support Enterprise Edition (ISEE) (Servers only)
- Java Technology for HP-UX Add-on Standard C++ Runtime libraries
- Mozilla Application Suite
- Mozilla Source
- Partition Manager
- Perl
- Runtime Plug-in (JPI) for HP-UX
- Thunderbird
- Thunderbird Source
- Utilization Provider
- vPar Provider

Selectable Features

- 10GigEthr-00
- 100BaseT-00
- 100BaseT-01
- ATM-00
- ATM-01
- FDDI-01
- FDDI-02
- FDDI-03
- HP Pay per use
- HP Systems Insight Manager
- HP-UX Host Intrusion Detection System (HIDS) (servers only; not included in the MTOE or TCOE)
- HP-UX IPFilter (servers only)
- HP-UX Install Utilities
- HyprFabrc-00
- Ignite-UX
- Java Out of Box Tunable
- Netscape Directory Server v6
- PCIMUX-00
- Red Hat Directory Server for HP-UX v7
- Software Package Builder
- TermIO-00 (PCI MUX)
- TermIO-01
- TokenRing-00

- TokenRing-01
- TokenRing-02

HP-UX 11i v1 Enterprise Operating Environment

The HP-UX 11i v1 Enterprise Operating Environment is targeted especially for database application servers and logic servers. In addition to the features found in the HP-UX 11i v1 Foundation OE (described on page 28), the Enterprise OE includes the following additional features. (For an overview of the features that are new or have changed in this release, see Chapter 3, "What is New at a Glance," on page 37.)

Always-Installed Features[1]

- GlancePlus Pak
- High Availability Monitors
- HP Process Resource Manager
- MirrorDisk/UX
- VERITAS File System (full VxFS/OnlineJFS)

Default-Installed Features

- See "HP-UX 11i v1 Foundation Operating Environment" on page 28

Selectable Features

- See "HP-UX 11i v1 Foundation Operating Environment" on page 28

HP-UX 11i v1 Mission Critical Operating Environment

The HP-UX 11i v1 Mission Critical Operating Environment is a high-availability Operating Environment for HP servers. In addition to the features found in the Foundation and Enterprise OEs, the Mission Critical OE includes the following features. (For an overview of the features that are new or have changed in this release, see Chapter 3, "What is New at a Glance," on page 37.)

Always-Installed Features[1]

- Enterprise Cluster Master Toolkit
- HP Serviceguard
- HP Serviceguard NFS Toolkit
- Cluster Object Manager
- HP-UX Workload Manager
- HP-UX Workload Manager Toolkits

Default-Installed Features

- See "HP-UX 11i v1 Foundation Operating Environment" on page 28

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1. For definitions of *always-installed*, *default-installed*, and *selectable*, see "HP-UX 11i v1 Software and Driver Bundle Types" on page 26.

Selectable Features

• See "HP-UX 11i v1 Foundation Operating Environment" on page 28

HP-UX 11i v1 Minimal Technical Operating Environment

The Minimal Technical Operating Environment is the smallest and most fundamental OE that is defined specifically for HP workstations. It exists to offer an HP-UX 11i v1 solution to the customer who is interested in a low-cost HP Workstation and a correspondingly basic Operating Environment. The Minimal Technical OE is directed to the Workstation OEM market and to those customers for whom the Technical Computing OE is not a suitable solution.

The Minimal Technical OE contains all the base functionality that is common to the other four OEs, including the base 64-bit HP-UX operating system, network drivers, and some of the other always-installed features. However, compared to the Technical Computing OE, the set of additional features is greatly reduced.

The HP-UX 11i v1 Minimal Technical OE includes the following features. (For an overview of the features that are new or have changed in this release, see Chapter 3, "What is New at a Glance," on page 37.)

Always-Installed Features[1]

• Bundle11i
• Event Monitoring Service
• FEATURE11-11
• FDDI-00
• FibrChanl-00
• FibrChanl-01
• Gigabit Ethernet (GigEther-00, GigEther-01, and IEther-00)
• Graphics and Technical Computing bundle
• HP Instant Capacity (iCAP, formerly iCOD)
• HP WBEM Services for HP-UX
• HP-UX Peripheral Device Tool
• HP-UX WBEM Fibre Channel Provider
• HP-UX WBEM IOTree Provider
• HP-UX WBEM LAN Provider for Ethernet Interfaces
• HP-UX WBEM LVM Provider
• HP-UX WBEM SCSI Provider
• HWEnable11i
• Judy Libraries
• Logical Volume Manager (LVM)
• nPartition Provider
• ObAM
• Obsolescence Bundle
• Online Diagnostics
• OpenSSL
• RAID-00
• RAID-01

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1. For definitions of *always-installed*, *default-installed*, and *selectable*, see "HP-UX 11i v1 Software and Driver Bundle Types" on page 26.

- Technical System Configuration (TechSysConf)
- scsiU320-00
- Software Distributor (SD)
- SWGETTOOLS
- System Administration Manager (SAM)
- System Fault Management
- Update-UX
- VERITAS File System (base VxFS/JFS)
- VERITAS Volume Manager (base)

Default-Installed Features

- See "HP-UX 11i v1 Foundation Operating Environment" on page 28

Selectable Features

- See "HP-UX 11i v1 Foundation Operating Environment" on page 28

HP-UX 11i v1 Technical Computing Operating Environment

Like the Minimal Technical Operating Environment, the Technical Computing Operating Environment contains all the base functionality that is common to the other four OEs, including the base 64-bit HP-UX operating system, network drivers, and other always-installed functionality. While it is *not* a superset of the Foundation OE, it *is* a superset of the Minimal Technical OE. Unlike the Minimal Technical OE, however, the Technical Computing OE is available on both technical servers and workstations.

In addition to the features found in the Minimal Technical OE, the HP-UX 11i v1 Technical Computing OE includes the following features. (For an overview of the features that are new or have changed in this release, see Chapter 3, "What is New at a Glance," on page 37.)

Always-Installed Features[1]

- HP 3D Technology for the Java™ 2 Standard Edition Platform
- HP CIFS Client
- HP CIFS Server
- HP MLIB
- HP MPI
- PAM Kerberos
- Runtime Plug-in (JPI) for HP-UX
- Visual Conference

Default-Installed Features

- See "HP-UX 11i v1 Foundation Operating Environment" on page 28

Selectable Features

- See "HP-UX 11i v1 Foundation Operating Environment" on page 28

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1. For definitions of *always-installed*, *default-installed*, and *selectable*, see "HP-UX 11i v1 Software and Driver Bundle Types" on page 26.

Software Pack (Optional HP-UX 11i v1 Core Enhancements)

The HP-UX 11i v1 Software Pack (SPK) media contains optional core enhancements for HP-UX 11i v1.

The SPK media is included in the HP-UX 11i v1 media kit. You can also download SPK from HP's Software Depot:

- Go to

    `http://www.hp.com/go/softwaredepot`

- Search for "SWPACK."

- Click "HP-UX Software Pack (Optional HP-UX 11i v1 Core Enhancements)." At this site, you can read descriptions of specific products, as well as download them.

Product notes for individual features can also be found in the `docs` directory on the SPK media.

The December 2006 release of SPK delivers the following features. For more information, see the indicated pages:

- Enhanced AutoFS (see page 132)

- HP-UX Enhanced Publickey-LDAP (see page 139)

- PAM-Requisite (see page 151)

HP-UX 11i v1 Compatibility

Compatibility from HP-UX 11.0 to 11i

HP has a long record of providing HP-UX compatibility. Because it protects your investment and allows you to upgrade easily, compatibility is an important feature that HP has always recognized and that HP customers have come to expect.

Compatibility requirements span across HP-UX products to third-party products as well. All third-party products (and those products they call) are equally important components in the complete customer environment. Customer solutions often have complex, multiple chains of dependent applications spanning the entire range of HP-UX products as well as third-party products. One broken link in the chain of dependencies may result in an application that no longer works. Support for the unbroken string of compatibility on HP-UX is one of the biggest and best benefits provided by HP.

HP-UX supports forward compatibility from 11.0 to 11i. This section describes what this means for executable applications, object files, source files, data, and libraries. Compatibility exceptions, including exceptions pertaining to Superdome systems, are discussed in Chapter 14, "Compatibility," in the *HP-UX 11i December 2004 Release Notes* (and previous editions), available at `http://docs.hp.com/en/oshpux11i.html`.

The following types of compatibility are supported from 11.0 to 11i for well-behaved applications:

- Binary compatibility
- Source compatibility
- Data compatibility
- Relocatable object compatibility
- Upgrade compatibility

(For known exceptions to compatibility from HP-UX 11.0 to 11i, see "Known Compatibility Exceptions from HP-UX 11.0 to 11i" in the *HP-UX 11i December 2004 Release Notes* [and previous editions].)

A well-behaved application adheres to the following characteristics:

- Uses only documented, public APIs
- Adheres to the required practices that are specifically documented
- Does not use documented features that are specifically described as having platform, architecture, or configuration limitations
- Does not decompose an HP-UX product and then reuse the results of the decomposition

Binary Compatibility

An application that has run on HP-UX 11.0 will continue to run with the same behavior on 32-bit and 64-bit HP-UX 11i. This includes executables, binary files that have been processed by the HP link editor with `ld` or indirectly with the compiler, and can be run by the HP-UX loader (`exec`).

Source Compatibility

Software that has been compiled on an HP-UX 11.0 release can be recompiled without change on HP-UX 11i. The term source includes input source to compilers, scripts, and makefiles.

Data Compatibility

An application can continue to access persistent data files (such as system files, backup/recovery formats, and HP-documented data formats) via supported APIs in the same manner as the previous release. For example, applications should access the password file information via getpwent() rather than directly reading the file in order to maintain data compatibility.

Relocatable Object Compatibility

A relocatable object can be a file (.o), shared library (.sl), or an archive library (.a). Several types of object relocatable compatibility are below (note that some executables are not supported):

Release-to-release relocatable object binary compatibility: If an executable is created by linking with forward-compatible, relocatable objects from different releases—or by using shl_load() and dlopen() to dynamically load shared libraries built on a different release—than the application is only supported from HP-UX 11.0 to 11i.

However, linking pre-HP-UX 11.0 libraries and HP-UX 11.0 and 11i libraries in one relocatable object/executable is not supported.

CAUTION   Even though the linker will permit the linking of pre-HP-UX 11.0 libraries and HP-UX 11.0 and 11i libraries in one relocatable object/executable (and will not exhibit any warning or error messages), the executable may exhibit incorrect behavior.

Archive and shared relocatable object compatibility: An executable that is created by linking with a shared library that has dependencies on an archive library (a situation that typically occurs when linking with archive system libraries) is not supported.

Data model relocatable object compatibility: An executable created by linking with a mixture of 32-bit and 64-bit objects is not supported. The loader will not permit this.

Upgrade Compatibility

Customized configurations and data from HP-UX 11.0 are preserved upon installation and upgrade to HP-UX 11i.

Compatibility Issues or Exceptions in HP-UX 11i v1 December 2006

Compatibility issues or exceptions have been noted for the following products or features that have been updated in December 2006. For details, see the indicated pages.

For documentation of compatibility issues or exceptions in previous updates to HP-UX 11i v1, see the previous editions of the *HP-UX 11i Release Notes*, available at `http://docs.hp.com/en/oshpux11i.html`.

- Utilization Provider (see page 114)
- PAM-Requisite (see page 151)
- Perl (see page 157)

Support of Products

For information about the support of products not listed in elsewhere in this document, refer to the product's individual documentation, which may be found at the following locations:

- HP Technical Documentation: `http://docs.hp.com`
- HP Software Depot: `http://hp.com/go/softwaredepot`
- IT Resource Center: `http://itrc.hp.com`.

3 What is New at a Glance

What is in This Chapter?

This chapter provides a quick overview of what is new, has changed, and has been deprecated or obsoleted in each HP-UX 11i v1 release. For further details, see the cross-referenced pages in the remainder of this book or, as noted, in previous editions.

What is New in the December 2006 Release?

The following summaries will give you a general picture of how the December 2006 release of HP-UX 11i v1 differs from the September 2005 release of HP-UX 11i v1.

For further information, see the indicated sections in the remainder of this document.

Chapter 2: Introduction to HP-UX 11i Version 1 (see page 23)

- Software Pack: For December 2006, delivers new and updated optional core enhancements for HP-UX 11i v1, including HP-UX Enhanced Publickey-LDAP, PAM-Requisite, and Enhanced AutoFS. (See "Software Pack (Optional HP-UX 11i v1 Core Enhancements)" on page 33.)

Chapter 4: Workstation- and Server-Specific Information (see page 77)

- Graphics and Technical Computing bundle: Supports OpenGL 1.3 and GLX 1.3 on the ATI FireGL X1, T2, and X3 graphics cards. (See "Graphics and Technical Computing Software" on page 78.)

- Hardware Enablement (HWE): Updated to pre-enable HP-UX support for new I/O adapters and servers. (See "Hardware Enablement" on page 79.)

- HP Instant Support Enterprise Edition: Updated to version A.03.95.500.41 to incorporate defect fixes. (See "HP Instant Support Enterprise Edition" on page 80.)

- Networking and Mass Storage Drivers (see page 81)

  — `IEther-00` bundle: `IEther-00` has been updated to version is 11.11.13 to pre-enable future technology. (See "Gigabit Ethernet" on page 83.)

  — `FibrChanl-00`: Updated to version B.11.11.13 to incorporate defect fixes. (See "FibrChanl-00 (HP PCI Tachyon TL/TS/XL2 Fibre Channel Driver)" on page 88.)

  — `FibrChanl-01`: Updated with quality and diagnostic improvements. (See "FibrChanl-01" on page 89.)

  — **New:** `PCIMUX-00`: Added to support AD278A and AD279A cards. (See "PCIMUX-00" on page 85.)

  — `RAID-01`: Updated with quality and diagnostic improvements and defect fixes. (See "RAID-01" on page 89.)

  — `scsiU320-00`: Updated with quality and diagnostic improvements and defect fixes. (See "scsiU320-00" on page 90.)

- Utility Pricing Solutions (see page 95)

  — HP Instant Capacity: Updated to version B.11.11.08.01. Includes modifications to the installation procedure, incorporates changes to GiCAP grouping rules and icapstatus command output, and incorporates several defect fixes. (See "HP Instant Capacity" on page 95.)

  — HP Pay per use: Updated to B.11.11.08.00.01. Named changed from Pay Per Use; supports Integrity Virtual Machines Environment; now requires NParProvider version B.12.01.06.01 or greater; includes defect fixes. (See "HP Pay per use" on page 96.)

Chapter 5: General System Administration (see page 99)

- Enterprise Cluster Master Toolkit: Updated to version B.04.00 with support for Serviceguard 11.17.01 (non-CFS) for Tomcat and Oracle 10g R2, and defect fixes. (See "Enterprise Cluster Master Toolkit" on page 101.)

- Event Monitoring Service (EMS): Enhanced to send WBEM indications that can be viewed from the EVWEB tool. Bundle name changed from `B7609BA` to `EventMonitoring`. (See "Event Monitoring Service" on page 101.)

- High Availability Monitors: Updated to support update of the Event Monitoring Service. (See "High Availability Monitors" on page 102.)

- HP OpenView GlancePlus Pak: Updated to version C.04.50. Dependency of `ttd` to have `rpcbind` or `portmap` running has been eliminated; OVPA supports both HTTP and HTTPS-based single port communication; includes new metrics; and other changes, including defect fixes. (See "HP OpenView GlancePlus Pak" on page 103.)

- HP Partitioning and Virtual Server Environment (see page 105)

  — Enhanced nPartition Commands: Enhanced to support Hyper-Threading enablement/disablement on supported platforms; feature can be used for remote management of 11i v2 systems. (See "Enhanced nPartition Commands" on page 105.)

  — Global Workload Manager: Support for Linux managed nodes, Windows virtual machine guests, nested partitions, new `gwlm` commands and options, and more. (See "HP Global Workload Manager" on page 106.)

  — HP Process Resource Manager: Updated to version C.03.02. Integrated with HP System Management Homepage, enhanced with ability to map Unix groups to PRM groups, cap PRM group CPU consumption on a per-group basis, use extended regular expressions in alternate names for application records, and more. (See "HP Process Resource Manager" on page 108.)

  — HP-UX Workload Manager: Updated to version A.03.02 with ability to map Unix groups to workload groups, extended regular expressions in alternate names for application records, enhancements to `wlminfo` output, and more. (See "HP-UX Workload Manager" on page 109.)

  — HP-UX Workload Manager Toolkits: Updated to version A.01.10. Pay Per Use Toolkit has been removed. Bundle name changed from `T1302AA` to `WLMToolkits`. (See "HP-UX Workload Manager Toolkits" on page 110.)

  — nPartition Provider: Updated to version B.12.01.07.01 to incorporate defect fixes and add support for WBEM Services 2.5. Bundle name changed from `nPar` to `nParProvider`. (See "nPartition Provider" on page 111.)

  — Partition Manager (`parmgr`): Updated to version B.12.02.02.02. Changes include support for the HP-UX Peripheral Device Tool (`pdweb`) to display details about I/O slots and support for servers based on the HP sx2000 chipset, including Superdome. (See "Partition Manager (parmgr)" on page 111.)

  — **New:** PRMKernelSW: Version number for PRMKernelSW is C.03.02. Version number for `PRM-Sw-Krn` fileset remains C.01.04. The only change is that the fileset is now in PRMKernelSW. Bundle name changed from `B7697BA` to `PRMKernelSW`. (See "PRMKernelSW" on page 112.)

  — **New:** PRMLibraries: Version C.03.02 now contains the PRM API. (See "PRMLibraries" on page 113.)

— **New:** Utilization Provider: Updated to version A.01.04.02.00 to include defect fixes. (See "Utilization Provider" on page 114.)

— vPar Provider: Bundle name changed from `vparprovider` to `vParProvider`. (See "vPar Provider" on page 115.)

- HP System Management Homepage: Updated to version A.2.2.5 to incorporate defect fixes. (See "HP System Management Homepage" on page 115.)

- HP Systems Insight Manager: Updated with support for HP BladeSystem C-Class blade and enclosure, delivery of the HP BladeSystem Integrated Manager 2.1, and other changes, including defect fixes. Bundle name changed from `T2414AA` to `HPSIM-HP-UX`. (See "HP Systems Insight Manager" on page 116.)

- HP WBEM Services for HP-UX: Updated to version A.02.05. This major update includes association providers, internationalization support for CIM operations, CIM schema upgrade, out-of-process support, and other features. Bundle name changed from `B8465BA` to `WBEMSvcs`. (See "HP WBEM Services for HP-UX" on page 118.)

- **New**: HP-UX Peripheral Device Tool: Delivers a Web-enabled GUI that steps system administrators through the entire process of card addition/replacement. It operates in a single-system environment. (See "HP-UX Peripheral Device Tool" on page 119.)

- **New**: HP-UX WBEM Fibre Channel Provider (`FCProvider`): Is a HP-UX WBEM provider that enables client applications to get information about HP-UX Fibre Channel host-bus adapters (HBAs) available on the system. (See "HP-UX WBEM Fibre Channel Provider" on page 120.)

- **New**: HP-UX WBEM IOTree Provider (`IOTreeProvider`): Is a HP-UX WBEM provider that enables client applications to get information about PCI subsystem in the HP-UX server. (See "HP-UX WBEM IOTree Provider" on page 121.)

- **New**: HP-UX WBEM LAN Provider for Ethernet Interfaces: Client applications can use this provider to determine all Ethernet LAN links available on the system (registered and known to HP-UX DLPI) and collect information about them. (See "HP-UX WBEM LAN Provider for Ethernet Interfaces" on page 122.)

- **New**: HP-UX WBEM LVM Provider (`LVMProvider`): Is a HP-UX WBEM provider that enables client applications to get information about HP-UX LVM subsystem in the HP-UX. (See "HP-UX WBEM LVM Provider" on page 123.)

- **New**: HP-UX WBEM SCSI Provider (`SCSIProvider`): Is a HP-UX WBEM provider that enables client applications to get information about HP-UX SCSI host-bus adapters (HBAs) available on a system. (See "HP-UX WBEM SCSI Provider" on page 124.)

- Ignite-UX: Updated to version C.6.10.x with improvements in integration with HP System Insight Manager, support for the use of a fifth CD in the CD installation process, and support for new hardware. (See "Ignite-UX" on page 124.)

- MySQL: Obsolete; will be removed by HP Systems Insight Manager upon installation. (See "HP Systems Insight Manager" on page 116.)

- Online Diagnostics (see page 125)

  — Online Diagnostics: Enabled for HP sx2000 chipset and supports new cards. (See "Online Diagnostics" on page 126.)

— **New:** System Fault Management: Collection of tools used to monitor the health of HP servers and receive information about hardware such as memory, CPU, power supplies, and cooling devices. (See "System Fault Management" on page 127.)

- Software Distributor: Updated to version B.11.11.0612 to incorporate defect fixes and to include SD Provider for WBEM. (See "Software Distributor" on page 128.)

- Update-UX: The `update-ux` command includes defect fixes. (See "Update-UX" on page 129.)

Chapter 6: Disk and File Management (see page 131)

- Enhanced AutoFS: Updated to version B.11.11.0509.1 with support for LDAP as a source of `automount` maps. Available on Software Pack. (See "Enhanced AutoFS" on page 132.)

- HP CIFS Client: Updated to version A.02.02.01 with support for MS Distributed File System (DFS) and new configuration parameters; and other features. (See "HP CIFS Client" on page 133.)

- HP CIFS Server: Updated to 3.0f version A.02.03. Supports non-blocking, asynchronous request/reply behavior, fixed size memory map support, and new, changed, and removed parameters of the `smb.conf` file. (See "HP CIFS Server" on page 135.)

Chapter 7: Internet and Networking (see page 137)

- **New:** Firefox/Firefox Source: Web browser includes Firefox 1.5.x changes from the Mozilla Foundation. Fixes several security vulnerabilities reported in Firefox 1.5.0.0 from the Mozilla Foundation. (See "Browsers" on page 138.)

- **New:** GTK/GTK Source: Added to support FireFox/Thunderbird. Note that this release includes two versions of GTK: GTK+ Libraries and GTK. (See "Browsers" on page 138.)

- Mozilla Web Browser: Updated to version 1.7.13.01 to incorporate defect fixes. (See "Browsers" on page 138.)

- **New**: HP-UX Enhanced Publickey-LDAP: Enhanced with the `newkey`/`chkey` commands and the `getpublickey`/`getsecretkey` APIs. Available on Software Pack. (See "HP-UX Enhanced Publickey-LDAP" on page 139.)

- HP-UX Web Server Suite (see page 141)

  — HP-UX Apache-based Web Server: Updated to version 2.0.58.00 as primarily a defect fix release. (See "HP-UX Apache-based Web Server" on page 142.)

