

# **HP-UX 11i September 2005 Release Notes**

## **HP Servers and Workstations**



**Manufacturing Part Number: 5991-2814**

**September 2005**

© Copyright 2005 Hewlett-Packard Development Company, L.P.

---

## Legal Notices

© Copyright 2005 Hewlett-Packard Development Company, L.P.

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Intel® Itanium® Logo, Intel, Intel Inside and Itanium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Java™ is a US trademark of Sun Microsystems, Inc.

Linux is a US registered trademark of Linus Torvalds.

Microsoft®, Windows®, Windows NT®, and Windows® XP are U.S. registered trademarks of Microsoft Corporation.

Oracle® is a registered US trademark of Oracle Corporation, Redwood City, California.

UNIX® is a registered trademark of The Open Group.

### Acknowledgements

This product includes software developed by the Apache Software Foundation. This documentation is based on information from the Apache Software Foundation (<http://www.apache.org>).

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org>).

This product includes cryptographic software written by Eric Young ([eay@cryptsoft.com](mailto:eay@cryptsoft.com)).

This product includes PHP, freely available from the PHP Group (<http://www.php.net>).

This product includes software developed by the OpenLDAP Project (<http://www.openldap.org>).

---

## 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.<sup>1</sup>

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 31.

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 Version 1 September 2005 Release Notes*, MPN 5991-2814

### Previous Documents in This Series

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

---

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 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.

|                   |   |
|-------------------|---|
| <i>audit</i> (5)  | An HP-UX manpage. <i>audit</i> is the name and 5 is the section in the <i>HP-UX Reference</i> . 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 <i>man</i> (1). |
| <i>Book Title</i> | The title of a book. On the Web and on the Instant Information media, it may be a hot link to the book itself.  |
| <i>Emphasis</i>   | Text that is emphasized.  |
| <b>Emphasis</b>   | 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.   |
| <b>UserInput</b>  | Commands and other text that you type.  |
| <i>Variable</i>   | 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.   |

**1. Overview of the Release Notes**

|  |    |
|--|----|
| What is in This Chapter? . . . . .   | 9  |
| What is the Purpose of the HP-UX 11i September 2005 Release Notes? . . . . . | 10 |
| Where Should I Begin? . . . . .  | 11 |
| Locating Release Notes for Other Versions of HP-UX . . . . .                 | 12 |
| Other Sources of Information about This Release . . . . .                    | 13 |
| What is in the Remaining Chapters? . . . . .                                 | 15 |

**2. Introduction to HP-UX 11i Version 1**

|   |    |
|---|----|
| What is in This Chapter? . . . . .                                | 17 |
| Welcome to HP-UX 11i v1 September 2005 . . . . .                  | 18 |
| HP-UX 11i Release Names and Release Identifiers. . . . .          | 19 |
| HP-UX 11i v1 Software and Driver Bundle Types. . . . .            | 20 |
| HP-UX 11i v1 Operating Environments. . . . .                      | 21 |
| Software Pack (Optional HP-UX 11i v1 Core Enhancements) . . . . . | 27 |
| HP-UX 11i v1 Compatibility . . . . .                              | 28 |

**3. What is New at a Glance**

|  |    |
|--|----|
| What is in This Chapter? . . . . .                   | 31 |
| What is New in the September 2005 Release? . . . . . | 32 |
| What is New in the December 2004 Release? . . . . .  | 37 |
| What is New in the June 2004 Release? . . . . .      | 41 |
| What is New in the December 2003 Release? . . . . .  | 44 |
| What is New in the September 2003 Release? . . . . . | 46 |
| What is New in the June 2003 Release? . . . . .      | 48 |
| What is New in the March 2003 Release? . . . . .     | 50 |
| What is New in the December 2002 Release? . . . . .  | 51 |
| What is New in the September 2002 Release? . . . . . | 52 |
| What is New in the June 2002 Release? . . . . .      | 54 |
| What is New in the March 2002 Release? . . . . .     | 56 |
| What is New in the December 2001 Release? . . . . .  | 58 |
| What is New in the September 2001 Release? . . . . . | 59 |
| What is New in the June 2001 Release? . . . . .      | 60 |
| What is New in the Initial 11i v1 Release? . . . . . | 61 |

**4. Workstation- and Server-Specific Information**

|   |    |
|---|----|
| What is in This Chapter? . . . . .                  | 65 |
| Graphics and Technical Computing Software . . . . . | 66 |
| Hardware Enablement. . . . .                        | 67 |
| HP Instant Support Enterprise Edition . . . . .     | 69 |
| Networking and Mass Storage Drivers. . . . .        | 70 |
| Always-Installed Networking Drivers . . . . .       | 71 |
| Selectable Networking Drivers . . . . .             | 75 |
| Always-Installed Mass Storage Drivers . . . . .     | 77 |
| Offline Diagnostics Environment . . . . .           | 79 |
| Supported Systems . . . . .                         | 80 |

---

# Contents

|  |     |
|--|-----|
| Technical System Configuration (TechSysConf) . . . . .                                 | 85  |
| Utility Pricing Solutions (formerly On Demand Solutions) . . . . .                     | 89  |
| <b>5. General System Administration</b>  |     |
| What is in This Chapter? . . . . .   | 93  |
| Event Monitoring Service . . . . .   | 94  |
| High Availability Monitors . . . . .   | 94  |
| HP Partitioning . . . . .  | 95  |
| HP Servicecontrol Manager . . . . .  | 108 |
| HP Serviceguard NFS Toolkit . . . . .  | 109 |
| HP System Management Homepage . . . . .  | 110 |
| HP Systems Insight Manager . . . . .   | 111 |
| HP WBEM Services for HP-UX . . . . .   | 115 |
| Ignite-UX . . . . .  | 116 |
| Online Diagnostics . . . . .   | 117 |
| Software Distributor . . . . .   | 119 |
| Software Package Builder . . . . .   | 120 |
| Update-UX . . . . .  | 121 |
| <b>6. Disk and File Management</b>   |     |
| What is in This Chapter? . . . . .   | 123 |
| Enhanced AutoFS . . . . .  | 124 |
| HP CIFS Client . . . . .   | 125 |
| HP CIFS Server . . . . .   | 127 |
| VERITAS File System (HP JFS/HP OnlineJFS) . . . . .                                    | 129 |
| <b>7. Internet and Networking</b>  |     |
| What is in This Chapter? . . . . .   | 131 |
| HP-UX 11i Internet Protocol Version 6 (IPv6) (Obsolescence on Software Pack) . . . . . | 132 |
| HP-UX Web Server Suite . . . . .   | 133 |
| LDAP-UX Client Services (LDAP-UX Integration Product) . . . . .                        | 137 |
| Mozilla Application Suite . . . . .  | 140 |
| Netscape Directory Server for HP-UX . . . . .  | 141 |
| <b>8. Security</b>   |     |
| What is in This Chapter? . . . . .   | 143 |
| HP-UX Host Intrusion Detection System Release 3.1 . . . . .                            | 144 |
| HP-UX IPFilter . . . . .   | 146 |
| HP-UX Secure Shell . . . . .   | 147 |
| HP-UX Shadow Passwords . . . . .   | 148 |
| OpenSSL . . . . .  | 149 |
| <b>9. Commands and System Calls</b>  |     |
| What is in This Chapter? . . . . .   | 151 |

**10. Libraries and Programming**

|  |     |
|--|-----|
| What is in This Chapter?.....          | 153 |
| EnhancedCore .....                     | 154 |
| HP MLIB .....                          | 154 |
| HP MPI.....                            | 155 |
| Java 2 Standard Edition Platform ..... | 157 |
| Perl .....                             | 161 |

**11. Internationalization**

|                               |     |
|-------------------------------|-----|
| What is in This Chapter?..... | 163 |
|-------------------------------|-----|

**12. Other Functionality**

|                               |     |
|-------------------------------|-----|
| What is in This Chapter?..... | 165 |
|-------------------------------|-----|





---

**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 September 2005 Release Notes? (see page 10)
- Where Should I Begin? (see page 11)
- Locating Release Notes for Other Versions of HP-UX (see page 12)
- Other Sources of Information about This Release (see page 13)
- What is in the Remaining Chapters? (see page 15)

---

## What is the Purpose of the HP-UX 11i September 2005 Release Notes?

The *HP-UX 11i September 2005 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 December 2004 Operating Environment update.