  — HP-UX Tomcat-based Servlet Engine: Updated to version 5.5.9.0.3. Implements the Servlet 2.4 and JavaServer Pages 2.0 specifications. (See "HP-UX Tomcat-based Servlet Engine" on page 143.)

  — HP-UX Webmin-based Admin: Updated to version 1.070.08 as primarily a defect fix release. (See "HP-UX Webmin-based Admin" on page 143.)

- **New:** Red Hat Directory Server for HP-UX: Updated to version B.07.10.20. Enhanced with Windows user synchronization, get effective right control, wide-area network replication, and more. (See "Red Hat Directory Server for HP-UX" on page 144.)

- **New:** Thunderbird/Thunderbird Source: Supported email client on HP-UX, provides online browsing and searching tools for HP-UX Integrity and PA-RISC customers. (See "Browsers" on page 138.)

Chapter 8: Security (see page 147)

- HP-UX Secure Shell: Updated to version A.04.30.006 with an sftp-only solution in a `chroot` environment and usage of Tcp Wrappers support IPv6, as well as features and changes from previous updates. (See "HP-UX Secure Shell" on page 148.)

- PAM Kerberos: Updated to version v1.24. Enhanced `pamkrbval` tool and delivers the **64 bit** `/usr/lib/security/pa20_64/libpam_krb5.1` library. Bundle name changed from `J5849AA` to `PamKerberos`. (See "PAM Kerberos" on page 150.)

- **New**: PAM-Requisite: Version 11.11.01 allows the requisite flag to be specified in the `/etc/pam.conf` file, which causes PAM to return immediately if a service module returns a failure. Available on Software Pack. (See "PAM-Requisite" on page 151.)

Chapter 9: Commands and System Calls (see page 153)

- No updates for December 2006.

Chapter 10: Libraries and Programming (see page 155)

- Java JDK/JRE for HP-UX: Java updated to versions 1.4.2.11 and 1.5.0.04 to incorporate defect fixes. (See "Java JDK/JRE for HP-UX" on page 156.)

- **New**: Obsolescence for Java 1.3 (`ObsJava13`): Added to HP-UX 11i v1 in this release to remove, upon update, the obsoleted Java 1.3, which has reached its end-of-life. (See "Java JDK/JRE for HP-UX" on page 156.)

- Perl: Version 5.8.8 build 817 includes changes to the way `chdir`, `chmod` and `chown` can now work; `h2xs` implementation of new option `--use-xsloader` to force use of `XSLoader` even in backwards compatible modules; and other changes, as well as defect fixes. (See "Perl" on page 157.)

Chapter 11: Internationalization (see page 159)

- No updates for December 2006.

Chapter 12: Other Functionality (see page 161)

- No updates for December 2006.

What is New in the September 2005 Release?

The following summaries pertain to the HP-UX 11i v1 September 2005 update release. For further information, see the indicated chapters in the *HP-UX 11i September 2005 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i September 2005 Release Notes* for information that is not included here.

NOTE   Starting with the September 2005 release, the *HP-UX 11i Release Notes* are structured differently than previous *Release Notes*. As a result, the chapter headings have changed. For more information, see the "Publication History" at the beginning of this document.

Chapter 4: "Workstation- and Server-Specific Information"

- Graphics and Technical Computing Software: Now supports 3D accelerated rendering on ATI FireGL X3 graphics card.

- **Correction**: In the *HP-UX 11i December 2004 Release Notes*, reference is made in a number of places to the Radeon 7000 graphics card. This is an error. This card is *not* supported on HP-UX 11 v1.

- Hardware Enablement (HWE): Enables support for new I/O peripherals, graphics and I/O cards, as well as updated I/O and mass storage drivers.

- HP Instant Support Enterprise Edition (ISEE): Updated to version A.03.95 with HP Runner, an availability monitoring tool that utilizes the ISEE framework to return availability data to HP for reporting and service, depending on contract level.

- Networking and Mass Storage Drivers

  — **New Product**: `10GigEthr-00`: Adds support for the AB287A PCI-X 10 Gigabit Ethernet card. Now available as a selectable product in the OEs.

  — `GigEther-01`: Now supports the AB465A card.

  — `IEther-00`: Now supports the AB290A and AB545A cards.

  — `RAID-01`: Updated to incorporate defect fixes.

  — `FibrChanl-01`: Updated to incorporate defect fixes.

- Offline Diagnostics Environment: Offline Diagnostics tools and `LIFLOAD` package now delivered on the PA-RISC Offline Diagnostics CD, which can be downloaded or ordered through `http://www.hp.com/go/softwaredepot` and entering "Offline Diagnostics" in the search window.

- Technical System Configuration (`TechSysConf`): Updated to version B.11.11.09.04. In this version, `/etc/password` and `/etc/group` are NOT modified to import NIS-served data.

- Utility Pricing Solutions (formerly On Demand Solutions)

  — HP Instant Capacity (iCAP) (formerly Instant Capacity on Demand, or iCOD): Updated to version B.11.11.07.01. E-mail connectivity no longer required. Temporary Capacity (TiCAP) also updated with new features.

  — HP Pay per use: Upgraded to version B.07.00.01 to include an important fix which allows for better communication from the PPU software to the utility meter.

Chapter 5: "General System Administration"

- Event Monitoring Service: Updated to reflect defect fixes. EMS framework manpages now also available in Japanese.

- High Availability (HA) Monitors: Updated to incorporate defect fixes.

- HP Partitioning

  — **New Product:** HP Global Workload Manager (gWLM): Allows you to centrally define resource-sharing policies that you can use across multiple HP servers. Now delivered with HP-UX 11i v1.

  — HP Process Resource Manager (PRM) version C.03.00: Includes integration with HP Systems Insight Manager, as well as support for 256 PRM groups and other changes.

  — HP-UX Processor Sets: Available on Software Pack, the updated `PROCSETS` bundle delivers the optional Processor Sets product with the latest patches and repackages the product by including the latest relevant patches so that all patch dependencies are managed automatically.

  — HP-UX Virtual Partitions (product number T1335AC): Updated to version A.03.03 with new security functionality, tape recovery of virtual partitions, and various fixes. HP-UX Virtual Partitions is available at `http://hp.com/go/softwaredepot`.

  — HP-UX Workload Manager: Updated to version A.03.00.01 with more flexibility in resource management and more secure environments.

  — HP-UX Workload Manager Toolkits: Pay Per Use Toolkit and its `utilitydc` command now deprecated.

  — nPartition Provider: Upgraded to version B.11.11.01.04.01.xx to incorporate performance improvements and bug fixes.

  — Partition Manager v2.0: Updated to version B.11.11.02.00.05.xx.Now runs as an application under HP System Management Homepage. Includes defect fixes.

  — PRM Libraries: Contains only the HP Process Resource Manager (PRM) kernel product, `PRM-Sw-Krn`, which is now at version C.01.03.

  — **New Product to HP-UX 11i v1 OEs**: vPar Provider: Extracts information about virtual partitions on a system. Now delivered with HP-UX 11i v1.

- HP Servicecontrol Manager: Removed from the OEs as of September 2005 and replaced by HP Systems Insight Manager, which is now delivered on the OEs.

- HP Serviceguard NFS Toolkit: Updated to version A.11.11.05 to incorporate two defect fixes.

- **New Product:** HP System Management Homepage (bundle `SysMgmtWeb`): A Web-based interface that consolidates and simplifies single system management for HP servers, now available for HP-UX 11i v1 and v2.

- **New to HP-UX 11i v1 OEs:** HP Systems Insight Manager: Replaces HP Servicecontrol Manager. Updated to version 4.2 with support for HP System Management Homepage and other products.

- HP WBEM Services for HP-UX: Updated to version A.02.00.07 with numerous defect fixes, as well as support for CIM Process Indications as defined by the DMTF WBEM Specification.

- Ignite-UX: Updated to version C.6.3.*x* with support for VERITAS 4.1 products (on HP-UX 11i v2), as well as new hardware enabled by the release.

- Online Diagnostics (`OnlineDiag`): Provides new option for the `map` command. `LIFLOAD` package no longer delivered within the `OnlineDiag` bundle: `LIFLOAD` now available on the PA-RISC Offline Diagnostics CD, which can be downloaded or ordered through **http://www.hp.com/go/softwaredepot** and entering "Offline Diagnostics" in the search window.

- Software Distributor: Updated to incorporate defect fixes.

- Software Package Builder: Updated to incorporate defect fixes.

- Update-UX: Updated to incorporate defect fixes. No new features or functionality.

Chapter 6: "Disk and File Management"

- Enhanced AutoFS: Now available on Software Pack. Updated to version B.11.11.0503.1 as primarily a defect fix release. Also includes updated kernel symbolic debugging mechanism and improved installation.

- HP CIFS Client: Updated to version A.02.01 with a substantially revised and improved code base.

- HP CIFS Server: Updated to 3.0c (version A.02.01.02), which is based on Samba 3.0.7 and provides minor enhancements and defect fixes, as well as the new features provided in HP CIFS Server 3.0a (version A.02.01).

- VERITAS File System (HP JFS/HP OnlineJFS): Licenses for full VxFS 3.3 (HP OnlineJFS B3929CA) are now permanent.

Chapter 7: "Internet and Networking"

- HP-UX 11i Internet Protocol Version 6 (IPv6): `IPv6NCF11i` product bundle no longer delivered on the Software Pack. For the latest version of IPv6, download TOUR from HP Software Depot at **http://hp.com/go/softwaredepot**.

- HP-UX Web Server Suite

  — HP-UX Apache-based Web Server: Upgraded to version v.2.0.54.01 as primarily a bug fix release.

  — HP-UX Tomcat-based Servlet: Upgraded to version 5.5.9.01 with implementation of the Servlet 2.4 and JavaServer Pages 2.0 specifications. Designed to run on J2SE™ Development Kit and Runtime Environment for HP-UX for the Java Platform (JDK/JRE) version 5.0 and later.

  — HP-UX Webmin-based Admin: Upgraded to 1.070.04 as primarily a bug fix release.

- **New to HP-UX 11i v1 OEs:** LDAP-UX Client Services version B.04.00 added to the OEs. Provides LDAP-UX integration product, a major release enhanced to facilitate migration from NIS or NIS+ environment to an LDAP environment. In addition to NIS+ migration support, several enhancements also added.

- Mozilla: Updated to version 1.7.8.00 with improved Asian font support. Includes the Japanese Language Pack, as well as defect fixes, security fixes, enhancements, and more advanced standards compliance.

- The Netscape Directory Server for HP-UX: Updated to version B.06.21.10.001 with support for four-way multi-master replication, support for fine-grained password policy, new configuration attributes, and other features and defect fixes.

Chapter 8: "Security"

- HP-UX Host Intrusion Detection System: Upgraded to release 3.1 with better performance and CPU utilization, as well as many enhancements and defect fixes.

- HP-UX IPFilter: Updated to version A.03.05.11.01 to incorporate defect fixes.

- **New Product:** HP-UX Secure Shell: Updated to version A.04.00.002 with many new features, including address binding for port forwarding connections, remote binding control, hashing of host names and addresses, among other features. Also includes features provided in version A.03.81.000.

- HP-UX Shadow Passwords: Available on Software Pack. Provides fixes for two defects.

- OpenSSL: Updated to version A.00.09.07e.012 with automatic generation of a self-signed host certificate and private key.

Chapter 9: Commands and System Calls

- No changes in this release.

Chapter 10: "Libraries and Programming"

- EnhancedCore: Now available on Software Pack. Allows a `setuid` program to be dumped if the request is from a debugger.

- HP MLIB: Updated to version 9.4 with quality enhancements.

- HP MPI: Updated to version 2.1.1 with several enhancements, including additional supported interconnects, Visual MPI, and improved gather performance for TCP/IP, alltoall performance and other improvements.

- Java 2 Standard Edition Platform

  — HP-UX Software Development Kit and Runtime Environment for the Java™ Standard Edition Platform (SDK/RTE): Versions 1.3 and 1.4 have been updated to incorporate defect fixes. Version 5.0 added and updated to incorporate defect fixes. Version 5.0 includes Java Webstart and the Runtime Plug-in (JPI) for JDK/JRE 5.0 for HP-UX. SDK/RTE version 1.3 deprecated and planned for future obsolescence.

NOTE	Starting with version 5.0, the name is J2SE™ Development Kit and Runtime Environment for HP-UX for the Java Platform.

— Java for HP-UX Add-on Standard C++ Runtime libraries: Updated to support update of SDK/RTE and JDK/JRE. In addition to versions 1.3 and 1,4, now also includes version 1.5.

— Java Out-of-Box: Updated to incorporate defect fixes.

— Runtime Plug-in (JPI) for HP-UX: Versions 1.3 and 1.4 updated to be compatible with SDK 1.3 and 1.4. Netscape no longer supported. Version 1.5 incorporated into JDK/JRE 5.0. Version 1.3 deprecated and planned for future obsolescence.

• Perl 5.8.3 build 809: Includes better Unicode support and numeric accuracy, new I/O and thread implementation, and other changes.

Chapter 11: Internationalization

• No changes in this release.

Chapter 12: Other Functionality

• No changes in this release.

What is New in the December 2004 Release?

The following summaries pertain to the HP-UX 11i v1 December 2004 update release. For further information, see the indicated chapters in the *HP-UX 11i December 2004 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i December 2004 Release Notes* for information that is not included here.

NOTE   The *HP-UX 11i Release Notes* for December 2004 (and earlier) are structured differently than the *HP-UX 11i Release Notes* for September 2005 (and later). Therefore, the organization and chapter headings differ.

Based upon current usage guidelines, the name "Java" may be used incorrectly in the following summaries of the *HP-UX 11i v1 Release Notes*. However, the summaries reflect the usage that was current when their corresponding documents were published.

Correction: In the *HP-UX 11i December 2004 Release Notes*, reference is made in a number of places to the Radeon 7000 graphics card. This is an error. This card is *not* supported on HP-UX 11 v1.

Chapter 4: nPartition (Hard Partition) Systems

- **New Product:** Enhanced NPartition Commands (`NParCmds`) added.

- **New Product:** The nPartition Provider supports WBEM version 2.0.

- Partition Manager updated to version 2.0 with several significant improvements, including a new, more graphical user interface and configuration of nPartitions on remote complexes.

Chapter 5: Workstation/Server Specific Information

- Graphics Hardware Support now includes the ATI FireGL X3 (basic 2D functionality) graphics cards.

- Hardware Enablement Patch Bundle updated for diagnostics to support latest PA8800 processor modules and 4GB DIMM; also enables and ATI FireGL X3 adapter for C8000.

- **New Product:** HP Instant Support Enterprise Edition now available in the Operating Environments.

Chapter 6: HP-UX 11i Version 1 Operating Environment Applications

- Codeword iCOD upgraded to version 6.50 to include better integration with partition management by using WBEM for data discovery. iCOD now has a software dependency on the nPartition provider and WBEM.

- Enterprise Cluster Master (ECM) Toolkit updated to version B.02.20 with scripts for Oracle 10g database applications, enhancements to the Oracle Toolkit, and support for the Tomcat Servlet.

- GlancePlus Pak updated to version C.03.86.00 with new `parm` file parameters and new metrics, as well as enhancements to `gpm` and `glance`.

- GTK+ Libraries updated to version 1.4.gm.46.9 to support changes to the Operating Environments. No new functionality added.

- HP 3D Technology for the Java 2 Platform updated to incorporate packaging changes.

- HP MLIB updated to version 9.0 with the new features VMATH, SOLVERS, and CXML.

- HP Process Resource Manager updated to version C.02.03.03 with changes in usage of `/var/tmp/`, and changes to the products available in the bundles.

- HP Serviceguard NFS Toolkit (formerly MC/ServiceGuard NFS Toolkit) updated to version A.11.11.04 with improvement to the failover performance for `rpcbind` failures. In addition, version A.11.11.04 specifies that the length of the `NFS_FLM_SCRIPT` variable is limited to 13 characters in the `nfs.mon` script.

- HP WBEM Services for HP-UX updated with defect fixes as well as support for CIM Process Indications as defined by the DMTF WBEM Specification. A version of the OpenSSL software is no longer packaged with the product software.

- HP-UX Apache-based Web Server updated to version 2.0.52.00 as primarily a security and bug fix release with Apache and `mod_perl` upgraded.

- HP-UX IPFilter updated to version A.03.05.10.04 to incorporate defect fixes.

- HP-UX Software Development Kit and Runtime Environment for the Java 2 Platform updated to version 1.4.2.04 to provide more recent Java technology.

- HP-UX Tomcat-based Servlet Engine updated to version A.4.1.29.04 with upgrades to Tomcat and Commons-DBCP.

- HP-UX Webmin-based Admin updated to version 1.070.02 to incorporate defect fixes.

- HP-UX Workload Manager updated to version A.02.03.03 with new options for `wlmaudit` and `wlmgui`.

- HP-UX Workload Manager Toolkits updated to version A.01.07.03 with modifications to PPUTK's `utilitydc` and updated example configurations.

- Ignite-UX updated to version C.6.1.*x* with enhancements to the `make_net_recovery` and `make_tape_recovery` commands. The `impi` and `impi_psm` drivers added to the 11i v1 and 11i v2 `WINSTALL` and `IINSTALL` installation kernels.

- Java for HP-UX Add-on Standard C++ Runtime Libraries for the SDK and for the RTE updated to version 1.4.2.04 to incorporate defect fixes.

- Java Out-of-Box updated to version 2.03.01 to provide enhancements and defect fixes.

- Mozilla Application Suite updated to version 1.6.0.01 and contains full Japanese localization as well as other defect fixes, security fixes, and enhancements.

- OpenSSL updated to version A.00.09.07-d to eliminate extra messages at installation time.

- Perl updated with two installation-related changes.

- Plug-in (JPI) for the Java 2 Platform updated to version 1.4.2.04 to provide more recent Java technology.

- PRM Libraries added to prevent reboots when upgrading HP Process Resource Manager.

- Servicecontrol Manager (SCM) updated to version B.03.00.09.02 to incorporate only minor updates. SCM has been deprecated; its replacement is HP Systems Insight Manager.

- Software Package Builder updated version A.02.00. to allow for the display of the current policy file being used for validation and to incorporate defect fixes.

Chapter 7: Networking and Mass Storage Drivers

- `FibrChanl-00` updated to version B.11.11.12 with support for Sequence Level Error Recovery (SLER) based on FCP-2 standards. Support added for the A6795A PCI Tachyon XL2 Adapter Card in the C8000 workstation.

- `FibrChanl-01` updated to support the to-be-released AB465A card.

- `GigEther-01` updated to support the to-be-released AB465A card and to incorporate defect fixes.

- Hardware Enablement Patch Bundle updated to provide an OLA fix for A9891A, AB286A, and future I/O adapters.

- `IEther-00` updated to version B.11.11.07 with support for the to-be-released AB290A and AB545A cards, and to incorporate defect fixes.

- `RAID-00` supports the A5856A card, which has been discontinued. `RAID-00` will remain in HP-UX 11i v1 to support previously purchased A5856A cards.

- `RAID-01` updated to support the A9891A Smart Array 6404 card and to incorporate defect repairs. In addition, the `RAID-01` software has been changed from Selectable to Always-Installed.

- `scsiU320-00` updated to incorporate defect fixes and to support the to-be-released AB290A card. The `scsiU320-00` driver bundle also supports the A7173A card, which has now been released.

Chapter 8: Installation

- Software Distributor (SD) updated with new versions of the `gzip` and `swpackage` commands.

- Update-UX updated to incorporate defect fixes.

Chapter 9: General System Administration and Performance Monitoring

- EnhancedMMAP now available on Software Pack.

- MtIOscan11i now available on Software Pack.

- NEWFUSER11i now available on Software Pack.

Chapter 13: Security

- HP-UX Shadow Passwords now available on Software Pack.

- HP-UX Strong Random Number Generator now available on Software Pack.

Chapter 15: Programming

- HP-UX Software Transition Kit updated in September 2004 to version 2.4 with tools and documentation to help you successfully transition your software to HP-UX 11i (version 1 [B.11.11], 1.6 [B.11.22], as well as version 2 [B.11.23 and B.11.23 September 2004]).

Chapter 16: Internationalization

- Deprecated Internationalization Functionality table updated.

What is New in the June 2004 Release?

The following summaries pertain to the HP-UX 11i v1 June 2004 update release. For further information, see the indicated chapters in the *HP-UX 11i June 2004 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i June 2004 Release Notes* for information that is not included here.

Chapter 5: Workstation/Server Specific Information

- Diagnostics updated to support rp3410-2 and a to-be-released server. EMS Hardware Monitors updated to support MSA-30 U320 Parallel SCSI JBOD and MSA-1000 FC Disk Array.

- Hardware Enablement Patch Bundle updated to enable IDE disks, Core Serial I/O, and 3D Graphics on C8000 workstation; added support for HP StorageWorks SDLT600 Tape Drive; added support for new I/O cards; added support for new DVD and CD optical devices for HP servers and workstations.

Chapter 6: HP-UX 11i Version 1 Operating Environment Applications

- Codeword iCOD updated to version 6.02 to incorporate a defect fix.

- Enterprise Cluster Master (ECM) Toolkit updated to version B.02.10 with the addition of a new toolkit for the Tomcat Java Servlet and the removal of Netscape applications.

- Event Monitoring Service updated to version A.04.00.02 to incorporate defect fixes.

- Graphics and Technical Computer Environment bundle updated to version B.11.11.20.03 with support for ATI FireGL X1 and ATI FireGL T2.

- GTK+ Libraries updated to version 1.4.gm.46.7 to support changes to the Operating Environments. No new functionality added.

- High Availability (HA) Monitors updated to version A.04.00.02 to incorporate defect fixes.

- HP 3D Technology for the Java 2 Platform updated to incorporate packaging changes. No new functionality added.

- HP CIFS Client updated to version A.01.09.01 to incorporate defect fixes.

- HP Process Resource Manager updated to version C.02.02 with support of a version option, support of SSL encryption of login/password data, more consistent `syslog` messaging, and other changes.

- HP Serviceguard updated to version A.11.16 with new functionality, defect repairs, and support for future new hardware configurations.

- HP Serviceguard Manager updated to version A.04.00, which allows administrators to create, configure, monitor, and manage clusters and packages.

- HP Serviceguard Quorum Server updated to version A.02.00.01 to support future platforms.

- HP-UX Apache-based Web Server updated to version A.2.0.49 as a feature release which contains support for Microsoft® FrontPage 2002, more pHP extensions, and numerous version upgrades.

- HP-UX HIDS v1.0 deprecated and planned for future obsolescence.

- HP-UX IPFilter updated to version A.03.05.09 with support for multi-level groups and for IP address ranges in IPFilter rules, as well as enhancements to DCA and to logging, memory allocation, and commands.

- HP-UX Tomcat-based Servlet Engine updated to version A.4.1.29.02 with Tomcat version upgraded to 4.1.29.02; `mod_jk` and related configuration files shipped with HP-UX Apache-based Web Server; and defect fix to the Tomcat Admin application.