As with other HP-UX release notes, the *HP-UX 11i September 2005 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 31 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 14 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 September 2005 Release Notes* would be most appropriate to the September 2005 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 14 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://www.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 14 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 Workgroups:* 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 "Networking and Communications" 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](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](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/software/releases/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](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 17, 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 31, 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 65, 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 93, includes information of particular interest to system administrators.
- Chapter 6, “Disk and File Management,” on page 123, presents information regarding directory, file system, and disk management.
- Chapter 7, “Internet and Networking,” on page 131, covers changes to networking functionality and Internet services.
- Chapter 8, “Security,” on page 143, covers changes and enhancements to security services.
- Chapter 9, “Commands and System Calls,” on page 151, includes information about new and changed commands and system calls.
- Chapter 10, “Libraries and Programming,” on page 153, provides information of particular interest to programmers, including changes to compilers, editors, and libraries.
- Chapter 11, “Internationalization,” on page 163, presents information about text fonts and converters relating to various international languages.
- Chapter 12, “Other Functionality,” on page 165, includes additional applications or functionality in the Operating Environments.





---

**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 September 2005 (see page 18)
- HP-UX 11i Release Names and Release Identifiers (see page 19)
- HP-UX 11i v1 Software and Driver Bundle Types (see page 20)
- HP-UX 11i v1 Operating Environments (see page 21)
  - Overview (see page 21)
  - HP-UX 11i v1 Foundation Operating Environment (see page 22)
  - HP-UX 11i v1 Enterprise Operating Environment (see page 23)
  - HP-UX 11i v1 Mission Critical Operating Environment (see page 24)
  - HP-UX 11i v1 Minimal Technical Operating Environment (see page 24)
  - HP-UX 11i v1 Technical Computing Operating Environment (see page 25)
- Software Pack (Optional HP-UX 11i v1 Core Enhancements) (see page 27)
- HP-UX 11i v1 Compatibility (see page 28)
  - HP-UX 11i v1 Compatibility (see page 28)
  - Compatibility Issues or Exceptions in HP-UX 11i v1 September 2005 (see page 29)
  - Support of Products (see page 30)

## Welcome to HP-UX 11i v1 September 2005

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 21.

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®<br>PA-RISC <sup>a</sup> |

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 21, 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 22.
- **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 23.
- **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 24.
- **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 24.
- **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 25.

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 <sup>a</sup> |
|-----------------------|-----|-----|------|------|-------------------|
| 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 31.)

### Always-Installed Features<sup>1</sup>

- Event Monitoring Service
- FEATURE11i
- FDDI-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
- HWEnable11i
- Judy Libraries
- Logical Volume Manager (LVM)
- MySQL
- nPartition Provider
- Online Diagnostics
- OpenSSL
- PAM Kerberos
- PRM Libraries
- RAID-00
- RAID-01
- scsiU320-00
- Software Distributor (SD)
- SWGETTOOLS
- System Administration Manager (SAM)
- Update-UX
- VERITAS File System (base VxFS/JFS)
- VERITAS Volume Manager (base VxVM)

### Default-Installed Features

- Enhanced NPartition Commands
- GTK+ Libraries
- HP Global Workload Manager
- HP System Management Homepage
- 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)

---

1. For definitions of *always-installed*, *default-installed*, and *selectable*, see “HP-UX 11i v1 Software and Driver Bundle Types” on page 20.

- 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
- 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
- HP-UX Install Utilities
- HyprFabrc-00
- Ignite-UX
- Java Out of Box Tunable
- Netscape Directory Server
- Software Package Builder
- TermIO-00 (PCI MUX)
- 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 22), 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 31.)

#### Always-Installed Features<sup>1</sup>

- GlancePlus Pak
- High Availability Monitors
- HP Process Resource Manager
- MirrorDisk/UX

---

1. For definitions of *always-installed*, *default-installed*, and *selectable*, see “HP-UX 11i v1 Software and Driver Bundle Types” on page 20.