- HP-UX Webmin-based Admin updated to version A.1.070.00 as a full-feature release that contains numerous enhancements, including support for 32-bit Apache (if installed); backup, version management (RCS); retrieval of Apache configuration files; and others.

- HP-UX Workload Manager updated to version A.02.02 with a new GUI that allows local and remote management of WLM systems; automatic resizing of node partitions (nPars) that use iCOD software; support for more WLM configuration options by the Configuration Wizard; and other changes.

- HP-UX Workload Manager Toolkits updated to version A.01.05 with utilities now using `/opt/perl/bin/perl`, as well as support for Apache 2.x and enhancements to `utilitydc`.

- HP-UX XML Web Server Tools updated to version A.2.00 as primarily a version upgrade release, with upgrades to Xerces-J, Xalan-J, Cocoon, and FOP.

- Ignite-UX updated to version B.5.4.x with several changes, including updates to the `make_[tape/net]_recovery` tools, update to the `save_config` command, and enhancements to the GUI.

- **New Product:** Java for HP-UX Add-on Standard C++ Runtime Libraries for the SDK and for the RTE now default-installed in all OEs.

- Java Out-of-Box updated to version 2.03.00 to incorporate defect fixes.

- Mozilla Application Suite updated to version 1.4.00.01 with full Japanese localization as well as other defect fixes and enhancements.

- **New Product:** OpenSSL added. OpenSSL is an open source cryptography toolkit that implements the Secure Sockets Layer (SSL v2 and v3) and Transport Layer Security (TLS v1) network protocols and related required cryptography standards.

- Pay Per Use updated to version B.07.00 so that either pricing model can be used as the metric and so that a processor cap can be specified.

- Perl updated to version 5.8.0 with better Unicode support, new IO and thread implementation, better numeric accuracy, and other enhancements.

- Plug-in (JPI) for the Java 2 Platform versions 1.3 and 1.4 only will be installed.

- **New Products:** Software Development Kit for the Java 2 Platform (full) 1.3 and 1.4 now delivered.

- Software Package Builder updated to version A.02.00 to allow detection of ambiguous objects and to support editing multiple Product Specification Files (PSFs) and open and view depots within the SPB GUI.

- Servicecontrol Manager updated to version 03.00.06 to incorporate defect fixes.

Chapter 7: Networking and Mass Storage Drivers

- `FibrChanl-01` updated to incorporate defect fixes.
- `GigEther-01` updated to incorporate defect fixes.
- `IEther-00` updated to incorporate defect fixes.
- `RAID-01` updated to support the A9890A SmartArray 6402 card on PA-RISC systems.
- The `scsiU320-00` bundle updated with quality and diagnostic improvements for Ultra320 SCSI solutions.

Chapter 8: Installation

- Software Distributor updated to incorporate defect fixes.
- Update-UX updated to incorporate defect fixes.

Chapter 9: General System Administration and Performance Monitoring

- HP-UX Buffer Cache Tunable Parameters (`nbuf`, `bufpages`, `bufcache_max_pct`, `dbc_min_pct`, `dbc_max_pct`) now deprecated.
- HP-UX Newadb now available on Software Pack.

Chapter 11: Disk and File Management

- Enhanced AutoFS now available on Software Pack.
- Portable File System (PFS) now obsoleted. Equivalent functionality now provided and supported via CDFS with RockRidge Interchange extensions support.
- DeviceIDs now available on Software Pack.

Chapter 12: Internet and Networking Services

- The `landiag` program and command now deprecated. Will be obsoleted post HP-UX 11i v2.
- The `lanscan` command path will change post HP-UX 11i v2.
- The `linkloop` command path will change post HP-UX 11i v2.

Chapter 13: Security

- Boot Authenticator for Standard Mode of HP-UX now available on Software Pack.

Chapter 15: Programming

- HP-UX Shared Memory Extensions now available on Software Pack.
- The `pstat_getfile()` interface now deprecated.
- Transition links deprecated and planned for future discontinuance.

What is New in the December 2003 Release?

The following summaries pertain to the HP-UX 11i v1 December 2003 update release. For further information, see the indicated chapters in the *HP-UX 11i December 2003 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i December 2003 Release Notes* for information that is not included here.

Chapter 4: nPartition (Hard Partition) Systems

- Hard Partitions now supported on rp8420, rp7420, and Superdomes SD16A, SD32A, and SD64A.

- Partition Manager updated to version B.11.11.01.07 to incorporate a defect fix.

Chapter 5: Workstation/Server Specific Information

- Hardware Enablement Program updated install kernels to support Rock Ridge extension for ISO-9660 format; enabled support for new PA-8800 servers; qualified support for new slim optical devices for J6X00 workstations; enabled correct density and compression for several tape drives; added support for new I/O cards.

- Supported systems now include hp 9000 rp3440 server, hp 9000 rp4440 server, hp 9000 rp8420 server, hp 9000 rp7420 server, hp 9000 Superdome SD16A, hp 9000 Superdome SD32A, hp 9000 Superdome SD64A.

Chapter 6: HP-UX 11i Version 1 Operating Environment Applications

- Codeword iCOD added as an always-installed product.

- Enterprise Cluster Master (ECM) Toolkit updated to version B.02.00 with additions and enhancements.

- GlancePlus Pak updated to version C.03.72.00 to incorporate defect fixes.

- Graphics and Technical Computer Environment bundle (B6268AA) updated to version B.11.11.12.03 to incorporate defect fixes.

- HP CIFS Server updated to 2.2g (version A.01.10) with defect fixes and new enhancements.

- HP Message-Passing Interface (MPI) updated to version 2.0 with new features, including MPI-2 Standard functionality.

- HP WBEM Services for HP-UX, version A.01.05, now included as a default-installed product on the OE media.

- HP-UX HIDS updated to version 2.2 as a maintenance release.

- HP-UX IPFilter updated to version A.03.05.08 with defect fixes to the product and the documentation.

- Ignite-UX install environment enhanced to include the Gigabit Ethernet libraries to allow `lanadmin` to configure these network interfaces during installation.

- Mozilla Application Suite updated to version 1.4 with new functionality, defect fixes, and performance improvements.

- Pay Per Use updated to version B.06.03 to incorporate a security improvement.

- Servicecontrol Manager updated to version 03.00.04 to include SDK version 1.4.1.04.

- Software Package Builder updated to version A.01.00.04 to allow the use of OR relationships when setting corequisite and prerequisite dependencies.

Chapter 7: Networking and Mass Storage Drivers

- Fibre Channel `fcd` driver updated to support the new A9782A and A9784A Fibre Channel/Gigabit Ethernet Combo HBAs.

- Gigabit Ethernet driver `iether` now supports the PCI-X 2-Port 1000Base-SX (fiber-based) card (A7011A) and the PCI-X 2-Port 1000Base-T (copper-based) card (A7012A).

- Gigabit Ethernet driver `gelan` updated to incorporate defect fixes.

- Gigabit Ethernet driver `igelan` updated to incorporate defect fixes.

- The Gigabit Ethernet drivers updated to support various new systems and system upgrades including the rp4440, rp8620, rp7420, and rx2600.

- HP RAID160 SA Controller driver updated to improve diagnostic capabilities.

- The `scsiU320-00` bundle added to provide the always-installed driver `mpt` for the HP A7173A PCI-X Dual Channel Ultra320 SCSI Host Bus Adapter.

Chapter 8: Installation

- Update-UX updated to incorporate defect fixes and to support changes to the Operating Environments.

Chapter 16: Internationalization

- Several commands, library routines and lp model files that implement internationalization functionality are deprecated.

What is New in the September 2003 Release?

The following summaries pertain to the HP-UX 11i v1 September 2003 update release. For further information, see the indicated chapters in the *HP-UX 11i September 2003 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i September 2003 Release Notes* for information that is not included here.

Chapter 5: Workstation/Server Specific Information

- Hardware Enablement updated for SAM to recognize new hardware devices; updated commands for latest DLT and SDLT tape units; added support for new I/O card; added support for rp8400 Server Expansion Unit.

Chapter 6: HP-UX 11i Version 1 Operating Environment Applications

- Event Monitoring Service (EMS) updated to version A.04.00.01 to incorporate defect fixes. (

- High Availability (HA) Monitors updated to version A.04.00.01 to incorporate defect fixes.

- HP CIFS Client updated to version A.01.09 with new features and defect fixes.

- HP MLIB updated to version 8.5 with full METIS functionality.

- HP-UX Apache-based Web Server updated to version 1.0.06.01 primarily as a security and bug-fix release.

- HP-UX Tomcat-based Servlet Engine updated to version 1.0.03.03 to incorporate a defect fix.

- HP-UX IPFilter updated to version A.03.05.07 with new functionality.

- HP-UX Webmin-based Admin updated to version 1.0.05.01 with partial support for additional Apache LDAP modules.

- Ignite-UX updated to version B.4.4 to support new drivers.

- MC/ServiceGuard NFS Toolkit updated to version A.11.11.03 to support File Lock Migration.

- Netscape Communicator no longer available; replaced by Mozilla.

- Pay Per Use updated to version B.06.02 to improve the software's operation.

- Runtime Environment for the Java 2 platform version 1.4 now default-installed, along with versions 1.2 and 1.3.

- Runtime Plug-in (JPI) for the Java 2 platform version 1.4 now default-installed, along with versions 1.2 and 1.3.

- Servicecontrol Manager updated to version 03.00.02 to incorporate minor defect fixes.

- Software Package Builder (SPB) added as a selectable product. SPB provides a visual method to create and edit software packages using the HP-UX Software Distributor (SD) package format.

- SCR+DMI obsoleted and replaced by HP Systems Inventory Manager (SIM) for HP-UX, which is available on the Web. (For information on SIM, go to `http://www.software.hp.com/products/SIM/`.)

- TechSysConf updated to version B.11.11.09.*xx* to incorporate a defect fix.

Chapter 7: I/O and Networking Cards

- `FibrChanl-01` (`fcd`) added as an always-installed driver for Dual Port Fibre Channel adapter A6826A.

- Gigabit Ethernet driver `igelan` updated to support the copper and fiber versions of the PCI-X Combination 2-Gigabit Fibre Channel and 1000Base-SX/T card.

- `RAID-01` added as a selectable driver for the HP A7143A PCI 4-Channel RAID160 SA SCSI Controller.

Chapter 8: Installation

- Update-UX includes "default selections" file, which provides a list of bundles that will be selected for install during an OS update. Also included is support for the `-f` *selection_file* option on the `update-ux` command line.

Chapter 15: Programming

- Transition Links product deprecated.

What is New in the June 2003 Release?

The following summaries pertain to the HP-UX 11i v1 June 2003 update release. For further information, see the indicated chapters in the *HP-UX 11i June 2003 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i June 2003 Release Notes* for information that is not included here.

Chapter 5: Workstation/Server Specific Information

- Hardware Enablement Patch Bundle (`HWEnable11i`) updated for SAM to recognize new hardware devices; added multi-initiator support for SCSI Ultra160 adapters; added support for new I/O cards.

Chapter 6: HP-UX 11i Version 1 Operating Environment Applications

- Compressed Dump available on Software Pack.

- EMS CLI, a new command line utility, available to configure and manage persistent monitoring requests for Event Monitoring Service (EMS) monitors.

- GlancePlus Pak updated to version C.03.71 to support new platforms.

- GTK+ Libraries 1.2.10.2 added.

- High Availability Monitors has been updated to version A.04.00 with new functionality and defect repairs.

- HP 3D Technology for the Java Platform updated to version 1.3.

- HP CIFS Server updated to version 2.2e with new tool scripts and defect fixes.

- HP MPI updated to version 1.8.3 to enhance performance tuning.

- HP-UX Runtime Environment for Java versions 1.2 and 1.3 now installed.

- HP-UX Web Server Suite added; includes HP-UX Apache-based Web Server, HP-UX Webmin-based Admin, HP-UX Tomcat-based Servlet Engine, and HP-UX XML Web Server Tools.

- HP-UX Workload Manager updated to version A.02.01 with new features.

- HP-UX Workload Manager Toolkits updated to version A.01.04 with the WLM BEA WebLogic Server Toolkit.

- MC/ServiceGuard updated to version 11.15 with enhancements including support for IPv6 and updated commands.

- MySQL, an open source relational SQL database, added.

- Mozilla added as default-installed browser.

- Netscape Directory Server updated to 6.11 with enhancements and bug fixes.

- Pay Per Use version B.06.00 now available as a selectable product for Superdome, rp7410, and rp8400.

- Process Resource Manager updated to version C.02.01 with enhancements.

- Quorum Server updated to version 2.0.

- Runtime Plug-in (JPI) for the Java 2 platform versions 1.2 and 1.3 now installed.

- Servicecontrol Manager updated to version 3.0 with new features, including Linux-based central management server, certified HP ProLiant agents, XML format, and others.

- ServiceGuard Manager updated to version A.03.00.01.

Chapter 8: Installation

- Update-UX includes its own copy of Software Distributor (SD).

What is New in the March 2003 Release?

The following summaries pertain to the HP-UX 11i v1 March 2003 update release. For further information, see the indicated chapters in the *HP-UX 11i March 2003 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i March 2003 Release Notes* for information that is not included here.

Chapter 5: Workstation/Server Specific Information

- Hardware Enablement Patch Bundle (`HWEnable11i`) updated for current products: A5159A PCI 2-Port FWD SCSI adapter and A5838A PCI 2-Port Ultra2 SCSI with 2-Port LAN adapter; and improved IDE/ATAPI driver for workstation optical (CD/ROM, CD/RW, DVD/ROM) devices.

Chapter 6: HP-UX 11i Version 1 Operating Environment Applications

- HP Apache-based Web Server updated to version v.2.0.43.00 with the "worker" Multi-Processing Module (MPM) and security and defect fixes.

- HP-UX Online Diagnostics (`OnlineDiag`) bundle updated to support new products: 36/72/144 GB FC disk drives; Ultrium 460 and SDLT 160/320 tape drives; and 8GB high-density SyncDRAM memory module for rp7410 and rp8400 servers.

- Ignite-UX updated to version B.4.2 to provide enhanced support for server response to anonymous Itanium®-based clients.

- Netscape Communicator has been updated to version 4.79 (B.11.00.11*xx*) to incorporate a defect fix.

- TechSysConf bundle updated to version B.11.11.08.*xx* and TC-OpenSource product updated to version B.11.00.08.*xx* to incorporate defect fixes.

- WebQos obsoleted and no longer delivered on OE and AR media.

Chapter 9: General System Administration and Performance Monitoring

- HP-UX iSCSI (SCSI over TCP/IP) supported by SAM.

- HP VERITAS Enterprise Administrator (VEA) launched from SAM.

What is New in the December 2002 Release?

The following summaries pertain to the HP-UX 11i v1 December 2002 update release. For further information, see the indicated chapters in the *HP-UX 11i December 2002 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i December 2002 Release Notes* for information that is not included here.

Chapter 4: nPartition (Hard Partition) Systems

- Hard partitions now supported on HP rp7405.

- Partition Manager updated to version B.11.11.01.06 with support for new types of cell boards, new interpartition security features, ability to detect the presence of vPars, and ability to show limited information about I/O cards and I/O slots that belong to virtual partitions.

Chapter 5: Workstation/Server Specific Information

- Hardware Enablement Patch Bundle (`HWEnable11i`) updated with LVM patches for VA7110 and VA7410 FC disk arrays and new Xserver patch for FireGL graphics. Support verified for workstation processors and for updated optical units.

- B2600 workstation firmware requirements updated.

Chapter 6: HP-UX 11i Version 1 Operating Environment Applications

- Enterprise Cluster Master (ECM) Toolkit updated to incorporate defect fixes, as well as support for Sybase version 12.0 and Enterprise Server 3.6.

- GlancePlus Pak updated to version C.03.70 with modifications and defect repairs to support new platforms.

- HP Apache-based Web Server updated to v.1.3.26.06 with security fixes from v.1.3.26.05, plus `auth_ldap` functionality, `mod_perl` built as a DSO, and new helper utilities.

- HP MLIB temporarily removed from the TCOE media.

- HP MPI updated to version 1.8.2 to incorporate minor defect fixes.

- `IEther-00` networking driver always-installed in the OEs.

- Online Tools (STM and EMS Hardware Manager) updated with enhancements and support for new hardware.

Chapter 9: General System Administration and Performance Monitoring

- System Administration Manager (SAM) updated to add support for 7400 and 7405 disk arrays; support for IPv6, for adding default routes, and for configuring VLAN; support for `IGELAN` card.

Chapter 11: Disk and File Management

- Base VERITAS VxFS 3.5 (JFS 3.5 only) available on Software Pack for 11i v1.

What is New in the September 2002 Release?

The following summaries pertain to the HP-UX 11i v1 September 2002 update release. For further information, see the indicated chapters in the *HP-UX 11i September 2002 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i September 2002 Release Notes* for information that is not included here.

Chapter 5: Workstation/Server Specific Information

- FireGL-UX graphics adapter card (A7789A) now supported.

- IDE/ATAPI support added for optical units A8068A, A7853A, A5001A.

- SCSI Ultra160 boot support added for SuperDome, rp8400, and rp7410 servers.

Chapter 6: HP-UX 11i Version 1 Operating Environment Applications

- Base VERITAS Volume Manager Bundle updated to version 3.5 with new functionality, including the option to have root disk managed by VxVM.)

- Graphics and Technical Computer Environment bundle, which delivers OpenGL 3D Graphics Developers Kit and Runtime Environment, updated to version B.11.11.10.01.

- HP Apache-based Web Server updated to version 1.3.26.03 as a security-fix, bug-fix, and version-upgrade release. In the future, HP Apache-based Web Server 1.3.*x* will be discontinued.

- HP MLIB updated to version B.08.03 with new functionality, including ScaLAPACK, Distributed SuperLU, and Nested SMP parallelism.

- HP MPI updated to version 1.8.1 with new functionality, including new startup utility.

- HP-UX IPFilter (formerly, IPFilter/9000) now supports high availability environment with MC/ServiceGuard.

- HyperFabric2 PCI fiber adapter (A6386A) supported on new HP systems. HSC HyperFabric adapter cards A4920A and A4921A discontinued.

- The `igelan` driver updated to incorporate defect fixes.

- Ignite-UX updated to version B.3.8 to support VxVM "rootability" and changes to `make_*_recovery`.

- Judy technology now an Open Source product.

- Netscape Directory Server updated to version v6.02 with new features and defect fixes.

- PAM Kerberos has been updated with the `pamkrb5val` tool and a sample `pam.conf` file.

- ServiceGuard Manager administration feature updated to version A.02.01 with minor enhancements to functionality.

- TechSysConf updated with parameter and other changes.

Chapter 9: General System Administration and Performance Monitoring

- The iCOD product updated to version B.05.00 with temporary capacity.

Chapter 15: Programming

- HP-UX Software Transition Kit (STK) updated to version 1.8 with added support for transitions from PA-RISC to Itanium.

What is New in the June 2002 Release?

The following summaries pertain to the HP-UX 11i v1 June 2002 update release. For further information, see the indicated chapters in the *HP-UX 11i June 2002 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i June 2002 Release Notes* for information that is not included here.

Chapter 4: nPartition (Hard Partition) Systems

- HP nPartitions servers now support faster PA-8700 processors on HP Superdome, rp8400, and rp7410.

Chapter 5: Workstation/Server Specific Information

- Hardware Enablement Patch Bundle (`HWEnable11i`) now supports faster processors and additional I/O adapters and devices.

Chapter 6: HP-UX 11i Version 1 Operating Environment Applications

- CIFS/9000 Client updated to version A.01.07 and CIFS/9000 Server updated to version A.01.08 to incorporate several enhancements.
- EMS HA-ATM now supported for HP-UX workstations.
- Enterprise Cluster Master Toolkit updated to version B.01.08 to include support for Informix version 9.21 and Oracle 9i.
- GlancePlus Pak updated to version C.03.58. IT/Operations Special Edition removed.
- HP IDS/9000 updated to version 2.1 to incorporate defect fixes.
- HP MPI updated to version 1.8 with new functionality and extended support.
- HP-UX Workload Manager updated to version A.02.00 to incorporate several enhancements, including a configuration wizard, greater flexibility in controlling memory, and integration with virtual partitions.
- HP-UX Workload Manager Oracle Database Toolkit now a part of HP-UX Workload Manager Toolkits.
- HP-UX Workload Manager Toolkits introduced for easier management of mission-critical software products.
- Ignite-UX updated to support file system parameter changes.
- IPFilter updated to version A.03.05.04 to support PCI FDDI and PCI Token Ring interfaces.
- The Judy Libraries product has been updated to incorporate improved manpages and other, minor improvements.
- MC/ServiceGuard updated to incorporate support for HP-UX VLAN and other enhancements.
- Netscape Communicator updated to version 4.79 (B.11.11.09).
- Netscape Directory Server has been updated to version B.04.16.

- Process Resource Manager updated to version C.02.00.02 to support a logging option and improvements to the `prm2d` memory manager.

- Servicecontrol manager updated to version A.2.5.01.

- Technical System Configuration (TechSysConf) bundle, now an always-installed part of the MTOE and TCOE, delivers improved out-of-box performance.

- `TermIO` drivers updated.

Chapter 7: Networking and Mass Storage Drivers

- The `igelan` driver (`GigEther-01`) enhanced to support 1000Base-T/SCSI (A6794A) on HP server rp7410, PCI 1000Base-T (A6825A), and 1000Base-SX (A6847A).

Chapter 9: General System Administration and Performance Monitoring

- Interrupt Migration available on Software Pack.

What is New in the March 2002 Release?

The following summaries pertain to the HP-UX 11i v1 March 2002 update release. For further information, see the indicated chapters in the *HP-UX 11i March 2002 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i March 2002 Release Notes* for information that is not included here.

Chapter 2: nPartition (Hard Partition) Systems

- HP now supports hard partitions on the HP rp7410 server (model 9000/800/rp7410).

Chapter 3: Workstation/Server Specific Information

- Hardware Enablement Patch Bundle updated to support new servers, I/O adapters, and peripherals.
- SCSI Driver `c8xx` updated to support two new SCSI PCI Ultra160 Host Bus Adapters.

Chapter 4: HP-UX 11i Version 1 Operating Environment Applications

- HP Apache-based Web server updated to version 1.3.19.23 with enhancement of `chroot` feature.
- Version 1.3 of HP-UX Runtime Environment for the Java 2 (RTE) Platform added.
- GlancePlus Pak, updated to version C.03.55, no longer supports HP-UX 10.20.

- MC/ServiceGuard updated to version A.11.14.
- FirstSpace VRML obsoleted.
- HP MPI updated to version 1.7.2.
- Ignite-UX updated to version B.3.6.
- IPFilter/9000 updated to version A.03.05.03.
- Java Out-of-Box (JAVAOOB) has been added to allow large server-side Java applications to run more efficiently.