- VERITAS File System (full VxFS/OnlineJFS)

#### **Default-Installed Features**

- See “HP-UX 11i v1 Foundation Operating Environment” on page 22

#### **Selectable Features**

- See “HP-UX 11i v1 Foundation Operating Environment” on page 22

## **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 31.)

#### **Always-Installed Features<sup>1</sup>**

- 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 22

#### **Selectable Features**

- See “HP-UX 11i v1 Foundation Operating Environment” on page 22

## **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 31.)



### Always-Installed Features<sup>1</sup>

- Event Monitoring Service
- FEATURE11i
- FDDI-00
- FibrChan1-01
- Gigabit Ethernet (GigEther-00, GigEther-01, and IEther-00)
- HP Instant Capacity (iCAP, formerly iCOD)
- HP WBEM Services for HP-UX
- HP 3D Technology for the Java™ Standard Edition Platform
- HWEnable11i
- Judy Libraries
- Logical Volume Manager (LVM)
- nPartition Provider
- Obsolescence Bundle
- Online Diagnostics
- OpenSSL
- RAID-00
- RAID-01
- Technical System Configuration (TechSysConf)
- scsiU320-00
- Software Distributor (SD)
- SWGETTOOLS
- System Administration Manager (SAM)
- Update-UX
- VERITAS File System (base VxVS/JFS)
- VERITAS Volume Manager (base)

### Default-Installed Features

- See “HP-UX 11i v1 Foundation Operating Environment” on page 22

### Selectable Features

- See “HP-UX 11i v1 Foundation Operating Environment” on page 22

## 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 31.)

---

1. For definitions of *always-installed*, *default-installed*, and *selectable*, see “HP-UX 11i v1 Software and Driver Bundle Types” on page 20.

### Always-Installed Features<sup>1</sup>

- 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

### Default-Installed Features

- See “HP-UX 11i v1 Foundation Operating Environment” on page 22

### Selectable Features

- See “HP-UX 11i v1 Foundation Operating Environment” on page 22

---

1. For definitions of *always-installed*, *default-installed*, and *selectable*, see “HP-UX 11i v1 Software and Driver Bundle Types” on page 20.

## 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 September 2005 release of SPK delivers the following features. For more information, see the indicated pages:

- Enhanced AutoFS (see page 124)
- EnhancedCore (see page 154)
- HP-UX Processor Sets (see page 99)
- HP-UX Shadow Passwords (see page 148)

In addition, see "HP-UX 11i Internet Protocol Version 6 (IPv6) (Obsolescence on Software Pack)" on page 132 for information about the removal of the `IPv6NCF11i` product bundle from Software Pack.

## 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 September 2005

Compatibility issues or exceptions have been noted for the following products or features that have been updated in September 2005. 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>.

#### **Chapter 4: Workstation- and Server-Specific Information**

- In this section, there are no known compatibility issues for the HP-UX 11i September 2005 Operating Environments update release.

#### **Chapter 5: General System Administration**

- HP Process Resource Manager (see page 98)
- HP-UX Workload Manager (see page 102)
- nPartition Provider (see page 104)

#### **Chapter 6: Disk and File Management**

- In this section, there are no known compatibility issues for the HP-UX 11i September 2005 Operating Environments update release.

#### **Chapter 7: Internet and Networking**

- In this section, there are no known compatibility issues for the HP-UX 11i September 2005 Operating Environments update release.

#### **Chapter 8: Security**

- In this section, there are no known compatibility issues for the HP-UX 11i September 2005 Operating Environments update release.

#### **Chapter 9: Commands and System Calls**

- In this section, there are no known compatibility issues for the HP-UX 11i September 2005 Operating Environments update release.

#### **Chapter 10: Libraries and Programming**

- Perl (see page 161)

#### **Chapter 11: Internationalization**

- In this section, there are no known compatibility issues for the HP-UX 11i September 2005 Operating Environments update release.

#### **Chapter 12: Other Functionality**

- In this section, there are no known compatibility issues for the HP-UX 11i September 2005 Operating Environments update release.

### **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>

---

**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 September 2005 Release? (see page 32)
- What is New in the December 2004 Release? (see page 37)
- What is New in the June 2004 Release? (see page 41)
- What is New in the December 2003 Release? (see page 44)
- What is New in the September 2003 Release? (see page 46)
- What is New in the June 2003 Release? (see page 48)
- What is New in the March 2003 Release? (see page 50)
- What is New in the December 2002 Release? (see page 51)
- What is New in the September 2002 Release? (see page 52)
- What is New in the June 2002 Release? (see page 54)
- What is New in the March 2002 Release? (see page 56)
- What is New in the December 2001 Release? (see page 58)
- What is New in the September 2001 Release? (see page 59)
- What is New in the June 2001 Release? (see page 60)
- What is New in the Initial 11i v1 Release? (see page 61)

## What is New in the September 2005 Release?

The following summaries will give you a general picture of how the September 2005 release of HP-UX 11i v1 differs from the December 2004 release of HP-UX 11i v1.

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

---

### 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” (see page 65)

- Graphics and Technical Computing Software: Now supports 3D accelerated rendering on ATI FireGL X3 graphics card. (See “Graphics and Technical Computing Software” on page 66.)
- **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. (See “Hardware Enablement” on page 67.)
- 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. (See “HP Instant Support Enterprise Edition” on page 69.)
- Networking and Mass Storage Drivers (see page 70)
  - **New Product:** 10GigEthr-00: Adds support for the AB287A PCI-X 10 Gigabit Ethernet card. Now available as a selectable product in the OEs. (See “10GigEthr-00” on page 76.)
  - GigEther-01: Now supports the AB465A card. (See “GigEther-00, GigEther-01, and IEther-00 (Gigabit Ethernet)” on page 73.)
  - IEther-00: Now supports the AB290A and AB545A cards. (See “GigEther-00, GigEther-01, and IEther-00 (Gigabit Ethernet)” on page 73.)
  - RAID-01: Updated to incorporate defect fixes. (See “RAID-01” on page 78.)
  - FibrChanl-01: Updated to incorporate defect fixes. (See “FibrChanl-01 (Fibre Channel)” on page 78.)
- 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. (See “Offline Diagnostics Environment” on page 79.)



- **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. (See “Technical System Configuration (TechSysConf)” on page 85.)
- **Utility Pricing Solutions (formerly On Demand Solutions)** (see page 89)
  - **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. (See “HP Instant Capacity (formerly Instant Capacity on Demand)” on page 89.)
  - **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. (See “HP Pay per use” on page 91.)

### Chapter 5: “General System Administration” (see page 93)

- **Event Monitoring Service:** Updated to reflect defect fixes. EMS framework manpages now also available in Japanese. (See “Event Monitoring Service” on page 94.)
- **High Availability (HA) Monitors:** Updated to incorporate defect fixes. (See “High Availability Monitors” on page 94.)
- **HP Partitioning** (see page 95)
  - **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. (See “HP Global Workload Manager” on page 96.)
  - **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. (See “HP Process Resource Manager” on page 98.)
  - **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. (See “HP-UX Processor Sets” on page 99.)
  - **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>. (See “HP-UX Virtual Partitions (vPars)” on page 101.)
  - **HP-UX Workload Manager:** Updated to version A.03.00.01 with more flexibility in resource management and more secure environments. (See “HP-UX Workload Manager” on page 102.)
  - **HP-UX Workload Manager Toolkits: Pay Per Use Toolkit** and its `utilitydc` command now deprecated. (See “HP-UX Workload Manager Toolkits” on page 103.)
  - **nPartition Provider:** Upgraded to version B.11.11.01.04.01.xx to incorporate performance improvements and bug fixes. (See “nPartition Provider” on page 104.)

- 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. (See “Partition Manager” on page 105.)
- PRM Libraries: Contains only the HP Process Resource Manager (PRM) kernel product, PRM-Sw-Krn, which is now at version C.01.03. (See “PRM Libraries” on page 107.)
- **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. (See “vPar Provider” on page 107.)
- 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. (See “HP Servicecontrol Manager” on page 108.)
- HP Serviceguard NFS Toolkit: Updated to version A.11.11.05 to incorporate two defect fixes. (See “HP Serviceguard NFS Toolkit” on page 109.)
- **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. (See “HP System Management Homepage” on page 110.)
- **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. (See “HP Systems Insight Manager” on page 111.)
- 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. (See “HP WBEM Services for HP-UX” on page 115.)
- 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. (See “Ignite-UX” on page 116.)
- 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. (See “Online Diagnostics” on page 117.)
- Software Distributor: Updated to incorporate defect fixes. (See “Software Distributor” on page 119.)
- Software Package Builder: Updated to incorporate defect fixes. (See “Software Package Builder” on page 120.)
- Update-UX: Updated to incorporate defect fixes. No new features or functionality. (See “Update-UX” on page 121.)

#### Chapter 6: “Disk and File Management” (see page 123)

- 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. (See “Enhanced AutoFS” on page 124.)

- HP CIFS Client: Updated to version A.02.01 with a substantially revised and improved code base. (See “HP CIFS Client” on page 125.)
- 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). (See “HP CIFS Server” on page 127.)
- VERITAS File System (HP JFS/HP OnlineJFS): Licenses for full VxFS 3.3 (HP OnlineJFS B3929CA) are now permanent. (See “VERITAS File System (HP JFS/HP OnlineJFS)” on page 129.)