Chapter 5: I/O and Networking Cards

- Networking and I/O card drivers updated.

- Gigabit Ethernet now supports 1000Base-T/SCSI (A6794A) on HP server rp7410.
- RAID 4Si controller's new firmware version (U.01.06) available as a patch.

Chapter 6: Installation

- New Update-UX product now enables customers to install the `update-ux` script and its accompanying `update-ux` manpage on a 10.20 or 11.00 system.

Chapter 13: Programming

- Support for CXperf discontinued.

What is New in the December 2001 Release?

The following summaries pertain to the HP-UX 11i v1 December 2001 update release. For further information, see the indicated chapters in the *HP-UX 11i December 2001 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i December 2001 Release Notes* for information that is not included here.

Chapter 3: Workstation/Server Specific Information

- Additional hardware enablement.

Chapter 4: HP-UX 11i Version 1 Operating Environment Applications

- The base VERITAS Volume Manager (VxVM) added as an always-installed application for all OEs.
- The HP Apache-based Web server updated with version 1.3.19.21.
- Support Tools updated with version A.29.00 (`swlist` ID B.11.11.05.10) to incorporate fixes and support for new devices.
- The Judy Libraries now feature the ability to search for empty locations in the array (search empty).
- Servicecontrol Manager updated with version A.02.05.
- Enterprise Cluster Manager Toolkit updated with version B.01.07.
- MC/ServiceGuard updated with version A.02.00.
- MC/ServiceGuard NFS Toolkit updated.
- HP Intrusion Detection System/9000 added as a selectable application for the three commercial server OEs.
- IPFilter/9000 added as a selectable application for the three commercial server OEs.

Chapter 5: I/O and Networking Cards

- The always-installed Fibre Channel drivers updated.
- New always-installed Gigabit Ethernet (`GigEther-01`) driver to support the 1000Base-T/SCSI card (A6794A) for HP-UX 11i v1, 64-bit only.

What is New in the September 2001 Release?

The following summaries pertain to the HP-UX 11i v1 September 2001 update release. For further information, see the indicated chapters in the *HP-UX 11i September 2001 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i September 2001 Release Notes* for information that is not included here.

Chapter 3: Workstation/Server Specific Information

• Additional hardware enablement.

Chapter 4: HP-UX 11i Version 1 Operating Environment Applications

• The base VERITAS Volume Manager (VxVM) added as a selectable application for the three commercial server OEs.

• CIFS/9000 Server updated with version A.01.07 and CIFS/9000 Client updated with version A.01.06.

• HP Apache-based Web Server updated.

• The Judy Libraries product moved from the selectable applications and now installed with all Operating Environments.

• Perl programming language installed with all Operating Environments.

• Java™ Runtime Environment and Java™ Plug-In updated.

• GlancePlus Pack updated with version C.03.35.00.

• MC/ServiceGuard updated with version A.11.13.

• MC/ServiceGuard NFS Toolkit updated.

• OpenGL 3.0 Graphics Developers kit updated.

• Support Tools updated with version A.28.00 (`swlist` ID B.11.11.04.09) to incorporate fixes and support for new devices.

• HP-UX Workload Manager updated with version A.01.02.

• HP-UX Workload Manager Oracle Database Toolkit added to the Mission Critical Operating Environment.

• HP PRM updated with version C.02.00.

• HP MLIB updated with version B.08.01.

• HP MPI updated with version 1.7.

• Ignite-UX updated with version 3.4 to incorporate defect fixes.

• PCI RAID driver updated to support A400 and A500 servers.

• `ATM` and TermIO drivers updated.

What is New in the June 2001 Release?

The following summaries pertain to the HP-UX 11i v1 June 2001 update release. For further information, see the indicated chapters in the *HP-UX 11i June 2001 Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i June 2001 Release Notes* for information that is not included here.

Chapter 2: Superdome Systems

- Partition Manager updated to support new hardware.
- Additional hardware enablement.

Chapter 4: HP-UX 11i Version 1 Operating Environment Applications

- HP Apache-based Web Server updated to fix defects and enhance performance.
- Java™ Runtime Environment and Java™ Plug-In updated to fix defects and enhance performance.
- Judy Libraries added.
- New Minimal Technical Operating Environment now available.
- iCOD software removed from the Operating Environments.
- SD/Update-UX updated to enable updating the Operating Environments and upgrading from the Enterprise OE to the Mission Critical OE.

Chapter 5: I/O and Networking Cards

- PCI TachyonTL driver updated to support the A6684A and A6685A.
- HyperFabric driver updated to support the A6092A and A6386A network cards.
- PCI RAID driver updated to fix defects.

Chapter 7: General System Administration and Performance Monitoring

- Diagnostics updated to support new hardware.

What is New in the Initial 11i v1 Release?

The following summaries pertain to the initial HP-UX 11i v1. For further information, see the indicated chapters in the *HP-UX 11i Release Notes*, available in its most current version at `http://docs.hp.com/en/oshpux11i.html`.

The following is not an exhaustive list, so it strongly recommended that you consult the *HP-UX 11i Release Notes* for information that is not included here.

The following list includes changes introduced after the initial release of HP-UX 11.0 as part of Extension Packs and/or ACE releases (which were subsequently incorporated into HP-UX 11i v1), as well as changes introduced at the initial release of HP-UX 11i v1.

Chapter 2: Superdome Systems

- Hard partitions supported on HP Superdome 16-way, 32-way, and 64-way.
- Partition manager, a new system administration tool, supports the initial and ongoing configuration of systems that support hard partitions.

Chapter 3: Workstation/Server Specific Information

- Lockable pages that experience repeated single-bit memory errors can now be removed.
- The Guardian Service Processor (GSP), a new console subsystem, now available.
- Graphics and Technical Computing Software supported on all PA-RISC workstations and servers.
- Kernel parameters for CAE and EE Engineering workstation kernels optimized during installation or update.

Chapter 4: HP-UX 11i Version 1 Operating Environment Applications

- The HP-UX operating system is now delivered as part of an HP-UX Operating Environment (OE), an integrated software solution comprised of the operating system and selected applications.
- The Foundation HP-UX 11i v1 OE, the standard Internet server environment for HP-UX systems, includes Java, the HP Apache-based Web Server, Netscape Communicator, and other applications.
- In addition to the Foundation HP-UX 11i v1 OE, the HP-UX 11i v1 Enterprise OE contains applications to enable an enterprise-level server. Applications include OnLineJFS 3.3, GlancePlus, MirrorDisk/UX, and others.
- The HP-UX 11i v1 Mission Critical OE contains both the HP-UX 11i v1 Foundation OE and the HP-UX 11i v1 Enterprise OE, as well as applications (such as MC/ServiceGuard and HP-UX Workload Manager) to enable a mission-critical server.
- The HP-UX 11i v1 Technical Computing OE contains applications to enable a technical workstation or technical server.

Chapter 5: I/O and Networking Cards

- Online Addition and Replacement (OLAR) enables the adding and replacing of PCI I/O cards (adapters) while a system is running.

- By eliminating driver installation and combining multiple drivers into one, the set-up or upgrade of networking and I/O products has been made easier.

- Gigabit Ethernet (PCI, HSC) provides the means for interfacing to a 1000Base-SX multimode fiber network.

- Although EISA interface cards are supported on the HP-UX 11i v1 32-bit operating system, they are not supported on HP-UX 11i v1 64-bit operation.

- HSC FDDI driver enhanced.

Chapter 6: Installation

- Cold install changed to support new media and the new Operating Environments.

- Ignite-UX version B requires at least 64MB of RAM and no longer supports 10.01 and 10.10 machines for 11i v1.

- Update-UX command replaces swgettools to perform OS updates and add Operating Environments.

- Software Distributor changed in multiple ways, including enablement of multiple target management capability and POSIX enhancements.

- SD Patch Installation changed to provide more control over patch management.

Chapter 7: General System Administration and Performance Monitoring

- System Administration Manager (SAM) enhanced to support new devices and features.

- HP Distributed Print Service deprecated.

- Event Monitoring System (EMS) Hardware Monitors enabled to monitor the operation of a wide variety of hardware products.

- The command ioscan improved to provide clearer descriptions for most common PCI devices.

Chapter 8: Process, Threads, Memory, and Kernel Parameters

- Gang scheduling for MPI applications and multi-threaded processes enabled.

- CMA threads deprecated and kernel threads implemented.

- Amount of private data space available increased.

- The creation of unique memory windows for shared objects now allowed for 32-bit processes.

- Dynamic tunables enabled.

- System-V IPC message queue enhanced.

- System-V IPC kernel tunable configuration parameter SEMMSL now a dynamic kernel tunable.

- SCSI Queue depth management enhanced.

Chapter 9: Disk and File Management

- Striping and mirroring for shared volume groups enabled.

- Journaled File System (JFS) upgraded to version 3.3.

- Network File System (NFS) now supported over TCP/IP in addition to running over User Datagram Protocol (UDP).

- Also added to NSF are loopback transport support, user-space threads, and enhancements to NFS server-side performance.

- New daemon, AutoFS, mounts and unmounts NFS file systems automatically with more reliability than automount.

- HP Fibrechannel High Availability Disk and Closure added.

Chapter 10: Internet and Networking Services

- New version of `sendmail`, **sendmail-8.9.3**, included.

- New version of `BIND`, BIND **8.1.2**, included.

- The `rexecd` and `remshd` services now use Pluggable Authentication Module (PAM) for authentication.

- Dynamic Host Protocol (DHCP) enabled to perform updates to DDNS.

- Network Transport (including `ifconfig`, `ndd`, `nestat`, virtual IP (VIP) address, `setsockopt`, `T_OPTMGMT`) enhanced.

- New version of FTPD enhanced with new features.

- STREAMS/UX enhanced.

- Low Bandwidth X Extension (LBX) improves performance on wide-area networks and on slower speed connections.

Chapter 11: Security

- Generic Security Services Application Programming Interface (GSS API) introduced to provide security independent of underlying security mechanisms and communication protocols.

- Program stacks can now be execute-protected to guard against buffer overflow attacks.

- New, convenient way to customize security features enabled.

- Password history enabled to discourage users from re-using previous passwords.

- Kerberos Client Software now provided to enable integrating HP-UX into a secure enterprise environment.

Chapter 13: Programming

- HP-UX Software Transition Kit (STK) aids in transitioning software to 32-bit or 64-bit versions of HP-UX 11i v1.

- New ANSI-compliant Standard C++ library included.

- System library `libc` enhanced, including performance improvements to `ftw()`, `nftw()`, and `malloc()`.

- The libcres.a library, a small archive library, added to provide customers running performance-critical applications with the benefit of a static link.

- Linker and Object File Tools enhanced.

- The `linker/dld` interface enhanced.

- HP Distributed Computing Environment (HP DCE/9000) version 1.8 provides framework to develop, administer, and use distributed applications.

- Extensions to `pstat()` system call enables system management and measurement tools to eliminate dependency on the `/dev/kmem` pseudo-driver.

- New parameters for `confstr()` defined.

Chapter 15: Internationalization

- Improved interoperability enabled through system level support provided for the Unicode 2.1/ISO-10646 character set.

- Improved interoperability enabled through corrected character converter mappings.

- Enhancements provided to allow Euro display, input, and processing capabilities.

- Asian enhancements provided, including new Asian code sets, UDC (User Defined Characters, or Gaiji), printing, and code set conversions with mainframe code sets.

- Enhancements provided to the printer capabilities of Japanese System Environment; Korean System Environment; Simplified-Chinese System Environment; Traditional-Chinese System Environment.

- New set of multibyte APIs added to `libc` to follow C99 (ISO/IEC 9899:1999) and Unix98 specifications.

4 Workstation- and Server-Specific Information

What is in This Chapter?

This chapter describes server- and workstation-specific platforms and configurations, including the following:

Graphics and Technical Computing Software

HP's Graphics and Technical Computing bundle includes OpenGL, Starbase, and HP-PHIGS 3D APIs. HP's workstation graphics software support includes the run-time and programming environment packages for the 3D graphics APIs named above, plus additional software for technical computing environments. However, some functionality (notably accelerated 3D graphics) requires special hardware.

NOTE   As of the September 2002 11i release, HP 3D Graphics are no longer supported on PA-RISC systems older than 2.0. The 3D graphics code is now optimized for PA 2.0 (64-bit capable) processors and will not execute on older PA-RISC microprocessors. If you have an older PA-RISC workstation and need local 3D graphics support, HP recommends that you not update to the September 2002 release (or later) of the Technical Computing (TCOE) or Minimal Computing (MCOE) Operating Environments. The previous releases of HP-UX 11i contain 3D graphics code that will execute on any PA-RISC microprocessor. You can determine the PA version with the System Administration Manager (SAM) by selecting Performance Monitors and then System Properties. The PA version appears on the line labeled CPU Version.

Summary of Change

The Graphics and Technical Computing bundle, as of the December 2006 release, supports OpenGL 1.3 and GLX 1.3 on the ATI FireGL X1, T2, and X3 graphics cards.

Impact

You can now use OpenGL 1.3 and GLX 1.3 features on the ATI FireGL X1, T2, and X3 graphics cards.

Compatibility

OpenGL 1.3 and GLX 1.3 are compatible with previous OpenGL and GLX releases on HP-UX.

Performance

OpenGL 1.3 and GLX 1.3 performance is comparable to previous OpenGL and GLX releases on HP-UX.

Documentation

For further information, see the following documents, available at `http://www.hp.com/support/Graphics_Admin_Guide_PA`:

- *Graphics Administration Guide*
- *OpenGL Implementation Guide*

Obsolescence

Not applicable.

Hardware Enablement

The Hardware Enablement (HWE) Program provides regular updates of the `HWEnable11i` Patch Bundle, the HP-UX OnlineDiag, and other HP-UX software to support the hardware used with HP-UX systems. Each HP-UX 11i OE update includes `HWEnable11i`, OnlineDiag (with Diagnostics and Support Tools), Ignite-UX and I/O driver bundles that provide support for new and future systems, I/O adapters, and mass-storage products. The HP-UX 11i OE software gets ignited on new systems in HP manufacturing, and automatically loaded as part of any HP-UX 11i OE update. It is included on the HP-UX 11i OE media and on the HP-UX 11i Support-Plus CD.

Summary of Change

HWE has been updated to pre-enable HP-UX support for new I/O adapters and servers.

Impact

HP updates this bundle with required patches for new hardware. This bundle is updated for each release of the 11i v1 OE media. In addition to delivery on the HP-UX 11i v1 OE media, `HWEnable11i` is also available on the HP IT Resource Center (ITRC) Web site at `http://itrc.hp.com`

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The "bundle readme" document can be found on the OE media under the `/DOCS/PATCH` directory, or on the IT Resource Center Web site at `http://itrc.hp.com`.

Obsolescence

Not applicable.

HP Instant Support Enterprise Edition

Hewlett-Packard Instant Support Enterprise Edition (ISEE) is a secure remote support platform for business servers and storage devices. The HP ISEE client software is installed on each supported device covered by an HP Support Agreement. ISEE Monitored Clients communicate directly with the HP Support Center through the firewall and/or Web proxy server to deliver hardware incident information to the HP support center for reactive support. Additionally, system information is collected and can be used for proactive support.

Summary of Change

ISEE has been updated to version A.03.95.500.41 to incorporate defect fixes.

Impact

There is no known impact.

Compatibility

Before enabling or configuring Instant Support Enterprise Edition, verify that you have collected the necessary information and met all of the requirements outlined in Chapter One and Appendix A of the *HP Instant Support Enterprise Edition Client Installation and Upgrade Guide*, available at `http://www.hp.com/learn/isee`. Please note that HP Instant Support Enterprise Edition is only supported on servers, not HP-UX workstations.

Enabling ISEE

ISEE is installed in a disabled state. To enable the client complete the following steps:

1. In the file `/etc/rc.config.d/hpservices.conf` change the value of *START_TUNER* from 0 to 1.

2. In the file `/etc/rc.config.d/rstemsListener` change the value of *RST_LISTENER* from 0 to 1.

3. Execute `/sbin/init.d/hpservices start`.

4. Execute `/sbin/init.d/rstemsListener start`.

Configuring ISEE

The ISEE configuration process is documented in the section titled "Configuring ISEE after an Individual Installation" in the *HP Instant Support Enterprise Edition Client Installation and Upgrade Guide*. Additional information about ISEE and HP-UX servers can be found in Appendix A.

Performance

There is no known improvement or degradation in performance.

Documentation

Information about ISEE, including the *HP Instant Support Enterprise Edition Client Installation and Upgrade Guide*, is available at `http://hp.com/learn/isee`.

For a complete list of ISEE-supported operating systems and hardware devices, please view the ISEE supported products Web page at `http://hp.com/hps/hardware/hw_products.html`

Obsolescence

Not applicable.

Networking and Mass Storage Drivers

HP-UX 11i v1 includes drivers for networking and mass storage adapter cards. The drivers are described in the following sections:

- Always-Installed Networking Drivers (see page 81)
- Selectable Networking Drivers (see page 84)
- Always-Installed Mass Storage Drivers (see page 86)

Always-Installed Networking Drivers

The following table lists networking drivers that are automatically installed. For more details about changes to these drivers, see the remainder of this section.

For the most current information on supported I/O cards, see the set of Support Matrixes available on the I/O Cards and Networking Software Web page at `http://www.docs.hp.com/en/netcom.html`. At the top of the page, click the link for the card technology you are interested in, then scroll down to the "Support Matrixes" heading. If a support matrix for your card technology is unavailable, check the card's user guide or release notes.

Table 4-1   Always-Installed Networking Drivers

Networking Driver Bundle	Driver	Card Number	Description
`FDDI-00`	`fddi4`	A3739A/B	PCI FDDI card
`FibrChanl-01`[a] and `GigEther-01`	`fcd` and `igelan`	A9782A	PCI-X 2Gb Fibre Channel/1000Base-SX (Fibre) Combination Card

Table 4-1   Always-Installed Networking Drivers (Continued)

Networking Driver Bundle	Driver	Card Number	Description
`FibrChanl-01`[a] and `GigEther-01`	`fcd` and `igelan`	A9784A	PCI-X 2Gb Fibre Channel/1000Base-T (Copper) Combination Card
`FibrChanl-01`[a] and `GigEther-01`	`fcd` and `igelan`	AB465A	PCI-X Multifunction 2-Port 2Gb FC / 2-Port 1000Base-T Adapter
`GigEther-00`	`gelan`	A4924A, J1642AA	HSC 1000Base-SX (gigabit over fiber) card
`GigEther-00`	`gelan`	A4925A	HSC 1000Base-SX (gigabit over fiber) card
`GigEther-00`	`gelan`	A4926A	PCI 1000Base-SX (gigabit over fiber) card
`GigEther-00`	`gelan`	A4929A	PCI 1000Base-T (gigabit over copper) card
`GigEther-01`	`igelan`	A6825A	PCI 1000/Base-T (gigabit over copper) card
`GigEther-01`	`igelan`	A6847A	PCI 1000/Base-SX (gigabit over fiber) card
`GigEther-01`	`igelan`	A7109A	PCI Gigabit Ethernet BaseT/Ultra 160 combo card
`HPUXBase64`, `HPUXBase32`	`btlan`	A3738A	PCI 10/100Base-TX card
`HPUXBase64`, `HPUXBase32`	`btlan`	A5230A	PCI 10/100Base-TX card for servers
`HPUXBase64`, `HPUXBase32`	`btlan`	A5506A	PCI 4-port 10/100Base-TX card
`HPUXBase64`, `HPUXBase32`	`btlan`	A5506B	PCI 4-port 10/100Base-TX card
`HPUXBase64`, `HPUXBase32`	`btlan`	A5838A	PCI Combination Dual port 10/100Base-TX and Wide Ultra2 SCSI card
`HPUXBase64`, `HPUXBase32`	`btlan`	B5509BA	PCI 10/100Base-TX card for workstations
`HPUXBase64`, `HPUXBase32`	`btlan`	J3514A opt #001	HSC 10/100Base-TX 2-port for K-Class and T600 servers
`HPUXBase64`, `HPUXBase32`	`btlan`	J3514A opt #002	HSC 10/100Base-FX (fiber) 2-port for K-Class and T600 servers
`HPUXBase64`, `HPUXBase32`	`btlan`	J3515A	HSC 10/100Base-TX 1-port for C, J workstations and A, D, R-Class servers (except D200)
`HPUXBase64`, `HPUXBase32`	`btlan`	J3516A opt #001	HSC 10/100Base-TX 2-port for C, J workstations and A, D, R-Class servers (except D200)

Table 4-1   Always-Installed Networking Drivers (Continued)

Networking Driver Bundle	Driver	Card Number	Description
`HPUXBase64,` `HPUXBase32`	`btlan`	J3516A opt #002	HSC 10/100Base-FX (fiber) 2-port for C, J workstations and A, D, R-class servers (except D200)
`HPUXBase64,` `HPUXBase32`	`btlan`	J3850A	HSC 10/100Base-TX card for T-Class server
`IEther-00`	`iether`	A7011A	PCI-X 2-Port 1000Base-SX (Fibre) card
`IEther-00`	`iether`	A7012A	PCI-X 2-Port 1000Base-T (Copper) card
`IEther-00` and `scsiU320-00`[b]	`iether` and `mpt`	AB290A	PCI-X 2-Port U320 SCSI / 2-Port 1000Base-T Adapter
`IEther-00`	`iether`	AB352A	Core 1000Base-T Dual-Port Card for the rx4640 server
`IEther-00`	`iether`	AB545A	PCI-X 4-Port 1000Base-T Adapter

a. `FibrChanl-01` is an always-installed mass storage driver. It has been placed here because it is one of the two drivers that support this card.

b. `scsiU320-00` is an always-installed mass storage driver. It has been placed here because it is one of the two drivers that support this card.

NOTE   The `HWEnable11i` bundle, which is normally installed by default on the 11i OE media, provides the patches that are required for the installation of these networking bundles. When updating an existing 11i system, you can install the `HWEnable11i` bundle *and* the desired networking bundle from the OE media in the same install session to meet software dependencies.

In addition to currently supported cards, the `swlist` report may contain the product numbers of cards that have been "pre-enabled," but have not been released yet.

Gigabit Ethernet

HP-UX 11i v1 OE release of December 2006 provides the always-installed Gigabit Ethernet networking driver `iether`.

Summary of Change

`IEther-00` has been updated to version is 11.11.13 in December 2006 to pre-enable future technology. When the cards are available, information about driver versions that support these cards will be available in the "Product History" documentation for the cards at **http://www.docs.hp.com/en/netcom.html**.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information about the drivers, see the specific driver release notes at `http://docs.hp.com` (navigate to **I/O Cards and Networking Software** then to **Gigabit Ethernet**).

Obsolescence

Not applicable.

Selectable Networking Drivers

The following table lists drivers that are not automatically installed, but can be selected during installation. For more details about changes to these drivers, see the remainder of this section.

For the most current information on supported I/O cards, see the set of Support Matrixes available on the I/O Cards and Networking Software Web page at `http://www.docs.hp.com/en/netcom.html`. At the top of the page, click the link for the card technology you are interested in, then scroll down to the "Support Matrixes" heading. If a support matrix for your card technology is unavailable, check the card's user guide or release notes.

Table 4-2   Selectable Networking Drivers[a]

Networking Driver Bundle	Driver	Card Number	Description
10GigEthr-00	ixgbe	AB287A	PCI-X Gigabit Ethernet card
100BaseT-00	btlan0	A4308B, A3658A	EISA 100BaseT Card
100BaseT-01	btlan1	A3495A	HPPB 100BaseT card
ATM-00	atm2pci atmpci	A5483A, A5513A, A5515A, J3557A	PCI ATM cards

Table 4-2 **Selectable Networking Drivers**[a] **(Continued)**

Networking Driver Bundle	Driver	Card Number	Description
ATM-01	atm2gsc	J2468A, J2469A, J2499A, J3420B, J3573A	HSC ATM cards
FDDI-01	fddi3	A3722A A3723A	HSC FDDI cards
FDDI-02	fddi	J2157B	HP-PB FDDI card
FDDI-03	fddi0	A3659A, B5502BA	EISA FDDI cards
HyprFabrc-00	clicd	A4919A A4920A A4921A A6092A, A6386A	PCI HyperFabric HSC HyperFabric HSC HyperFabric PCI HyperFabric
PCIMUX-00	pci_mux1	AD278A AD279A	(to be released) (to be released)
TermIO-00	pci_mux0	J3592A, A6748A J3593A, A6749A	PCI MUX (8-port) PCI MUX (64-port)
TermIO-01	eisa_mux0	J2482A, J2483A	EISA MUX
TokenRing-00	pcitr	A5783A, A4930A	PCI Token Ring card
TokenRing-01	token2	J2166B	HP-PB Token Ring card
TokenRing-02	token1	J2165B	EISA Token Ring card

a. In addition to currently supported cards, the swlist report may contain the product numbers of cards that have been "pre-enabled," but have not been released yet.

PCIMUX-00

The HP AD278A/AD279A PCI MUX is a high-speed serial communication multiple port product. It combines various signals for transmission over a single channel and provides intelligent communication functions to off-load CPUserial communication processing tasks.

Summary of Change

The `PCIMUX-00` driver bundle, which delivers the `pci_mux1` driver, has been added to the HP-UX 11i v1 Operating Environments to support the AD278A and AD279A cards.

NOTE   The installation of this driver bundle requires the `insf` patch. This patch is automatically selected when updating an existing system with `PCIMUX-00` driver.

For more information about platform support for AD278A and AD279A cards, see the Support Matrix document at

`http://www.docs.hp.com/en/netcom.html#Multiplexers`.

Impact

There are no known impacts.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

You can view the following documentation at `http://www.docs.hp.com` (navigate to **I/O Cards and Networking Software**, then **Multiplexers**):

- *HP AD279A PCI 64-Port Serial Multiplexer Installation Guide*
- *HP AD278A PCI 8-Port Serial Multiplexer Installation Guide*
- *HP AD278A and AD279A PCI Multiplexer Support Guide*
- *HP AD278A and AD279A PCI Multiplexer Release Notes*

Obsolescence

Not applicable.

Always-Installed Mass Storage Drivers

The following table lists mass storage drivers that are automatically installed. For more details about changes to these drivers, see the remainder of this section.

For the most current information on supported I/O cards, see the set of Support Matrixes available on the I/O Cards and Networking Software Web page at `http://www.docs.hp.com/en/netcom.html`. At the top of the page, click the link for the

card technology you are interested in, then scroll down to the "Support Matrixes" heading. If a support matrix for your card technology is unavailable, check the card's user guide or release notes.

Table 4-3   Always-Installed Mass Storage Drivers

Mass Storage Driver Bundle	Driver	Card Number	Description
`FibrChanl-00`	`td`	A5158A	PCI Tachyon TL/TS Fibre Channel card
`FibrChanl-00`	`td`	A6684A	HSC-eff Tachlite Fibre Channel Adapter
`FibrChanl-00`	`td`	A6685A	HSC Tachlite Fibre Channel Adapter
`FibrChanl-00`	`td`	A6795A	PCI Tachyon XL2 Adapter card
`FibrChanl-01`	`fcd`	A6826A	PCI-X Dual Port 2 Gb/1 Gb Fibre Channel Adapter
`FibrChanl-01`	`fcd`	AB378A	Single Port Fibre Channel Adapter
`FibrChanl-01`	`fcd`	AB379A	Dual Port Fibre Channel Adapter
`FibrChanl-01` and `GigEther-01`[a]	`fcd` and `igelan`	A9782A	PCI-X 2Gb Fibre Channel/1000Base-SX (Fiber) Combination Card
`FibrChanl-01` and `GigEther-01`[a]	`fcd` and `igelan`	A9784A	PCI-X 2Gb Fibre Channel/1000Base-T (Copper) Combination Card
`FibrChanl-01` and `GigEther-01`[a]	`fcd` and `igelan`	AB465A	PCI-X Multifunction 2-Port 2Gb FC / 2-Port 1000Base-T Adapter
`RAID-00`	`iop_drv`	A5856A	PCI RAID 4Si controller
`RAID-01`	`ciss`	A7143A	RAID160 SA SCSI Controller
`RAID-01`	`ciss`	A9890A	Smart Array 6402 Controller
`RAID-01`	`ciss`	A9891A	Smart Array 6404 Controller
`scsiU320-00`	`mpt`	A7173A	PCI-X 2-Channel Ultra320 SCSI Adapter

a. `GigEther-01` is an always-installed networking driver. It has been placed here because it is one of the two drivers that support this card.

NOTE   The `HWEnable11i` bundle, which is normally installed by default on the 11i OE media, provides the patches that are required for the installation of these mass storage bundles. When updating an existing 11i system, one can install the `HWEnable11i` bundle and the desired mass storage bundle from the OE media in the same install session to meet software dependencies.

In addition to currently supported cards, the `swlist` report may contain the product numbers of cards that have been "pre-enabled," but have not been released yet.

FibrChanl-00 (HP PCI Tachyon TL/TS/XL2 Fibre Channel Driver)

This section contains information pertaining to the B.11.11.13 version of the
`FibrChanl-00` (`td`) Fibre Channel Mass Storage driver provided with HP-UX 11i v1. The
`td` driver supports the following Fibre Channel products:

- A6795A PCI Tachyon XL2 Fibre Channel Adapter
- A5158A PCI Tachyon TL/TS Fibre Channel Adapter
- A6684A HSC-eff Tachlite Fibre Channel Adapter
- A6685A HSC Tachlite Fibre Channel Adapter

Summary of Change

`FibrChanl-00` has been updated to version B.11.11.13 to incorporate defect fixes. For
details, see the *HP PCI Tachyon XL2 Fibre Channel Driver Release Notes*, available at
`http://docs.hp.com/en/netcom.html#Fibre%20Channel`.

Impact

See the *HP PCI Tachyon XL2 Fibre Channel Driver Release Notes* for details.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Complete Fibre Channel documentation is available on `http://www.docs.hp.com` under
I/O Cards and Networking Software, Fibre Channel, or directly at:
`http://www.docs.hp.com/hpux/netcom/index.html#Fibre%20Channel`.

- Support Guide - The *HP Fibre Channel Support Guide* includes an adapter overview,
  installation details, adapter configuration, troubleshooting and maintenance
  information, additional features, and regulatory information.
- Installation Guide - Contains software and hardware installation information for
  specific HBAs.
- Support Matrix - The *Support Matrix* includes a matrix of Fibre Channel adapters,
  supported hardware platforms, Operating Systems, Driver Bundle Versions, and
  minimum PDC/Firmware requirements
- White Papers can also be found in this section.

Obsolescence

Not applicable.

FibrChanl-01

The `FibrChanl-01` bundle delivers the `fcd` driver, which supports the A6826A, A9782A, A9784A, AB465A, AB378A, and AB379A cards.

Summary of Change

The `FibrChanl-01` bundle containing the `fcd` driver has been updated with quality and diagnostic improvements, and support of the I/O cards mentioned above.

See the support documentation for details.

Impact

There are no known impacts other than those previously described.

Compatibility

See support documentation as well as pertinent supported server and storage documents.

Performance

There are no known performance issues.

Documentation

- Manpages: `mptconfig` and `mptutil`
- Documentation is also available at `http://www.docs.hp.com` in the **I/O Cards and Networking Software** section.

Obsolescence

Not applicable.

RAID-01

The `RAID-01` bundle delivers the driver `ciss` for the A9890A, A9891A, and A7143A cards.

Summary of Change

The `RAID-01` bundle containing the `ciss` driver has been updated with quality and diagnostic improvements and defect fixes. Review support documentation for details.

Impact

Customers with HP-UX 11i v1 systems will already have the correct driver available.

Compatibility

This kind of information will be detailed in the A9890A, A9891A, and A7143A documentation as well as pertinent supported server and storage docs.

Performance

There are no known performance issues.

Documentation

For further information, see the `mptconfig` and `mptutil` manpages, as well as documentation available at **http://docs.hp.com** (navigate to **I/O Cards and Networking Software**, then to **Smart Array (RAID)**).

Obsolescence

Not applicable.

scsiU320-00

The `scsiU320-00` bundle delivers the driver `MPT`, for the A7173A card.

Summary of Change

The `scsiU320-00` bundle containing the `MPT` driver has been updated with quality and diagnostic improvements. Review support documentation for details.

Impact

You will be able to run supported Ultra320 SCSI solutions (core IO and add-in cards) and utilize supported Ultra320 capable storage.

Compatibility

See the A7173A HBA documentation as well as pertinent supported server and storage documents.

Performance

There are no known performance issues.

Documentation

- Manpages: `mptconfig` and `mptutil`
- Documentation is also available at **http://www.docs.hp.com** in the **I/O Cards and Networking Software** section.

Obsolescence

Not applicable.

Supported Systems

The following subsections list the servers and workstations that HP-UX 11i v1 (B.11.11) currently supports (as of the time of this writing):

- Supported Servers (see page 91)

- Supported Workstations (see page 94)

NOTE   For the most current information about these servers and workstations, refer to the following Web sites:

- HP Servers and Enterprise Systems

  `http://hp.com/go/servers`

- HP Workstations

  `http://hp.com/go/workstations`

- Enterprise Servers, Workstations and Systems Hardware Documentation

  `http://docs.hp.com/hpux/hw/`

For information on how to find the latest firmware requirements, see "Finding Firmware Information" on page 95.

Supported Servers

The following table lists currently supported servers. Some servers in this list may have been discontinued although they are still supported. The table does not list obsoleted[1] servers, nor does it include servers that may have been added after this document was developed.

For the most up-to-date information, consult your HP Representative or refer to the HP Servers and Enterprise Systems Web site at `http://hp.com/go/servers`.

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Table 4-4   Supported Servers

Bezel or Model	32-bit Support	64-bit Support	Comments
A-Class: A180, A180C	Yes		PA-7300LC A180/A180C discontinued February 1, 2001.
A-Class: A400, A500		Yes	PA-8500 and newer processors A400/A500 discontinued September 1, 2002.
bp2200 blade (in an HP bh3710 chassis)		Yes	PA-8600 processor only HP-UX `model` string: 900/800/HPServerBlade8600/3xx2

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1. "Obsoleted" means that the server has been discontinued (it is no longer sold) *and* is no longer supported by HP.

Table 4-4   Supported Servers (Continued)

Bezel or Model	32-bit Support	64-bit Support	Comments
D-Class: D220, D230, D320, D330	Yes		PA-7*xxx* D220/D230 discontinued June 1, 2000. D320 discontinued September 1, 2001, and D330 discontinued February 1, 2001.
D-Class: D270, D280, D370, D380, D390	Yes	Yes	PA-8*xxx* D270/D280/D370 discontinued June 1, 2000. D380 discontinued November 1, 2000, and D390 discontinued September 1, 2001.
K-Class: Kx20, Kx70, Kx80, K250, K360, K450, K460	Yes	Yes	Kx20: PA-7200 processor All other K-Class servers: PA-8*xxx* Kx20 discontinued September 1999. Kx70 discontinued November 1, 2000. Kx80 discontinued September 1, 2001. K250/K450 discontinued December 1, 2000. K360/K460 discontinued June 1, 2000.
L-Class: L1000, L2000		Yes	PA-8500 and newer processors L1000/L2000 discontinued May 1, 2002.
L-Class: L1500, L3000		Yes	PA-8600 and newer processors L1500/L3000 discontinued January 1, 2004.
N-Class: N4000		Yes	PA-8500 and newer processors Discontinued April 25, 2003.
R-Class: R380, R390	Yes	Yes	PA-8000 and newer processors R380 discontinued August 1, 2000. R390 discontinued September 1, 2001.
rp2400		Yes	PA-8500 processor HP-UX `model` string: A400-44 Discontinued September 1, 2002.
rp2405/rp2405-2		Yes	PA-8700 processor Discontinued November 1, 2004.
rp2430/rp2430-1		Yes	PA-8700 processor HP-UX `model` string: A400-6X Discontinued November 1, 2004.
rp2450		Yes	PA-8500 and newer processors HP-UX `model` string: A500-44 or A500-5X Discontinued September 1, 2002.

Table 4-4   Supported Servers (Continued)

Bezel or Model	32-bit Support	64-bit Support	Comments
rp2470/rp2470-2		Yes	PA-8700 processors HP-UX `model` string: A500-6X or A500-7X Discontinued November 1, 2004.
rp3410/rp3410-2		Yes	PA-8800 processors
rp3440/rp3440-4		Yes	PA-8800 and newer processors
rp4440/rp4440-8		Yes	PA-8800 and newer processors
rp5400		Yes	PA-8500 and PA-8600 processors HP-UX `model` string: L1000-36, -44, -5X Discontinued May 1, 2002.
rp5405/rp5405-4		Yes	PA-8700 processors HP-UX `model` string: L3000-6X
rp5430		Yes	PA-8600 and newer processors HP-UX `model` string: L1500-5X, -6X, -7X, or -8X Discontinued July 1, 2004.
rp5450		Yes	PA-8500 and PA-8600 processors HP-UX `model` string: L2000-36, -44, -5X Discontinued May 1, 2002.
rp5470/rp5470-4		Yes	PA-8600 and newer processors HP-UX `model` string: L3000-5X, -6X, -7X, or -8X Discontinued July 1, 2004.
rp7400		Yes	PA-8500 processors HP-UX `model` string: N4000-65 or N4000-75 Discontinued February 1, 2003.
rp7405/rp7405-8 and rp7410/rp7410-8		Yes	PA-8700 processor HP-UX `model` string: 9000/800/rp7410 (both rp7405 and rp7410)
rp7420/rp7420-16		Yes	PA-8800 and newer processors
rp8400/rp8400-16		Yes	PA-8700 and newer processors HP-UX `model` string: S16K-A
rp8420/rp8420-32		Yes	PA-8800 and newer processors
Superdome SD16		Yes	HP-UX `model` string: 9000/800/S16000

Table 4-4   Supported Servers (Continued)

Bezel or Model	32-bit Support	64-bit Support	Comments
Superdome SD16A		Yes	HP-UX `model` string: 9000/800/SD16A
Superdome SD32		Yes	HP-UX `model` string: 9000/800/S32000
Superdome SD32A		Yes	HP-UX `model` string: 9000/800/SD32A
Superdome SD64		Yes	HP-UX `model` string: 9000/800/S64000
Superdome SD64A		Yes	HP-UX `model` string: 9000/800/SD64A
T-Class: T600	Yes	Yes	PA-8*xxx* Discontinued August 1, 1999.
V-Class: V2200, V2250, V2500, V2600		Yes	PA-8200 and newer processors V2200 discontinued September 1999. V2250 discontinued July 1, 2000. V2500 discontinued January 1, 2001. V2600 discontinued December 1, 2001.

Supported Workstations

The following table lists currently supported workstations. Some workstations in this list may have been discontinued although they are still supported. The table does not list obsoleted[1] workstations, nor does it include workstations that may have been added after this document was developed.

For the most up-to-date information, consult your HP Representative or refer to the HP Workstations Web site at `http://hp.com/go/workstations`.

Table 4-5   Supported Workstations

Model(s)	Comments
B-Class: PA-8600	B2600
C-Class: PA-8700 and forward	C3600, C3650, C3700, C3750
C-Class: PA-8800	C8000
J-Class: PA-8500 and forward	J5600, J6000
J-Class: PA-8700 and forward	J6700, J6750

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1. "Obsoleted" means that the workstation has been discontinued (it is no longer sold) *and* is no longer supported by HP.

Finding Firmware Information

Firmware changes frequently. Make sure your system has the latest firmware installed to support, for example, the latest versions of I/O adapters, mass storage devices, and devices used when you install from media or a network depot.

- For a matrix of system firmware for PCI I/O adapters and HP-UX 11i boot support, as well as the minimum firmware requirements for HP-UX 11i v1, refer to the documents at `http://docs.hp.com/en/hw.html#System%20Firmware`.

- For the latest HP-UX 11i firmware updates, go to the IT Resource Center (ITRC) Web site at `http://itrc.hp.com`.

  Log in to your appropriate region. Click **maintenance and support (for hp products)**, then **find individual patches and firmware**.

  If you have to patch your firmware, the ITRC provides a patch database to search, as well as patch documentation that provides information on how to patch the firmware.

- HP also provides the Subscriber's Choice, which enables you to sign up to receive email notices for firmware updates. At the ITRC Web site, click **maintenance and support (for hp products)**, then **support information digests**.

Utility Pricing Solutions

The HP Instant Capacity (iCAP) and HP Pay per use (PPU) software products are a part of the HP Utility Pricing Solutions program. iCAP is a purchase model in which capacity can be instantly increased to accommodate increasing demands. PPU is a lease model in which customers are charged only for actual processor usage.

HP Instant Capacity

The HP Instant Capacity (iCAP) version B.11.11.08.01 software (product number B9073BA) provides the ability to instantly increase or decrease processing capacity on specified HP Enterprise servers.

Summary of Change

iCAP has been updated to version B.11.11.08.01 to include modifications to the installation procedure, to incorporate changes to GiCAP grouping rules and icapstatus command output, and to incorporate several defect fixes.

For further information, see the *HP Instant Capacity (iCAP) Release Notes* at `http://docs.hp.com` (navigate to **Network and Systems Management**, then to **Utility Pricing Solutions**).

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

- Manpages:

    — *icap* (5)

    — *icapmanage* (1M)

    — *icapmodify* (1M)

    — *icapnotify* (1M)

    — *icapstatus* (1M)

- Web Sites:

    — HP Software Depot: `http://hp.com/go/softwaredepot`

    — Technical Documentation: `http://docs.hp.com`

- Documents:

    For details on the HP Instant Capacity software product, see the *Instant Capacity User's Guide* and *Release Notes* located on the HP Web site `http://docs.hp.com` (under **Network and Systems Management** —> **Utility Pricing Solutions**).

Obsolescence

Not applicable.

HP Pay per use

The HP Pay per use (PPU) program is a lease model in which customers are charged only for the computing capacity that they use. The PPU software (HP product T2351AA) provides services for metering resource utilization. The current version is B.11.11.08.00.01.

Summary of Change

- In September 2005, PPU version B.07.00.01 was delivered on the HP-UX 11i v1 Operating Environments and provided the following features:

    — The name of the product (formerly Pay Per Use) was changed to HP Pay per use.

    — The software has been updated to include the required SSL certificate for communication from the PPU software to the utility meter.

    — The current release of PPU (version B.07.00.01) allows either pricing model, CPU active or percent utilization, to be used as the metric.

    Additionally, a processor cap can be specified with the current version of PPU.

- In June 2006, PPU version B.08.00 was delivered on the HP-UX 11i v1 Application Release (AR) media and provided the following features:

    — Support for HP Integrity Virtual Machines Environment.

    — PPU now requires NParProvider version B.12.01.06.01 or greater.

    — The Utility Pricing program changed terminology to be consistent with the new HP definitions of "processor," "CPU" and "core." The two metrics previously known as "Percent CPU" and "Active CPU" are now called "Percent Core" and "Active Core."

- In December 2006, PPU version B.08.00.01 is delivered on the HP-UX 11i v1 Operating Environments and provides the following features:

    — Defect fix for error message reported when cells are powered down.

    — Defect fix for incorrect reporting of TotalCPUs.

Impact

PPU Version B.11.11.08.00.01 supersedes version B.11.11.08.00 on HP-UX 11i v1.

The two metrics for measuring pricing and utilization are now called Percent Core and Active Core (previously known as Percent CPU or Processor Percent, and Active CPU or Number Active Processors). The billing amounts vary as your core usage increases or decreases. This is different than traditional financing approaches that are based on fixed-payment amounts for a specified period. PPU can be run in an HP Integrity Virtual Machines environment (HPVM). In this case, the usage information for billing purposes is still the overall usage for the host. However, you can examine the usage report at the portal to see a detailed breakdown of the usage for each Virtual Machine (also called a "guest"). In an HPVM environment, PPU needs to be installed and configured only on the host, not on the guest Virtual Machines. (PPU commands are therefore only executed on the host.)

Compatibility

While the utilization metric names have changed, as well as other terminology, the methods of measuring resource utilization have not changed. There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information, see the following:

- Manpages:

    — *ppu* (5)

    — *ppuconfig* (1M)

    — *ppud* (1M)

- Web Sites:

— HP Software Depot: `http://hp.com/go/softwaredepot`

— Technical Documentation: `http://docs.hp.com`

— Pay per use: `http://www.hp.com/hpfinancialservices/pay_per_use.html`

• Documents:

For details on the Pay per use software product, see the *Pay per use User's Guide* and *Release Notes* located on the HP Web site at `http://docs.hp.com` (under **Network and Systems Management** —> **Utility Pricing Solutions**).

Obsolescence

Not applicable.

5 General System Administration

What is in This Chapter?