#### Chapter 7: “Internet and Networking” (see page 131)

- 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>. (See “HP-UX 11i Internet Protocol Version 6 (IPv6) (Obsolescence on Software Pack)” on page 132.)
- HP-UX Web Server Suite (see page 133)
  - HP-UX Apache-based Web Server: Upgraded to version v.2.0.54.01 as primarily a bug fix release. (See “HP-UX Apache-based Web Server” on page 135.)
  - 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. (See “HP-UX Tomcat-based Servlet Engine” on page 135.)
  - HP-UX Webmin-based Admin: Upgraded to 1.070.04 as primarily a bug fix release. (See “HP-UX Webmin-based Admin” on page 136.)
- **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. (See “LDAP-UX Client Services (LDAP-UX Integration Product)” on page 137.)
- 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. (See “Mozilla Application Suite” on page 140.)
- 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. (See “Netscape Directory Server for HP-UX” on page 141.)

#### Chapter 8: “Security” (see page 143)

- 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. (See “HP-UX Host Intrusion Detection System Release 3.1” on page 144.)
- HP-UX IPFilter: Updated to version A.03.05.11.01 to incorporate defect fixes. (See “HP-UX IPFilter” on page 146.)

- **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. (See “HP-UX Secure Shell” on page 147.)
- HP-UX Shadow Passwords: Available on Software Pack. Provides fixes for two defects. (See “HP-UX Shadow Passwords” on page 148.)
- OpenSSL: Updated to version A.00.09.07e.012 with automatic generation of a self-signed host certificate and private key. (See “OpenSSL” on page 149.)

#### Chapter 10: “Libraries and Programming” (see page 153)

- EnhancedCore: Now available on Software Pack. Allows a `setuid` program to be dumped if the request is from a debugger. (See “EnhancedCore” on page 154.)
- HP MLIB: Updated to version 9.4 with quality enhancements. (See “HP MLIB” on page 154.)
- 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. (See “HP MPI” on page 155.)
- Java 2 Standard Edition Platform (see page 157)
  - 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.<sup>1</sup> SDK/RTE version 1.3 deprecated and planned for future obsolescence. (See “HP-UX Software Development Kit and Runtime Environment for the Java Standard Edition Platform” on page 157.)
  - 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. (See “Java Technology for HP-UX Add-on Standard C++ Runtime Libraries” on page 158.)
  - Java Out-of-Box: Updated to incorporate defect fixes. (See “Java Out-of-Box” on page 158.)
  - 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.<sup>1</sup> Version 1.3 deprecated and planned for future obsolescence. (See “Runtime Plug-in (JPI) for HP-UX” on page 160.)
- Perl 5.8.3 build 809: Includes better Unicode support and numeric accuracy, new I/O and thread implementation, and other changes. (See “Perl” on page 161.)

---

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

---

## 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 is 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 is 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**

- FibrChan1-01 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 obsolete. 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 obsolete 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 is 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 `fc` 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 `gellan` updated to incorporate defect fixes.
- Gigabit Ethernet driver `igellan` 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 is 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/.](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

- FibrChan1-01 (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 is 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 (HWEEnable11i) 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 is 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 (HWEEnable11i) 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.11.00.11xx) 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 is 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 is 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 is 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 (HWEEnable11i) 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 is 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 (JAVA00B) 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 is 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 is 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 is 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 is 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.



## What is in This Chapter?

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

- Graphics and Technical Computing Software (see page 66)
- Hardware Enablement (see page 67)
- HP Instant Support Enterprise Edition (see page 69)
- Networking and Mass Storage Drivers (see page 70)
  - Always-Installed Networking Drivers (see page 71)
    - GigEther-00, GigEther-01, and IEther-00 (Gigabit Ethernet) (see page 73)
  - Selectable Networking Drivers (see page 75)
    - 10GigEthr-00 (see page 76)
  - Always-Installed Mass Storage Drivers (see page 77)
    - FibrChanl-01 (Fibre Channel) (see page 78)
    - RAID-01 (see page 78)
- Offline Diagnostics Environment (see page 79)
- Supported Systems (see page 80)
  - Supported Servers (see page 81)
  - Supported Workstations (see page 84)
  - Finding Firmware Information (see page 84)
- Technical System Configuration (TechSysConf) (see page 85)
- Utility Pricing Solutions (formerly On Demand Solutions) (see page 89)
  - HP Instant Capacity (formerly Instant Capacity on Demand) (see page 89)
  - HP Pay per use (see page 91)

## 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-RISC 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-RISC 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

HP-UX 11i v1, as of the September 2005 release, supports 3D accelerated rendering on the ATI FireGL X3 graphics card. In December 2004, HP-UX 11i v1 only supported basic 2D functionality on the FireGL X3 graphics card.