This chapter presents information of particular interest to system administrators, including the following:

- Enterprise Cluster Master Toolkit (see page 101)
- Event Monitoring Service (see page 101)
- High Availability Monitors (see page 102)
- HP OpenView GlancePlus Pak (see page 103)
- HP Partitioning and Virtual Server Environment (see page 105)
  - Enhanced nPartition Commands (see page 105)
  - HP Global Workload Manager (see page 106)
  - HP Process Resource Manager (see page 108)
  - HP-UX Workload Manager (see page 109)
  - HP-UX Workload Manager Toolkits (see page 110)
  - nPartition Provider (see page 111)
  - Partition Manager (parmgr) (see page 111)
  - PRMKernelSW (see page 112)
  - PRMLibraries (see page 113)
  - Utilization Provider (see page 114)
  - vPar Provider (see page 115)
- HP System Management Homepage (see page 115)
- HP Systems Insight Manager (see page 116)
- HP WBEM Services for HP-UX (see page 118)
- HP-UX Peripheral Device Tool (see page 119)
- HP-UX WBEM Fibre Channel Provider (see page 120)
- HP-UX WBEM IOTree Provider (see page 121)
- HP-UX WBEM LAN Provider for Ethernet Interfaces (see page 122)
- HP-UX WBEM LVM Provider (see page 123)
- HP-UX WBEM SCSI Provider (see page 124)
- Ignite-UX (see page 124)
- Online Diagnostics (see page 125)
  - Online Diagnostics (see page 126)
  - System Fault Management (see page 127)
- Software Distributor (see page 128)

- Update-UX (see page 129)

Enterprise Cluster Master Toolkit

The Enterprise Cluster Master Toolkit (ECMT) is a set of templates and scripts that allow you to configure Serviceguard packages for the HP Internet servers as well as for third party database management systems. This unified set of high availability tools is being released on HP-UX 11i v1.

Summary of Change

What's changed in ECMT Version B.04.00 on HP-UX 11 v1:

- Support for Serviceguard 11.17.01 (non-CFS) for

    — Tomcat

    — Oracle 10g R2

- Defect fixes

Impact

No issues are expected.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information, see the *Enterprise Cluster Master Toolkit Version B.04.00 Release Notes* at `http://docs/hp/com/hpux/ha`

Obsolescence

Not applicable.

Event Monitoring Service

The Event Monitoring Service (EMS) is a framework for monitoring system resources, which includes configuring, checking resource status, and sending notification when configured conditions are met.

Summary of Change

In addition to the existing notification methods EMS supports, EMS is now enhanced to send WBEM indications that can be viewed from the EVWEB tool.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Refer to the EMS documentation available at `http://docs.hp.com`.

The EMS user manuals, *Using Event Monitoring Service* and *Using High Availability Monitors*, have been updated.

Obsolescence

Not applicable.

High Availability Monitors

High Availability (HA) Monitors help provide high availability in an HP-UX environment by monitoring particular system resources and informing target applications (e.g., HP ServiceGuard) when the resources they monitor are at critical user-defined values.

Summary of Change

HA Monitors has been updated to support the update of Event Monitoring Service (EMS).

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The following documents are available on the Instant Information CD and on the Web at `http://docs.hp.com`:

*   *Using EMS HA Monitors*
*   *High Availability Monitors Release Notes*

Obsolescence

Not applicable.

HP OpenView GlancePlus Pak

GlancePlus Pak, version C.04.50, integrates the HP OpenView GlancePlus and HP OpenView Performance Agent for HP-UX (OVPA) products into a single tool to help customers better manage the performance and availability of their servers.

Summary of Change

This release includes the following enhancements:

*   For both OVPA and GlancePlus:

    — Dependency of `ttd` to have `rpcbind` or `portmap` running has been eliminated and `ttd` is modified to function independent of `rpcbind` or `portmap`

*   For OVPA:

    This release of OVPA supports the following features:

    — This release of OVPA supports both HTTP & HTTPS-based single port communication. In addition, using HTTPS enables secure communication. OVPA continues to support existing DCE-based communication. You can configure OVPA to use either DCE-based or HTTP(S)-based data communication.

    For more details please refer to Chapter 2 of the *Installation and Configuration Guide* provided as part of the product in Adobe Acrobat (.pdf) format as `ovpainst.pdf` in `/opt/perf/paperdocs/ovpa/C/`.

    Important points to note are as follows:

    — HTTPS-based secure communication is supported only in the OpenView Operations (OVO) 8.x environment.

    — HTTP(S) data communication is supported using CODA.

— Applications that consume performance data from OVPA now have the option of communicating with OVPA using https datacomm. OpenView Performance Manager (OVPM) 5.0 already has the ability to communicate with OVPA using HTTPS. OpenView Reporter (OVR) 3.6 and OpenView Performance Insight (OVPI) 5.1 can only communicate using http datacomm. There are plans to enhance both of these products in future to take advantage of the https communication capability.

What is CODA?

CODA is a daemon that handles data communication (both HTTP and HTTPS) when delivered as part of OVPA. It also handles communication with `perfalarm`, the alarm management daemon. CODA, when delivered as part of OV Operations Agent, provides lightweight system performance collection and Smart Plug-ins (SPI) support.

OVPA shares the "Black Box Communication" functionality with OV Operations, including the `ovbbccb` daemon that is started with and used by CODA. Switching to this newer data communication facility makes communication easier across firewalls (see the *HP OpenView Performance Agent Installation and Configuration Guide for HP-UX Systems* at `/opt/perf/paperdocs/ovpa/C/ovpainst.pdf` for details).

— The DCE-based alarm management daemon, `alarmgen`, has been replaced by the HTTP-based `perfalarm`. Perfalarm is the preferred daemon to send alarms to OVO servers. `alarmgen` is still supported for sending alarms to OVPM 3.x (Perfview). Refer to Chapter 2 of the *Installation and Configuration Guide* for details on how to set up `alarmgen` as default alarm management daemon.

— This release includes the following new metrics:

  — *GBL_SWAP_SPACE_AVAIL*

  — *GBL_STATTIME*

  — *GBL_MEM_PAGEIN_RATE*

— The scaling for the following metrics has been changed from KB to MB:

  — *GBL_MEM_AVAIL*

  — *GBL_MEM_PHYS*

This release also provides fixes to major problems and change requests. For information, see the *Release Notes for HP-UX 11iv1* available at **http://ovweb.external.hp.com/lpe/doc_serv/**.

Impact

Refer to the Release Notes of each product (GlancePlus and OpenView Performance Agent) in `/opt/perf/ReleaseNotes/`, or at the following site: **http://ovweb.external.hp.com/lpe/doc_serv/**.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Refer to the release notes of each product (GlancePlus and OpenView Performance Agent) in `/opt/perf/ReleaseNotes/` or at the following site:
http://ovweb.external.hp.com/lpe/doc_serv/

See the documentation of each product (GlancePlus, OpenView Performance Agent and GlancePlus Pak) at the following site:
http://ovweb.external.hp.com/lpe/doc_serv/

Obsolescence

Not applicable.

HP Partitioning and Virtual Server Environment

HP offers a full line of hardware and software partitioning capabilities, including nPartitions, virtual partitions, and HP Integrity Virtual Machines. The HP Virtual Server Environment (VSE) builds on HP partitioning products and the VSE Management Software to help you maximize the use of your server resources in response to changing business needs.

The HP-UX Operating Environments include WBEM providers and agent software that enable your systems to operate in the VSE. The VSE Management Software is not included in the Operating Environments, but is available for download from the following Web site:

http://docs.hp.com/en/vsemgmt/

Enhanced nPartition Commands

The nPartition commands help in managing and configuring partitionable systems. They are used to create a partition, remove a partition, modify the properties and display partition information.

Summary of Change

The nPartition commands on 11i v1 have been enhanced to support Hyper-Threading enablement/disablement on supported platforms. You can use this new feature for remote management of 11i v2 systems. However, you cannot do the same with 11i v1 systems as Hyper-Threading is not supported on PA-RISC machines.

Impact

You can now remotely manage 11i v2 systems.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information see the manual pages of `parstatus`, `parmodify`, and `parcreate`.

Obsolescence

Not applicable.

HP Global Workload Manager

HP Global Workload Manager (gWLM), a component of the HP Virtual Server Environment (VSE) Suite, allows you to centrally define resource-sharing policies that you can use across multiple HP servers. These policies increase system utilization and facilitate controlled sharing of system resources. In addition, gWLM provides both real-time and historical monitoring of the resource allocation. gWLM has three components:

- VSE Central Management Server, or CMS (VSEMgmt)

  You can obtain the VSEMgmt bundle from **http://hp.com/go/softwaredepot**. It is not available on the Operating Environments (OE) or Application Release (AR) media.

  You configure gWLM and monitor your workloads on the system where the CMS software is installed. This system must also have HP Systems Insight Manager 5.x installed.

- Agent (T2743AA)

  The gWLM agent is default-installed on the OE media and is also available from the AR media.

  Install the gWLM agent software on each system where you have workloads you want gWLM to manage. These systems are known as managed nodes. On HP-UX managed nodes, you place each workload in an nPartition (npar), a virtual partition (vpar), a virtual machine (created using HP Integrity Virtual Machines), a processor set (pset), or an fss group. On Linux managed nodes, you place each workload in a pset (created using a CPU affinity mask.) gWLM manages your workloads by controlling the resource allocations to the npars, vpars, virtual machines, psets, or fss groups.

- License to Use, or LTU (T2762AA)

  You can obtain the CMS and the agent free of charge. The A.02.50.00.x agent works for a period of 120 days. After the 120 days, the agent:

— Cannot be restarted once it is stopped

— Refuses changes to deployed SRD configurations

— Refuses to deploy new SRD configurations

To continue using gWLM agents after a free-use period has ended, you must install a license on each managed node. This license is available on the AR media. It is also available as part of the VSE LTU (T2786AC), which enables you to use gWLM and all the other components of the VSE suite.

Summary of Change

This release of gWLM includes the following changes:

- Support for Linux managed nodes

- Support for Windows virtual machine guests

- Nested partitions

- Default interval differs based on the type of compartment being managed

- Convergence rate now applies to OwnBorrow and utilization policies

- `gwlmreport` config command generates a report showing the history of configuration changes

- Changes to `gwlm` command

    — New `gwlm license --host` option

    — New `gwlm history --purge` option

    — New `gwlm` subcommands

        — `gwlm agentinfo`
        — `gwlm reset`

    — New `gwlm monitor --nested` option

    — `gwlm manage --id` option is no longer required

- Automated security certificate distribution

- Treatment of Temporary Instant Capacity (TiCAP) resources has been modified

- User-configurable log file size and number of log files

- Advisory mode no longer available for psets and fss groups

Impact

gWLM A.02.50.00.x provides more flexibility in managing your systems.

Compatibility

There are no known compatibility issues.

Performance

Improves performance system utilization when properly configured.

Documentation

Manpages:

- `/opt/gwlm/man/man1m.Z/gwlm.1m`
- `/opt/gwlm/man/man1m.Z/gwlmcmsd.1m`
- `/opt/gwlm/man/man1m.Z/gwlmplace.1m`
- `/opt/gwlm/man/man1m.Z/gwlmreport.1m`
- `/opt/gwlm/man/man1m.Z/gwlmsend.1m`
- `/opt/gwlm/man/man1m.Z/gwlmsslconfig.1m`
- `/opt/gwlm/man/man4.Z/gwlmxml.4`
- `/opt/gwlm/man/man5.Z/gwlm.5`

Web sites:

- **http://www.hp.com/go/gwlm**
- **http://docs.hp.com/en/netsys.html#HP%20Global%20Workload%20Manager**

Documents:

- *Getting Started with HP Integrity Essentials Global Workload Manager*
- *HP Integrity Essentials Global Workload Manager Administrator's Guide*
- *VSE Management Software Installation and Update Guide*
- *VSE Management Software Quick Start Guide*

Obsolescence

Not applicable.

HP Process Resource Manager

HP PRM C.03.02 provides an efficient and flexible way to manage resource allocation at times of peak system load. It gives the system administrator the ability to group users or processes together and guarantee each group minimum amounts of the total CPU, real memory, and disk bandwidth available.

Summary of Change

HP PRM has been updated to version C.03.02 with the following changes:

- Changes in bundles (PRMKernelSW and PRMLibraries)

- Integrated with HP System Management Homepage

- Ability to map Unix groups to PRM groups

- Ability to cap PRM group CPU consumption on a per-group basis

- Terminology change: Now use "core" in place of "CPU"

- Extended regular expressions in alternate names for application records

- Deprecation of `xprm` GUI

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

PRM is designed to set resource allocations (CPU, memory, disk bandwidth) for applications. Misconfiguration can result in degradation.

Documentation

- The *prm* (5) manpage provides an overview of PRM and points to all the other manpages.

- Web site: `http://www.hp.com/go/prm` ("Information library" provides white papers)

- Documents (available at: `http://docs.hp.com/hpux/ha/index.html#Process%20Resource%20Manager`):

    — *HP Process Resource Manager User's Guide*

    — *HP PRM Version C.03.02.xx Release Notes*

Obsolescence

Not applicable.

HP-UX Workload Manager

HP-UX Workload Manager (WLM) A.03.02 provides goal-based workload management. This management enables automatic resource allocation and application performance management through the use of prioritized service-level objectives (SLOs). It provides this functionality by automating features of HP-UX Virtual Partitions, nPartitions, Processor Sets, and HP Process Resource Manager (PRM).

Summary of Change

WLM A.03.02 includes the following changes:

- Ability to map Unix groups to workload groups

- Extended regular expressions in alternate names for application records

- Enhancements to `wlminfo` output

- New keyword *utility_reserve_threshold* enables you to configure the minimum number of days of Temporary Instant Capacity that must be available for WLM to use that capacity

Impact

More flexibility in process placement.

Compatibility

There are no known compatibility issues.

Performance

Performance is improved when WLM is used properly, but can degrade when WLM is not configured appropriately.

Documentation

- The *wlm* (5) manpage provides a list of all the manpages in its SEE ALSO section.

- Web site at `http://www.hp.com/go/wlm` (The Information Library page provides white papers.)

- Documents (available at `http://docs.hp.com/hpux/netsys/index.html#HP-UX%20Workload%20Manager`):

    — *HP-UX Workload Manager User's Guide*

    — *HP-UX Workload Manager A.03.02.xx Release Notes*

Obsolescence

Not applicable.

HP-UX Workload Manager Toolkits

The Workload Manager Toolkits (WLMTK) product version A.01.10 enhances functionality provided by WLM and simplifies the integration of various products with WLM. These products include Apache, Oracle database instances, SAP, SAS, SNMP, and WebLogic.

Summary of Change

The Pay Per Use Toolkit, including its `utilitydc` command, has been removed from the product.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

- The *wlmtk* (5) manpage provides an overview of the toolkits and lists all the other manpages.

- Web site at `http://www.hp.com/go/wlm` (The Information Library page provides white papers.)

- Documents (available at `http://docs.hp.com/hpux/netsys/index.html#HP-UX%20Workload%20Manager`):

— *HP-UX Workload Manager Toolkits User's Guide*

— *HP-UX Workload Manager Toolkits Version A.01.10 Release Notes*

Obsolescence

Not applicable.

nPartition Provider

The nPartition Provider, version B.12.01.07.01, is the HP-UX WBEM Services provider for nPartition-related information on partitionable systems. This product is used by Partition Manager and the partition commands to configure and manage HP systems that support nPartitions. With this component, partitionable systems can be managed both locally and remotely. The nPartition Provider is only used through a WBEM interface. It is not invoked directly by the user.

Summary of Change

Version B.12.01.07.01 of the nPartition Provider includes defect fixes and support for WBEM Services 2.5.

Impact

There are no known impacts other than those previously described.

Compatibility

To update to this release of the nPartition Provider, HP recommends installing from the latest HP-UX Operating Environment Update Release (OEUR) or Application Release (AR) distribution.

Performance

There are no known performance issues.

Documentation

Complete information is in the nPartition provider product data sheet, installed as `/opt/nparprovider/doc/nParProviderDataSheet.html`

Obsolescence

Not applicable.

Partition Manager (parmgr)

Partition Manager (`parmgr`) v2.0, version B.12.02.02.02, provides system administrators with a convenient graphical user interface for configuration and management of nPartitions on HP server systems. In addition, Partition Manager enhances the reliability and performance of HP partitioning products by providing automatic detection of several types of configuration problems.

Summary of Change

Version B.12.02.02.02 of Partition Manager includes integrated support for using the HP-UX Peripheral Device Tool (`pdweb`) to display details about I/O slots. The HP-UX Peripheral Device Tool must be running on the selected nPartition and must be configured to start on demand for Partition Manager to perform actions on I/O slots or I/O cards.

Partition Manager for HP-UX 11i v1 (B.11.11) now supports servers based on the HP sx2000 chipset, including HP Superdome (SD16B, SD32B, and SD64B models), rx8640, and rx7640.

Partition Manager includes the ability to enable and disable Hyper-Threading for nPartitions whose cells have processors that are Hyper-Threading capable (such as dual-core Intel® Itanium® 2 processors).

Defect fixes also have been incorporated into this release.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

- The primary documentation for this product consists of a set of HTML online help files. The online help is accessed through context-sensitive help links in Partition Manager.

- The `parmgr` command is documented in the *parmgr* (1M) manpage that is included with the product.

  Both English and Japanese versions of the manpage are included.

- Additional information about Partition Manager, including links to download all currently available versions, can be found at **http://docs.hp.com/en/PARMGR2/**

Obsolescence

Not applicable.

PRMKernelSW

The PRM Libraries (B7697BA) is now known as PRMKernelSW. PRMKernelSW (version C.03.02) contains only the PRM kernel fileset, `PRM-Sw-Krn`.

Summary of Change

The version number for the `PRM-Sw-Krn` fileset is still C.01.04. The only change is that the fileset is now in PRMKernelSW.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The following documents are available at
`http://docs.hp.com/hpux/ha/index.html#Process%20Resource%20Manager`:

- *HP Process Resource Manager User's Guide*
- *HP PRM Version C.03.02.xx Release Notes*

Obsolescence

Not applicable.

PRMLibraries

The PRMLibraries (`B7697BA`) product that contained only the PRM kernel fileset, `PRM-Sw-Krn`, is now known as PRMKernelSW. The PRMLibraries product (version C.03.02) now contains the PRM API.

Summary of Change

The previous content of this product is now in the PRMKernelSW product.

This product now contains an API.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The following documents are available at
`http://docs.hp.com/hpux/ha/index.html#Process%20Resource%20Manager`:

- *HP Process Resource Manager User's Guide*
- *HP PRM Version C.03.02.xx Release Notes*

Obsolescence

Not applicable.

Utilization Provider

The Utilization Provider version A.01.04.02.00 is a lightweight daemon (`utild`) that records system-utilization data at a 5-minute interval. The data recorded includes CPU, memory, disk, and network utilization. This product also includes a WBEM provider for access to the data.

Summary of Change

The Utilization Provider has been updated to version A.01.04.02.00 to include defect fixes.

Impact

When Utilization Provider is installed, it launches the `utild` daemon, which consumes minimal CPU, memory, and disk resources. Only 30 days of utilization data are kept in data files in `/var/adm/util`. The total disk space used by these files should not exceed 5MB in the default `utild` installation.

The Virtual Server Environment (VSE) Management Software, which is available on the AR media, relies on the Utilization Provider. The VSE Management Software includes HP Integrity Essentials Virtualization Manager, HP Integrity Essentials Capacity Advisor, and HP Integrity Virtual Machines Manager. Removing the Utilization Provider will prevent these programs from working correctly.

Compatibility

This version of the Utilization Provider depends on HP WBEM Services for HP-UX version A.02.00.08 or later.

Performance

The `utild` process wakes up every 5 minutes and discovers and records the four utilization metrics (CPU, memory, disk, and network). This discovery has minimal impact on system performance.

Documentation

For further information, see the following:

- Manpage: *utild* (1M)
- System Documentation: The WBEM schema (MOF files) are installed in `/opt/util/mof`

Obsolescence

Not applicable.

vPar Provider

The HP-UX vPar Provider is a HP-UX WBEM services provider introduced in the HP-UX 11i v1 release for extracting information about virtual partitions on a system. As it is a read-only provider, clients cannot modify virtual partition configurations. This provider can be used through a Web-based Enterprise Management (WBEM) interface.

The vPar Provider always gets the data from the default virtual partition database located at `/stand/vpdb` or from the database from which virtual partitions are booted. The vPar Provider talks to the nPar Provider to get information of I/O assigned to virtual partitions and to determine whether or not it is running on an nPar. If the nPar Provider is down, it will not provide this information. The vPar Provider uses the namespace `root/cimv2/vpar`.

The vPar Provider library and Managed Object Format (mof) files are stored under `/opt/vparprovider/lib` and `/opt/vparprovider/mof` directories, respectively. The vPar Provider is delivered as a library (`/opt/vparprovider/lib/libHPVParProvider.1`) through the vParProvider bundle. It depends on the HP WBEM Services product. This release of vPar Provider is supported on all HP server systems that support HP-UX Virtual Partitions (vPars).

Summary of Change

The bundle name of the product has been changed from `vparprovider` to `vParProvider`.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The vPar Provider Release Notes can be found at **http://docs.hp.com**. In addition, the `/opt/vparprovider/doc` directory contains the *vPar Provider Release Notes* and data sheet.

Obsolescence

Not applicable.

HP System Management Homepage

HP System Management Homepage is a Web-based interface that consolidates and simplifies single system management for HP servers on Windows, Linux and HP-UX operating systems.

Summary of Change

HP System Management Homepage for HP-UX has been updated to version A.2.2.5 to incorporate defect fixes. For more information, see the *HP System Management Homepage Release Notes*, available at `http://www.docs.hp.com/en/netsys.html`.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information, see the following:

- HP System Management Homepage manpages included with product.
- HP System Management Homepage Online Help included with product.
- *HP System Management Homepage Release Notes* and *HP System Management Homepage Installation Guide* available at `http://www.docs.hp.com/en/netsys.html`

Obsolescence

Not applicable.

HP Systems Insight Manager

HP Systems Insight Manager (HP SIM) is the foundation for HP's unified infrastructure management strategy. It provides hardware level management for HP ProLiant, Integrity, and HP 9000 servers; HP BladeSystems; and HP StorageWorks MSA, EVA, and XP storage arrays. HP SIM also provides management of non-HP gear through industry standards.

HP Systems Insight Manager alone is an effective unified infrastructure management tool. When used in conjunction with Essentials plug-ins, it becomes a comprehensive, easy-to-use platform that enables organizations to holistically control their Windows, HP-UX, and Linux environments.

Summary of Change

Summary

The December 2006 release of HP-UX 11i v1 provides "HP SIM 5.0 with Update 2 - HP-UX," which includes the following changes:

- Full in-place upgrade from HP SIM 4.*x* or 5.*x*

- Support for HP BladeSystem C-Class blade and enclosure, as well as onboard administrator support

- Delivery of the HP BladeSystem Integrated Manager 2.1

- Integration of Storage Management

- Improved HP-UX inventory reports

- Tree view shows relationships between VMs, vpars, npars and clusters

- New GUI does not require Java in the browser

- Fixed a potential database corruption problem if the database connection was lost temporarily

- Fixed defect issues

Impact

There is no customer impact other than that listed previously.

Compatibility

For a list of operating systems supported by HP SIM, see the HP SIM product-specific documentation.

Performance

There are no known performance issues.

Documentation

All HP Systems Insight Manager documentation is available on the Web and bundled with the software.