The ATI FireGL X3 is HP's new high-end 3D graphics card (replacing the ATI FireGL X1) and is supported only on the c8000 workstation.

---

### NOTE

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.

---

### Impact

3D accelerated rendering on the ATI FireGL X3 graphics card is now supported.

### Compatibility

There are no known compatibility issues.

### Performance

There are no known performance issues.

## Documentation

For further information, refer to the following documents:

- *Graphics Administration Guide*, available at [http://hp.com/support/Graphics\\_Admin\\_Guide\\_PA](http://hp.com/support/Graphics_Admin_Guide_PA).
- *OpenGL Implementation Guide*, available at [http://hp.com/support/OpenGL\\_Imp\\_Guide\\_PA](http://hp.com/support/OpenGL_Imp_Guide_PA).

## Obsolescence

Not applicable.

---

## Hardware Enablement

Hardware Enablement (HWE) for HP-UX 11i v1 provides regular updates of the `HWEEnable11i` Patch Bundle, the HP-UX `OnlineDiag` bundle, and other HP-UX software to support the hardware used with HP-UX systems. These HWE components can be installed on existing HP-UX systems by selecting the `HWEEnable11i` bundle, applicable I/O driver bundles, the `OnlineDiag` bundle, and Ignite-UX (for boot support). These components can provide minimal support of new hardware products, including processor upgrades and new I/O adapters.

Each HP-UX 11i Operating Environment (OE) update includes `HWEEnable11i`, `OnlineDiag` (with EMS Hardware Monitors and Support Tools Manager), 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 is 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 media.

In addition to delivery on the HP-UX 11i v1 OE media, the `HWEEnable11i` bundle is also available on the IT Resource Center (ITRC) Web site at <http://itrc.hp.com>.

## Summary of Change

- The Support Tools Manager (STM) ID tool in Online Diagnostics<sup>1</sup> has been enabled to recognize the following new I/O peripherals:
  - EVA XL disk array
  - MSA 1500 disk enclosure
  - LTO448 half-height tape unit
  - LTO232 half-height tape unit
  - DAT72 ultra160 SCSI tape unit
  - DLTvs160 SCSI tape unit

1. See also “Online Diagnostics” on page 117.

- The `HWEnable11i` bundle provides updated patches for new tape units and current SCSI I/O adapters.
- The ATI FireGL X3 graphics card is now fully supported for c8000 workstation models.
- The following HP-UX 11i v1 I/O driver bundles have been updated on the September 2005 HP-UX OE media:
  - `10GigEthr-00` (ixgbe driver): Adds support for the AB287A PCI-X 10 Gigabit Ethernet card.<sup>1</sup>
  - `FibrChan1-01` (fcd driver): Updated to incorporate defect fixes
  - `GigEther-01` (igelan driver): Updated to support AB465A PCI-X Multifunction 2-Port 2Gb FC / 2-Port 1000Base-T Adapter<sup>2</sup>
  - `IEther-00` (iether driver): Updated to support AB290A PCI-X 2-Port U320 SCSI / 2-Port 1000Base-T Adapter and AB545A PCI-X 4-Port 1000Base-T Adapter<sup>2</sup>
  - `RAID-01` (ciSS driver): Updated to incorporate defect fixes

## Impact

Each release of the HP-UX 11i v1 Operating Environment (OE) media provides the cumulative changes in patches and bundles for support of legacy and new hardware.

## Compatibility

There are no known compatibility issues.

## Performance

There are no known performance issues.

## Documentation

- Other sections in this document provide additional information:
  - Supported Systems (see page 80)
  - Graphics and Technical Computing Software (see page 66)
  - Networking and Mass Storage Drivers (see page 70)
  - Ignite-UX (see page 116)
  - Online Diagnostics (see page 117)
- For information about the `HWEnable11i` bundle, refer to the Hardware Enablement Bundle README file, delivered in the bundle.