- *HP Systems Insight Manager Installation and Configuration Guide for MS Windows*

- *HP Systems Insight Manager Installation and Configuration Guide for Linux*

- *HP Systems Insight Manager Installation and Configuration Guide for HP-UX*

  These documents provide information about installing and getting started using HP Systems Insight Manager. These guides include an introduction to basic concepts, definitions, and functionality associated with HP Systems Insight Manager. These documents are available at `http://docs.hp.com/` or `http://www.hp.com/go/hpsim/`.

- *HP Systems Insight Manager Help System*

The help system provides a complete set of documentation for using, maintaining, and troubleshooting HP Systems Insight Manager. A PDF of the help system is available at `http://www.hp.com/go/hpsim/`.

- Additional information including general product information, white papers, and support information is available at `http://www.hp.com/go/hpsim/`.

Obsolescence

HP Systems Insight Manager replaces Servicecontrol Manager 3.0. Upon installation, HP SIM will also remove MySQL, which was only used by Servicecontrol Manager.

HP WBEM Services for HP-UX

Web-Based Enterprise Management (WBEM) (`http://www.dmtf.org/`) is a platform and resource independent Distributed Management Task Force (DMTF) standard that defines both a common model (i.e., description) and protocol (i.e., interface) for monitoring and controlling a diverse set of resources.

The HP WBEM Services for HP-UX product is the HP-UX implementation of the DMTF (Distributed Management Task Force) WBEM standard. This product is based on The Open Group (TOG) Pegasus Open Source Software (OSS) project (`http://www.openpegasus.org/`).

Summary of Change

HP WBEM Services for HP-UX, version A.02.05, is a major update to the HP WBEM Services for HP-UX, version A.02.00, which was previously released with HP-UX 11i v1.

HP WBEM Services for HP-UX, version A.02.05, is based on OpenPegasus 2.5 source base and CIM Schema 2.9, whereas the HP WBEM Services for HP-UX, version A.02.00, released with the September 2005 HP-UX 11i v1 OE is based on OpenPegasus 2.3.1 source base and CIM Schema 2.7.

The following are key differentiators from version A.02.00 to A.02.05:

- Association providers
- Internationalization support for CIM operations
- CIM Schema Upgrade
- Out-of-Process Support
- Run-as-Requestor Support
- Certificate Based Authentication
- Email and Syslog indication handlers

Impact

HP WBEM Services for HP-UX allows customers to manage their HP-UX systems, providing integrated solutions that optimize a customer's infrastructure for greater operational efficiency.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

- HP WBEM Services for HP-UX manpages included with product:

  — `cimmof.1`
  — `cimprovider.1`
  — `osinfo.1`
  — `wbemexec.1`
  — `cimauth.1m`
  — `cimconfig.1m`
  — `cimserver.1m`
  — `ssltrustmgr.1m`
  — `cimserverd.8`

- The following documents are available at `http://docs.hp.com` (navigate to **Network and Systems Management** then to **HP WBEM Services for HP-UX**):

  — *HP WBEM Services for HP-UX Release Notes*

  — *HP WBEM Services Software Developer's Kit Release Notes*

  — *HP WBEM Services for HP-UX System Administrator's Guide*

  — *HP WBEM Services Software Developer's Kit for HP-UX Provider and Client Developer's Guide*

Obsolescence

Not applicable.

HP-UX Peripheral Device Tool

The HP-UX Peripheral Device Tool is an easy-to-use, powerful peripheral device management solution delivering a Web-enabled graphical user interface (GUI).

Summary of Change

The HP-UX Peripheral Device Tool is newly delivered on the HP-UX 11i Operating Environments with the December 2006 release.

The Peripheral Device tool allows you to do the following:

- view all available PCI/OLAR slots

- add and replace a card

- view devices and create device files

- view detailed information about cards, slots, and devices

- generate a Critical Resource Analysis (CRA) report detailing critical resources lost when a slot is powered down

- bring cards online

- light the LED of a specific slot

The Peripheral Device Tool is an easy-to-use GUI that steps system administrators through the entire process of card addition/replacement. It operates in a single-system environment.

Impact

This is a new product made available on this release. It does not have a terminal user interface.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The Peripheral Device tool GUI contains an on-line help facility to further assist you.

Obsolescence

Not applicable.

HP-UX WBEM Fibre Channel Provider

HP-UX WBEM Fibre Channel Provider (`FCProvider`) is a HP-UX WBEM provider. It enables client applications to get information about HP-UX Fibre Channel host-bus adapters (HBAs) available on the system.

Summary of Change

HP-UX WBEM Fibre Channel Provider is supported on HP-UX 11i v1 from this release.

Impact

There is no customer impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Complete product information is available in the FCProvider product data sheet. The product datasheet is available in pdf format at `http://docs.hp.com` (navigate to **Network and Systems Management**).

Obsolescence

Not applicable.

HP-UX WBEM IOTree Provider

HP-UX WBEM IOTree Provider (`IOTreeProvider`) is a HP-UX WBEM provider. It enables client applications to get information about PCI subsystem in the HP-UX server.

Summary of Change

HP-UX WBEM IOTree Provider is supported on HP-UX 11i v1 from this release.

Impact

There is no customer impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Complete product information is available in the IOTreeProvider product data sheet. The data sheet is available in pdf format at `http://docs.hp.com` (navigate to **Network and Systems Management**).

Obsolescence

Not applicable.

HP-UX WBEM LAN Provider for Ethernet Interfaces

HP-UX WBEM LAN Provider for Ethernet Interfaces (WBEMP-LAN-00) is a CIM Provider for Ethernet-based LAN technologies on HP-UX operating system. The current release of this product is B.11.11.02 on HP-UX 11i v1.

Client applications can use this provider to determine all Ethernet LAN links available on the system (registered and known to HP-UX DLPI) and collect information about them. The LAN Provider uses CIM Schema v2.7 and supports the following classes:

- *HPUX_EthernetPort* subclassed from *CIM_EthernetPort*

- *HPUX_EthernetLANEndpoint* subclassed from *CIM_LANEndpoint*

- *HPUX_EthernetPortImplementsLANEndpoint* subclassed from *CIM_PortImplementsEndpoint*

Summary of Change

HP-UX WBEM LAN Provider for Ethernet Interfaces is newly delivered in the HP-UX 11i v1 Operating Environments for the December 2006 release.

Customers can use WBEM-based clients to access the LAN Provider and collect information about the Ethernet links on their system.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Customers can look up the following document installed on their system to find out more information about the LAN Provider module:
`/opt/lanprovider/doc/HPUX_LANProvider.pdf`

Obsolescence

Not applicable.

HP-UX WBEM LVM Provider

HP-UX WBEM LVM Provider (`LVMProvider`) is a HP-UX WBEM provider. It enables client applications to get information about HP-UX LVM subsystem in the HP-UX.

Summary of Change

HP-UX WBEM LVM Provider is supported on HP-UX 11i v1 from this release.

Impact

There is no customer impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Complete product information is available in the LVMProvider product data sheet. The product data sheet is available in pdf format at **http://docs.hp.com** (navigate to **Network and Systems Management**).

Obsolescence

Not applicable.

HP-UX WBEM SCSI Provider

HP-UX WBEM SCSI Provider (`SCSIProvider`) is a HP-UX WBEM provider. It enables client applications to get information about HP-UX SCSI host-bus adapters (HBAs) available on a system.

Summary of Change

HP-UX WBEM SCSI Provider is supported on HP-UX 11i v1 from this release.

Impact

There is no customer impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Complete product information is available in SCSIProvider product data sheet. The data sheet is available in pdf format at `http://docs.hp.com` (navigate to **Network and Systems Management**).

Obsolescence

Not applicable.

Ignite-UX

The Ignite-UX product is an HP-UX administration toolset that helps you do the following tasks:

- Install HP-UX 11.0, 11i v1 (B.11.11), and 11i v2 (B.11.23) on multiple PA-RISC clients, Itanium®-based clients, or both, on your network.

- Create custom installation configurations (golden images) for installation on multiple clients.

- Recover HP-UX clients remotely.

- Create custom recovery media on tape, CD, or DVD.

- Manage and monitor multiple client installation sessions.

Summary of Change

Ignite-UX version C.6.10.*x* delivers the following new functionality:

- Improvements in integration with HP System Insight Manager:

  Several Ignite-UX features can now be launched from HP SIM to take advantage of features such as more secure transfer protocols, as well as role-based management. Enhancements were made to provide a cleaner, more useful integration.

- Supports the use of a fifth CD in the CD installation process.

- Supports new hardware enabled by the HP-UX release.

For more information on the changes, see the *Ignite-UX Release Notes* found at

`http://www.docs.hp.com/en/IUX/infolib.html`

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The Ignite-UX product Web site containing information and documentation has been updated for this release. It can be found at `http://www.docs.hp.com/en/IUX/`

The following documents have been updated to reflect all changes to the product for this release. They can be found at `http://www.docs.hp.com/en/IUX/infolib.html`

- *Ignite-UX Administration Guide*
- *Ignite-UX Custom Configuration Files*
- *Ignite-UX Reference Guide*
- *Ignite-UX Release Notes*

Obsolescence

Not applicable.

Online Diagnostics

The diagnostics software that is installed with HP-UX 11i v1 consists of the following products:

- Online Diagnostics (see page 126)

- System Fault Management (see page 127)

These bundles provide many tools to help verify, troubleshoot, and monitor system hardware such as CPUs, memory, interface cards, mass storage, and other devices.

Online Diagnostics

EMS Hardware Monitors - The EMS Hardware Monitors enable you to monitor the operation of a wide variety of hardware products and be alerted of failure or any unusual activities.

STM - The Support Tools Manager (STM) provides a set of online support tools, enabling you to verify and troubleshoot system hardware and examine system logs.

Summary of Change

- The *Dm_fc_scsi_mux* monitor is obsolete.

- Online Diagnostics is enabled for sx2000 chipset.

- Support of AD193A and AD194A GigE cards

- Support of AD331-60001 and AD332-60001 cards

- Support of AD279A (PCI 64 port serial MUX adapter)

- Support of AD278A (PCI 8 port serial MUX adapter)

- Enablement of AB314A - Core I/O with LAN for rx8640

Impact

All LAN tools such as Information, Exerciser and verifier are enabled for AB314A.

Compatibility

There are no known compatibility issues.

Performance

There is no regression. There are no known performance issues.

Documentation

For further information, see the following Online Diagnostics documents at **http://docs.hp.com/en/diag**:

- EMS documentation

  — *Data Sheets*

  — *EMS Hardware Monitors Quick Reference Guide*

  — *EMS Hardware Monitors User's Guide*

  — *EMS HW Monitors for Hitachi Systems Running HP-UX*

  — *Event Descriptions*

  — *Frequently Asked Questions (FAQs)*

        — *Multiple-View (Predictive-Enabled) Monitors*

        — *Overview*

        — *Quick Start: Anatomy of a Monitor (Controlling and Learning About Monitors)*

        — *Requirements and Supported Products*

        — *Release Notes*

- STM documentation

        — *Frequently Asked Questions*

        — *Quick Reference*

        — *Release Notes*

        — *STM Online Help*

        — *STM Overview*

        — *STM Tutorial*

Obsolescence

Not applicable.

System Fault Management

System Fault Management (SFM) is a collection of tools used to monitor the health of HP servers and receive information about hardware such as memory, CPU, power supplies, and cooling devices. SFM operates in the Web-Based Enterprise Management (WBEM) environment.

Summary of Change

SFM is newly delivered in the HP-UX 11i v1 Operating Environments with the December 2006 release.

SFM includes the following tools:

- SFM Providers
- EVWEB

SFM Providers are tools that gather information related to various hardware devices and report to the Common Interface Model Object Manager (CIMOM).

SFM includes the following providers:

- CPU Instance Provider
- Memory Instance Provider
- Filter Metadata Provider
- Environmental Provider
- EMS Wrapper Provider
- Firmware Revision Instance Provider

- Disk Instance Provider

- Management Processor Instance Provider

EVWEB is a tool that enables you to view and administer WBEM indications generated on the HP-UX 11i v1 system.

EVWEB includes the following components:

- Event Subscription Administrator

- Event Viewer

Impact

There are no impacts other than those previously listed.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information, see the following documentation, available at `http://docs.hp.com/en/diag.html`:

- *System Fault Management Administrator's Guide*

- *SFM Release Notes*

- *Frequently Asked Questions (FAQs)*

- *SFM Provider Data Sheets*

For a list of supported systems, see the *System Fault Management Release Notes*.

Obsolescence

Not applicable.

Software Distributor

Software Distributor (SD) is the standard tool suite for working with HP-UX software packages. SD is a group of software for packaging, installing, copying, listing, removing and verifying software.

Summary of Change

Software Distributor has been updated to version B.11.11.0612 to reflect defect fixes and to include SD Provider for WBEM. For details, see the SD customer Web site at `http://docs.hp.com/en/SD/`.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information, see the SD customer Web site at `http://docs.hp.com/en/SD/`.

Obsolescence

Not applicable.

Update-UX

The update-ux command updates the HP-UX operating system to a newer version.

Summary of Change

Update-UX supports the 5-CD OE media. Update-ux has been updated to reflect defect fixes. There are no new features or functionality in update-ux.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information see the following:

- The latest *HP-UX 11i v1 Installation and Update Guide*, available at `http://docs.hp.com`.
- The *update-ux* (1M) manpage.

Obsolescence

Not applicable.

6   **Disk and File Management**

What is in This Chapter?

This chapter covers directory, file system, and disk management, including the following:

- Enhanced AutoFS (see page 132)
- HP CIFS Client (see page 133)
- HP CIFS Server (see page 135)

Enhanced AutoFS

Enhanced AutoFS version B.11.11.0509.1 is a filesystem that automatically mounts directories as they are accessed and unmounts them when access is no longer needed.

NOTE	Enhanced AutoFS version B.11.11.0509.1 is available on the Software Pack (SPK) media for December 2006. For more information about SPK, see "Software Pack (Optional HP-UX 11i v1 Core Enhancements)" on page 33.

Summary of Change

Version B.11.11.0509.1 of Enhanced AutoFS delivers support for LDAP as a source of `automount` maps (SR#8606407223).

Impact

The primary change with this new version of Enhanced AutoFS is to support LDAP as a source of `automount` maps.

Compatibility

There are no known compatibility issues.

Performance

There will be no change to the performance of the system or product with this new version of Enhanced AutoFS.

Documentation

For further information, see the *automount* (1M) and *automountd* (1M) manpages, as well as the following documents:

- *Enhanced AutoFS Administrator's Guide* (available at `http://docs.hp.com/en/5990-7199/index.html`)

- *AutoFS with LDAP Support Release Notes* (available at `http://docs.hp.com/en/B1031-90059/index.html` or `http://docs.hp.com/en/B1031-90059/B1031-90059.pdf`)

Obsolescence

Not applicable.

HP CIFS Client

CIFS is the native networking protocol on Microsoft Windows operating systems. The HP CIFS products provide a wide range of integration strategies for HP-UX and Windows. The HP CIFS Client enables the HP-UX host to mount directories shared by remote CIFS servers (Windows, HP-UX, and other server platforms on which CIFS has been implemented). The HP CIFS Server enables the HP-UX host to provide access to its own shared directories by remote CIFS clients (Windows, HP-UX, and other CIFS clients); it emulates Windows file and print services. The HP CIFS Client bundle also includes PAM-NTLM, a "pluggable authentication module" that allows HP-UX logins to be authenticated by a centralized service on a CIFS domain.

Summary of Change

HP CIFS Client A.02.02.01 contains several enhancements and defect fixes in addition to the new features provided in HP CIFS Client A.02.02.

HP CIFS Client A.02.02 provides the following major new features:

• MS Distributed File System (DFS) Support

This release of HP CIFS Client supports Microsoft Distributed File System (MS DFS). DFS for the Microsoft Windows Server operating systems is a network server component that enables administrators to build a single, hierarchical view of multiple file servers and file server shares on their network. DFS is a means for uniting files on different computers into a single name spaces.

• New manual pages

This release provides manpages for the HP CIFS Client. They are *cifsclient* (1M), *cifsdb* (1M), *cifslist* (1), *cifslogin* (1), *cifslogout* (1), *cifsmount* (1M), *cifsumount* (1M), *mount_cifs* (1M), *umount_cifs* (1M). Refer to the manpages for details.

• New Configuration Parameters

The following parameters are new in this release. Refer to Chapter 7, "Configuration File" in the *HP CIFS Client Administrator's Guide* for details.

— *mnttabPrefix*
— *allowBackslashesInPaths*
— *fileCreateMask*
— *oldUdbEncrypt*
— *preventCreationEnable*, *preventCreationPattern*
— *unixExtensions*
— *smbOverTCP*

For detailed information about new enhancements, changes and defect fixes of HP CIFS Client A.02.02, refer to the *HP CIFS Client A.02.02 Administrator's Guide* and *Release Notes*.

HP CIFS Client A.02.02.01 contains the following enhancements and changes:

• New `cifslogout -a` (all) option

This option allows users to log out from all current CIFS login sessions. This is particularly useful in environments which use the CIFS Client's Distributed File System feature (DFS), wherein several CIFS logins can be created in the background as users traverse a DFS tree.

- Make 32-bit errors default

  The CIFS Client now uses 32-bit error codes with the CIFS servers by default, rather than the older DOS error class.

- Improved logging

  Several logging enhancements have been made in this release. These are mainly intended to help HP engineers diagnose potential problems customers encounter using this software. They are:

  — Process information for caught signals: An enhancement of the CIFS Client signal-handling code allows the daemon, upon receipt of a signal from another process, to log the name, process id, and user id of that process.

  — Client-server connections: The CIFS Client now logs by default (via the log level *smbConnect*) informational messages regarding various client-server connections: TCP connections, CIFS logins and logouts, and CIFS mounts and umounts of remote shares.

  — CIFS mount notifications in syslog: The CIFS Client now also writes notifications of CIFS mount and umounts to the HP-UX syslog file (`/var/adm/syslog/syslog.log`).

  — Expanded headers and entries: The headers in the logfiles now contain the CIFS Client version and process id, and the year has been added to the timestamp for each log entry.

- The *sockMode*, *sockOwner* and *sockGroup* parameters are no longer configurable. The values of these parameters are *sockMode* = 0666, *sockOwner* = root, *sockGroup* = root.

- Defect Fixes

  For detailed information about new enhancements, changes and defect fixes, refer to the *HP CIFS Client A.02.02.01 Release Notes*.

Impact

HP CIFS Client A.02.02.01 supports several enhancements and defect fixes, as well as the new enhancements provided in HP CIFS Client A.02.02 previously described above.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For more information, refer to the following documentation, which can be found at `http://docs.hp.com/en/netcom.html` (navigate to **CIFS**):

- User Manual: *HP CIFS client A.02.02 Administrator's Guide*

- Product Release Note: *HP CIFS Client A.02.02 Release Note*

- Product Release Note: *HP CIFS Client A.02.02.01 Release Note*

- Manpages for the HP CIFS Client:

    cifsclient (1M), *cifsdb* (1M), *cifslist* (1), *cifslogin* (1), *cifslogout* (1), *cifsmount* (1M), *cifsumount* (1M), *mount_cifs* (1M), *umount_cifs* (1M)

Obsolescence

Not applicable.

HP CIFS Server

HP CIFS Server is a SMB/CIFS-based product on HP-UX systems. It enables HP-UX systems to interoperate with PC clients running Microsoft Windows NT, XP, 2000/2003, and UNIX systems running the CIFS client and thus provides a fully integrated network of UNIX and Windows systems running as clients, servers, or both.

Summary of Change

HP CIFS Server 3.0f version A.02.03 is available on the HP-UX 11i v1 December release. It is based on Samba 3.0.22 and contains new enhancements and defect fixes. This release delivers new enhancements as follows:

- Winbind code has been re-designed to support the non-blocking, asynchronous request/reply behavior with the exception of user and group enumeration. With this new enhancement, winbind provides better scalability in large domain environments and on high latency networks.

- Fixed Size Memory Map Support:

    This release supports the fixed size memory map for memory-mapped access of Trivial Database (TDB) files on an HP-UX 11i v1 system. HP CIFS Server can access the TDB files using memory-mapped access with a pre-determined size that is sufficient to accommodate the growth of TDB files. To provide balance between performance and address space utilization, the fixed size memory map feature is supported only on `locking.tdb`.

- Support for configuration parameter changes in the `/etc/opt/samba/smb.conf` file:

    There are new parameters, changed parameters and removed parameters in the `smb.conf` file.

- HP CIFS Server accommodation of some Windows 2000/2003 Domain trusts has changed. HP CIFS Servers support external trusts and shortcut trusts, but not all intra/inter-forest trusts will be recognized.

For detailed information about new enhancements, changes and defect fixes, refer to *HP CIFS Server 3.0f Administrator's Guide version A.02.03* and *HP CIFS Server 3.0f version A.02.03 Release Notes.*

Impact

This release provides new enhancements and defect fixes as previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information, see the following documentation:

- The following Samba books, provided with the HP CIFS Server product through the SWAT (Samba Web Administration Tool) home page or accessible directly at `/opt/samba/docs/samba-HOWTO-Collection.pdf` and `/opt/samba/swat/help`:

  - *The Official Samba-3 HOWTO and Reference Guide*

  - *Samba-3 by Example*

- The following HP CIFS Server documents, which can be found at `http://docs.hp.com/en/netcom.html` (navigate to **CIFS**):

  - *HP CIFS Server 3.0f Administrator's Guide version A.02.03*

  - *HP CIFS Server 3.0f Release Note version A.02.03*

Obsolescence

Not applicable.

7 Internet and Networking

What is in This Chapter?

This chapter describes new and changed Internet and networking functionality supported by the HP-UX 11i v1 release, including the following:

- Browsers (see page 138)
- HP-UX Enhanced Publickey-LDAP (see page 139)
- HP-UX Web Server Suite (see page 141)
    - HP-UX Apache-based Web Server (see page 142)
    - HP-UX Tomcat-based Servlet Engine (see page 143)
    - HP-UX Webmin-based Admin (see page 143)
- Red Hat Directory Server for HP-UX (see page 144)

Browsers

Mozilla is an open source Web and e-mail applications suite.

The Firefox browser sets a new standard for Internet browsing by providing an easier and more personal way to use the Internet.

Summary of Change

The Thunderbird email application provides convenient, customizable, rich-featured e-mail access.

Firefox/Thunderbird uses the new open-source windowing toolkit Gnome 2.6 GTK+ libraries for HP-UX on HP PA-RISC and HP Integrity. Gnome 2.6 GTK+ must be installed before installing Firefox/Thunderbird.

Products are:

- `MOZILLA` - **Mozilla**
- `MOZILLAsrc` - **Mozilla Source**

HP-UX 11i v1 includes 6 new products:

- `Firefox` 1.5.0.00.00
- `FirefoxSrc` 1.5.0.00.00
- `Thunderbird` 1.5.0.00.00
- `ThunderbirdSrc` 1.5.0.00.00
- `GTK` 2.6.8.00
- `GTKSrc` 2.6.8.00

Impact

Mozilla 1.7.13.01 contains security fixes.

This Mozilla version includes improved Asian font support on HP-UX and includes the Japanese Language Pack. Also included are fixes for security vulnerabilities reported in Mozilla 1.7.12.01.

The Firefox 1.5.0.00 open source Web browser includes Firefox 1.5.0.1 changes from the Mozilla Foundation. This version fixes several security vulnerabilities reported in Firefox 1.5.0.0 from the Mozilla Foundation.

The Thunderbird 1.5.0.00 open source e-mail client is the supported e-mail client on HP-UX. This version provides online browsing and searching tools for HP-UX Integrity and PA-RISC customers.

Compatibility

This Mozilla release will install on top of previous releases. It will not interfere with Netscape installations. For information on interactions with browser plug-ins, please see `http://www.hp.com/go/mozilla`.

Firefox and Thunderbird use the GTK open-source windowing toolkit on both PA and Integrity, which you must install before installing Thunderbird. Additionally, there is a mandatory HP-UX patch, PHSS_33033, for HP PA-RISC 2.0 (11.11). For more information, see `http://www.hp.com/go/firefox`.

Performance

Mozilla may be slow the first time it is started because it is creating a profile.

Documentation

See the product release notes and `http://www.hp.com/go/mozilla` for more information on using Mozilla. For more information on Firefox/Thunderbird on HP-UX 11i, visit `http://www.hp.com/go/firefox`.

Obsolescence

Hewlett Packard will release new versions of Mozilla for HP-UX periodically. The HP Mozilla Web site (`http://www.hp.com/go/mozilla`) will continue to distribute at least one previous version of the product. Source code for each release is available on the Mozilla Web site in compliance with the Mozilla licensing (MPL, GPL, LGPL). No patches are provided for this product. Any defects will be addressed in future versions.

HP-UX Enhanced Publickey-LDAP

Key components on HP-UX 11i v1 consist of `newkey/chkey` commands to create and change the public/secret keys pairs and the `getpublickey/getsecretkey` APIs to retrieve the public/secret keys from the data repository configured in the `/etc/nsswitch.conf` file. On HP-UX 11i v1, key components work with the files, nis and nisplus databases.

The ONC EP/NCF Software Pack bundle, `ENHKEY`, contains new functionality for `publickey` LDAP support that allows you to store and manage public/secret keys in an LDAP directory server. The software bundle contains enhanced key components plus the enablement product for this feature. Enhanced key components version B.11.11.01 is available on the SPK media for HP-UX 11i v1 December release.

NOTE   HP-UX Enhanced Publickey-LDAP is available on the Software Pack (SPK) media for December 2006. For more information about SPK, see "Software Pack (Optional HP-UX 11i v1 Core Enhancements)" on page 33.

Summary of Change

The HP-UX 11iv1 ONC EP/NCF Software Pack bundle, ENHKEY, contains new functionality for `publickey` LDAP support that allows you to store and manage public/secret keys in an LDAP directory server. The enhanced feature contains the following updates:

- Enhance the `newkey`/`chkey` commands used to create and change the public/secret keys in the LDAP database.

- Enhance the `getpublickey`/`getsecretkey` APIs used to retrieve the public/secret keys from the LDAP database. HP-UX 11i v1 ONC EP/NCF Software Pack bundle,

ENHKEY, is now available on the Software Pack (SPK) media for 11i v1 December 2006. Previously, the enhanced key feature was delivered on the Web.

Support for `publickey`/`secretkey` through LDAP requires functionality enhancement in LDAP-UX Client Services and an enhancement in the ONC product. The LDAP-UX Integration product version B.04.00 or later supports discovery and management of `publickey`/`secretkeys` in an LDAP directory server.

NOTE   You must install the ONC EP/NCF Software Pack bundle, ENHKEY, along with the LDAP-UX Integration product version B.04.00 or later on your client system to use the Enhanced Key feature.

Impact

HP-UX enhanced `publickey` LDAP functionality provides the following impact to customers:

- Allows users to use the `newkey` and `chkey` commands to create and change public/secret key pairs in the LDAP database.

- Allows users to use `getpublickey` and `getsecretkey` APIs to retrieve the public and secret keys respectively from the LDAP database.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

- For further information, refer to the following documentation available at **http://docs.hp.com**:

    — *LDAP-UX Client Services B.04.00 Administrator's Guide*, Edition 4 (J4269-90053)

    — *ONC with Publickey LDAP Support Release Notes* (B1031-90062)

Manpages:

- The following manpages are updated for `publickey` LDAP support and installed with the `ENHKEY` software bundle:

  newkey (1M), *chkey* (1), *getpublickey* (3N), *publickey* (4)

Obsolescence

Not applicable.

HP-UX Web Server Suite

The HP-UX Web Server Suite is a no-additional-cost product available for the HP-UX platform. It contains key software products necessary to deploy, manage, and implement a mission critical Web server. The following components can be separately installed:

- HP-UX Apache-based Web Server (see page 142)
- HP-UX Tomcat-based Servlet Engine (see page 143)
- HP-UX Webmin-based Admin (see page 143)
- HP-UX XML Web Server Tools (unchanged for December 2006)

Installation Requirements

The following requirements must be fulfilled before certain components/features will work. See the following documentation section for the location of further information.

- Building Apache DSOs using `apxs` depends on Perl installed at `/opt/perl/bin/perl`.
- Fast Perl scripts and Apache modules written in Perl require `mod_perl` to be configured and Perl 5.8.3 (available with the Operating Environment) to be installed.
- HP-UX Tomcat-based Servlet Engine requires Java 1.4 or later. You are not required to have the entire HP-UX Software Development Kit (SDK) for compiling JSPs; only JRE needs to be installed. HP-UX XML Web Server Tools require SDK for Java 1.3 or later.
- HP-UX Webmin-based Admin depends on Perl 5 or later.

Documentation

Bundled documentation (Release Notes, Admin Guides, User Guides, Migration Guides and FAQs) now install into `/opt/hpws/hp_docs`. These documents can be accessed through HP-UX Apache-based Web Server, HP-UX Tomcat-based Servlet Engine, and HP-UX Webmin-based Admin by browsing to **http://yourserver.com/hp_docs** on the appropriate port (i.e., for Webmin on port 10000, the URL should be: **http://yourserver.com:10000/hp_docs**).

NOTE	Shared documentation, such as Migration Guides and FAQs, are located at `/opt/hpws/hp_docs` and are included in the HP-UX Webmin-based Admin product.

The latest information can also be found on the product Web site:
http://www.hp.com/go/webserver

HP-UX Apache-based Web Server

Version 2.0.58.00 HP-UX Apache-based Web Server combines Apache with numerous popular modules from other Open Source projects and provides HP value-added features for the HP-UX platform:

- Scripting capabilities: PHP, `mod_perl`, CGI

- Content management: WebDAV, FrontPage Server Extensions 2002

- Security: authentication through an LDAP server, Webproxy, Chrooted environment, SSL and TLS support

Summary of Change

This release of HP-UX Apache-based Web Server is primarily a defect fix release:

HP-UX Apache-based Web Server v.2.0.58.00

- Apache upgraded to 2.0.58

- `mod_jk` upgraded to 1.2.15

- `mod_jk2` upgraded to 2.0.5

- `mod_perl` supports perl 5.8.8

- New Apache module, `mod_auth_kerb`, included

Please see the *HP-UX Web Server Suite Release Notes* for details.

Impact

There are no known impacts other than those previously described.

Compatibility

This release is binary-compatible with Apache 2.0.50 and greater. All the modules compiled with Apache 2.0.50 or greater will continue to work with this version since the Apache API has not changed.

Performance

There are no known performance issues.

Documentation

See "Documentation" on page 141.

Obsolescence

Not applicable.

HP-UX Tomcat-based Servlet Engine

HP-UX Tomcat-based Servlet Engine provides customers with Java-based extensions for dynamic content generation via Servlets and JavaServer Pages (JSPs).

Summary of Change

Tomcat version upgrade to 5.5.9.0.3.

Tomcat version 5 implements the Servlet 2.4 and JavaServer Pages 2.0 specifications.

Tomcat 5.5.x is designed to run on JDK 1.5 and later versions.

For more details refer the *HP-UX Web Server Release Notes*.

Impact

There are no known impacts other than those previously described.

Compatibility

See "Documentation" on page 141 for more information.

Performance

There are no known performance issues.

Documentation

See "Documentation" on page 141.

Obsolescence

Not applicable.

HP-UX Webmin-based Admin

HP-UX Webmin-based Admin is a Configuration and Administration GUI with extensive enhancements for the HP-UX Apache-based Web Server.

Summary of Change

This release of HP-UX Webmin-based Admin is primarily a defect fix release, including Webmin upgraded to 1.070.08.

Please see *HP-UX Web Server Suite Release Notes* for details.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

See "Documentation" on page 141.

Obsolescence

Not applicable.

Red Hat Directory Server for HP-UX

HP provides an industry-standard centralized directory service to build your intranet or extranet on. Your Red Hat servers and other directory-enabled applications use the directory service as a common, network-accessible location for storing shared data, such as user and group identification, server identification, and access control information. In addition, the Red Hat Directory Server can be extended to support your entire enterprise with a global directory service that provides centralized management of your enterprise's resource information.

Red Hat Directory Server for HP-UX has been added to HP-UX 11i v1 starting with version 7.1.

Red Hat Directory Server (RHDS) B.07.10.20 for HP-UX is available on HP-UX 11i v1 December release.

Summary of Change

Red Hat Directory Server for HP-UX has been added to HP-UX 11i v1 starting with version 7.1.

Red Hat Directory Server B.07.10.20 for HP-UX is a fix release. It contains defect fixes in addition to new features provided in Red Hat Directory Server B.07.10.00 for HP-UX. These new features for security, memory and performance are as follows:

- Windows User Synchronization:

  Directory Server 7.1 introduces Windows User Sync, which synchronizes changes in groups, user entries, attributes, and passwords between Red Hat Directory Server and Microsoft Active Directory and Windows NT4 Server in a process similar to replication.

- Get Effective Right Control:

  Directory Server 7.1 allows an LDAP client to request the access control permissions set on each attribute within an entry, allowing administrators to find and control the access rights set on an individual entry.

- Wide-Area Network Replication:

  Directory Server 7.1 achieves much higher performance over high-delay network paths by not waiting for acknowledgements before sending updates, allowing more changes to be relayed more quickly.

- Fractional Replication:

  Directory Server 7.1 introduces fractional replication, a way of replicating a database without replicating all information in it. This feature allows an administrator to select a set of attributes that will not be replicated.

- Password Change Extended Operation:

  Directory Server 7.1 supports the password change extended operation as defined in RFC 3062. This allows users to change their passwords using a suitable client, according to industry standards.

- Filesystem Replica Initialization:

  Directory Server 7.1 adds the capability to initialize a replica using the database files from the supplier server, avoiding the need to rebuild the consumer server database, and can be done at essentially the speed of the raw network between the two servers by transferring the files. Where the servers contain gigabytes of data, the improvement in performance is significant.

- Bug fixes

  For detailed information about new features and defect fixes, refer to *Red Hat Directory Server B.07.10.20 for HP-UX Release Notes* available at `http://www.docs.hp.com/en/internet.html`

Impact

Red Hat Directory Server (RHDS) B.07.10.20 delivers defect fixes in addition to new features for security, memory and performance provided in RHDS B.07.10 as previously described.

Compatibility

There are no known compatibility issues.

Performance

This release of RHDS provides new features for performance improvements such as wide-area network replication and filesystem replica initialization enhancements as described above.

Documentation

For more information, refer to the following documents available at `http://www.docs.hp.com/en/internet.html`:

- *Red Hat Directory B.07.10.20 for HP-UX Release Notes*
- *Red Hat Directory Server 7.1 Installation Guide*
- *Red Hat Directory Server 7.1 Configuration, Command, and File Reference*
- *Red Hat Directory Server 7.1 Deployment Guide*
- *Red Hat Directory Server 7.1 Administrator's Guide*
- *Red Hat Directory Server 7.1 Schema Reference*

- *Red Hat Directory Server 7.1 Pug-In Programmer's Guide*
- *Red Hat Directory Server 7.1 Gateway Customization Guide*
- *Red Hat Directory Server 7.1 DSML Gateway*

Obsolescence

Not applicable.

8 Security

What is in This Chapter?

This chapter covers changes and enhancements to security services, including the following:

- HP-UX Secure Shell (see page 148)
- PAM Kerberos (see page 150)
- PAM-Requisite (see page 151)

HP-UX Secure Shell

HP-UX Secure Shell 04.30.006 is based on the public domain OpenSSH 4.3p2. The client/server architecture supports the SSH-1 and SSH-2 protocols and provides secured remote login, file transfer, and remote command execution.

Summary of Change

- In September 2005, HP-UX Secure Shell version A.04.00 was delivered for the first time on the HP-UX 11i v1 Operating Environments, and provided the following features:

  — Address binding for port forwarding connections

  — Remote binding control

  — Hashing of host names and addresses

  — Includes new *ssh-keygen* (1) options

  — Improved logging of connection sources

  — Improved handling of bad data in `authorized_keys` files

  — Improved connection multiplexing support in *ssh* (1)

  — Output from failing PAM session modules

  — Choice of AddressFamily configuration directive in `sshd_config` (server)

  — New configuration directives in `ssh_config` (client):

    — *HashKnownHosts*

    — *KbdInteractiveDevices*

  — Use of untrusted cookies for X11-forwarding

  — Support for sending application layer keep-alive messages to the server

  — Updated `/etc/moduli` file

  — Support for GSSAPI replaced with GSSAPI-With-MIC

- In version A.04.10, HP-UX Secure Shell provided the following features and other changes:

  — Audit logging of login and logout events, and system calls for HP-UX 11.0 and 11iv1

  — Enforcement of the *max-bad-login-attempt* limit for key-based authentication methods

  — Modified `utmp`(s) log record with a telnet-compatible `ut_id` format

  — New zlib version 1.2.3

- In version A.04.20, HP-UX Secure Shell provided the following features and other changes:

  — High Performance Enabled SSH/SCP patch

— New configuration directives in the server:

— The *CountKeyAuthBadLogins* directive

— The *EnforceSecureTTY* directive

— Inclusion of the Auth Selection patch

— Increase in the default size of RSA and DSA keys

— Delayed compression

— Support for improved Arcfour cipher modes

— Modified ControlPath client configuration directive

— Support for X11 and agent forwarding over multiplexed connections

- With the December 2006 Operating Environments, HP-UX Secure Shell A.04.30.006 provides the following new features and other changes:

— Provides an sftp-only solution in a `chroot` environment

— HP-UX Secure Shell's usage of Tcp Wrappers support IPv6

Impact

There are no impacts other than those previously listed.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For more information, refer to the *HP-UX Secure Shell A.04.30.006/007 Release Notes* at `http://docs.hp.com` under the section **Internet and Security Solutions**.

Obsolescence

Not applicable.

PAM Kerberos

Pluggable Authentication Module (PAM) is an easily configurable framework that provides support for multiple authentication technologies on HP-UX. PAM Kerberos v1.24 is the PAM module that provides support for Kerberos authentication protocol as specified in Open group RFC 86.0. PAM allows multiple authentication technologies to co-exist.

Summary of Change

Although PAM Kerberos has been previously delivered on the Application Release media, this is the first time the product is being delivered on the Operating Environments media for HP-UX 11i v1.

Following enhancements have been added to this release of PAM Kerberos:

- The `pamkrbval` tool checks the ownership of the `rc_host_0` file when a user tries to `rlogin` into a system. If `rc_host_0` is owned by anyone other than root, a warning is issued.

- The `pamkrbval` tool now issues a warning message if the keytable entry is not found for the host service principal. Earlier, the `pamkrbval` tool used to successfully execute without giving a warning, giving the impression that the setup is correct, even though in most cases the host principal will have to be working.

- PAM Kerberos provides an appropriate message when user's ADC account is locked or has expired.

- PAM Kerberos delivers the 64 bit `/usr/lib/security/pa20_64/libpam_krb5.1` library to provide Kerberos authentication to the 64-bit PAM applications running on HP-UX 11i v1.

Some defects have also been fixed in this release of PAM Kerberos. For more information on new features and defect fixes, see *PAM Kerberos v1.24 Release Notes* available on `http://docs.hp.com`.

Impact

There are no known impacts other than those previously described.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

- Manpages:

    — *pamkrbval* (1M)

— *pam_krb5* (5)

- Documentation:

    — *Configuration Guide for Kerberos Client Products* (5991-6632)

    — *PAM-Kerberos 1.24 Release Notes* (J5849-90019)

Obsolescence

Not applicable.

PAM-Requisite

The PAM-Requisite product, version 11.11.01, enables PAM to recognize and support the requisite flag in the /etc/pam.conf file.

NOTE	PAM-Requisite is available on the Software Pack (SPK) media for December 2006. For more information about SPK, see "Software Pack (Optional HP-UX 11i v1 Core Enhancements)" on page 33.

Summary of Change

The PAM-Requisite product adds a new feature to PAM. This feature allows the requisite flag to be specified in the /etc/pam.conf file.

Impact

You can specify the requisite flag in the /etc/pam.conf file. The requisite flag causes PAM to return immediately if a service module returns a failure.

Compatibility

Without this product installed, the use of the requisite flag causes an error to be reported and the PAM service module that was specified with the requisite flag to be skipped.

Performance

This product has a negligible effect on the performance of PAM.

Documentation

The *pam.conf* (4) manpage contains information on the usage of the requisite flag.

Obsolescence

Not applicable.

9 Commands and System Calls

What is in This Chapter?

This chapter usually provides information about new and changed commands and system calls. Topics in this chapter are unchanged for the December 2006 release of HP-UX 11i v1.

For a summary of changes in previous releases of HP-UX 11i v1, see Chapter 3, "What is New at a Glance," on page 37.

10 Libraries and Programming

What is in This Chapter?

This chapter covers a variety of changes of particular interest to programmers, such as changes to compilers, editors, and libraries, including the following:

- Java JDK/JRE for HP-UX (see page 156)
- Perl (see page 157)

Java JDK/JRE for HP-UX

HP-UX Software Development Kit and Runtime Environment for the Java 2 Standard Edition Platform (SDK/RTE) provides the Java 2 programming tools and runtime environment that allow you to deploy Java technology with the best performance on systems running HP-UX 11i.

As of version 5.0, the names of the products have changed to HP-UX Java Development Kit and HP-UX Java Runtime Environment for the Java™ 2 Platform Standard Edition (JDK/JRE) 5.0. Version 5.0 is the equivalent of what would otherwise be known as v1.5.

Products are:

- `Java15JDK` - Java 1.5 (5.0)
- `Java15JDKadd` - Java 1.5 (5.0) JDK Addon
- `Java15JRE` - Java 1.5 (5.0) JRE
- `Java15JREadd` - Java 1.5 (5.0) JRE Addon
- `T1456AA` - Java 1.4
- `T1456AAaddon` - Java 1.4 SDK Addon
- `T1457AA` - Java 1.4 RTE
- `T1457AAaddon` - Java 1.4 RTE Addon
- `T1458AA` - Java 1.4 Plugin
- `ObsJava12` - Obsolescence for Java 1.2 (1.0)
- `ObsJava13` - Obsolescence for Java 1.3 (1.0)

Summary of Change

Java 1.4.2.10 and 1.5.0.03 are new versions with no impact to customers.

Java 1.4.2.11 and 1.5.0.04 are new versions and contain defect fixes.

`ObsJava13` - Obsolescence for Java 1.3 (1.0) removes, upon update, the obsoleted SDK/RTE 1.3 product, which has reached end-of-life.

Impact

Java 1.4.2.11 and 1.5.0.04 contain defect fixes.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For the latest documentation, refer to the Java Technology for HP-UX 11i Web site at
`http://hp.com/go/java` and select **information library** in the left navigation bar.

Obsolescence

SDK/RTE 1.2 and 1.3 have reached end-of-life and are not included in this release. The
following products will remove them upon system update:

- `ObsJava12` - **Obsolescence for Java 1.2 (1.0)**
- `ObsJava13` - **Obsolescence for Java 1.3 (1.0)**

Perl

Perl is a high-level programming language created and enhanced by the Open Source
community. Perl takes the best features from other languages, such as C, awk, sed, sh,
and BASIC, among others and at least a dozen other tools and languages.

Summary of Change

Perl version 5.8.8 build 817 includes the following:

- `chdir`, `chmod` and `chown` can now work on filehandles as well as filenames, if the
  system supports respectively `fchdir`, `fchmod` and `fchown`.
- `h2xs` implements new option `--use-xsloader` to force use of `XSLoader` even in
  backwards compatible modules. Any enums with negative values are now skipped.
- `perlivp` implements new option `-a` and will not check for `*.ph` files by default any
  more. Use the `-a` option to run all tests.
- Some of the module are upgraded to latest revisions.
- Some of the defect fixes done in this release are
  - no warnings "category" works correctly with `-w`
  - Remove over-optimization
  - `sprintf()` fixes
  - Debugger and Unicode slowdown

Impact

There are no impacts other than those previously listed.

Compatibility

Perl 5.8 is not binary compatible with earlier releases of Perl for XS modules. These modules have to recompiled. (Pure Perl modules should continue to work.)

The major reason for the discontinuity is the new IO architecture called PerlIO. PerlIO is the default configuration because without it many new features of Perl 5.8 cannot be used. In other words: you just have to recompile your modules containing XS code.

The new safe signals implementation postpones handling of signals until it's safe (in between the execution of low level opcodes). This change may have surprising side effects because signals no longer interrupt Perl instantly.

Performance

Weak reference creation is now O(1) rather than O(n). Weak reference deletion remains O(n), but if deletion only happens at program exit, it may be skipped completely.

There are improvements to reduce the memory usage of "sort" and to speed up some cases.

As much data as possible in the C source files is marked as "static", to increase the proportion of the executable file that the operating system can share between process, and thus reduce real memory usage on multi-user systems.

Documentation

For further information, see the following Web sites:

*   `http://www.perl.org`
*   `http://www.activestate.com`
*   `http://learn.perl.org`

Obsolescence

Not applicable.

11 Internationalization

What is in This Chapter?

This chapter usually describes internationalization functionality. Topics in this chapter are unchanged for the December 2006 release of HP-UX 11i v1.

For a summary of changes in previous releases of HP-UX 11i v1, see Chapter 3, "What is New at a Glance," on page 37.

12 Other Functionality

What is in This Chapter?

This chapter usually describes other new and changed operating-system software functionality. Topics in this chapter are unchanged for the December 2006 release of HP-UX 11i v1.

For a summary of changes in previous releases of HP-UX 11i v1, see Chapter 3, "What is New at a Glance," on page 37.