1. The `HWEnable11i` bundle includes the patch, `PHNE_32396`, which is also required for installation of the `10GigEthr-00` bundle.
2. For information about other changes to these drivers, see “GigEther-00, GigEther-01, and IEther-00 (Gigabit Ethernet)” on page 73.

- To determine which HWEEnable11i bundles are needed for particular servers and releases, refer to the *HP-UX Server Enablement Matrix: HP-UX 11i v1 (B.11.11)*, available at <http://docs.hp.com/en/5991-1131/5991-1131.pdf>.
- Also refer to the latest editions of the following documents, available at <http://docs.hp.com/en/oshpux11i.html>:
  - *HP-UX 11i v1 Installation and Update Guide*
  - *Read Before Installing or Updating to HP-UX 11i v1*

---

## HP Instant Support Enterprise Edition

HP 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.

As of the September 2005 release of HP-UX 11i v1, ISEE is only delivered as a default-installed product in the HP-UX 11i v1 Operating Environments. Previously, it was available on the Support Plus media.

### Summary of Change

As of the September 2005 update release of HP-UX 11i v1, ISEE version A.03.95 includes HP Runner. Runner is an availability monitoring tool for HP-UX systems that utilizes the ISEE framework to return availability data to HP for reporting and service, depending on contract level.

### Impact

There are no impacts other than that described previously.

### Compatibility

Before enabling or configuring Instant Support Enterprise Edition, verify that you have collected the necessary information and met all of the requirements for HP-UX support outlined in the *HP Instant Support Enterprise Edition Client Installation and Upgrade Guide*, available at <http://www.hp.com/learn/isee>.

---

#### NOTE

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 *HP Instant Support Enterprise Edition Client Installation and Upgrade Guide*.

The HP Runner availability component is installed with ISEE but is not active. To enable HP Runner, run the following command as root:

```
at -f /opt/runner/bin/retry now
```

### Performance

There is neither a performance improvement nor any known degradation in performance.

### Documentation

Information about ISEE, including the *HP Instant Support Enterprise Edition Client Installation and Upgrade Guide*, is available at <http://www.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://www.hp.com/hps/hardware/hw\\_products.html](http://www.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 71)
- Selectable Networking Drivers (see page 75)
- Always-Installed Mass Storage Drivers (see page 77)

## 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.

**Table 4-1** Always-Installed Networking Drivers

| Networking Driver Bundle     | Driver         | Card Number     | Description   |
|------------------------------|----------------|-----------------|---|
| FDDI-00                      | fddi4          | A3739A/B        | PCI FDDI card   |
| FibrChanl-01 and GigEther-01 | fcd and igelan | A9782A          | PCI-X 2Gb Fibre Channel/1000Base-SX (Fibre) Combination Card      |
| FibrChanl-01 and GigEther-01 | fcd and igelan | A9784A          | PCI-X 2Gb Fibre Channel/1000Base-T (Copper) Combination Card      |
| FibrChanl-01 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             |

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

| Networking Driver Bundle     | Driver         | Card Number        | Description  |
|------------------------------|----------------|--------------------|--|
| HPUXBase64,<br>HPUXBase32    | btlan          | J3514A<br>opt #002 | HSC 10/100Base-FX (fiber) 2-port for K-Class and T600 servers                                  |
| HPUXBase64,<br>HPUXBase32    | btlan          | J3515A             | HSC 10/100Base-TX 1-port for C, J workstations and A, D, R-Class servers (except D200)         |
| HPUXBase64,<br>HPUXBase32    | btlan          | J3516A<br>opt #001 | HSC 10/100Base-TX 2-port for C, J workstations and A, D, R-Class servers (except D200)         |
| HPUXBase64,<br>HPUXBase32    | btlan          | J3516A<br>opt #002 | HSC 10/100Base-FX (fiber) 2-port for C, J workstations and A, D, R-class servers (except D200) |
| HPUXBase64,<br>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<br>scsiU320-00 | 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  |

**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.



## GigEther-00, GigEther-01, and IEther-00 (Gigabit Ethernet)

For Gigabit Ethernet, HP-UX 11i v1 supplies the GigEther-00, GigEther-01, and IEther-00 driver bundles, which supply the `gelan`, `igelan`, and `iether` drivers, respectively.

---

### NOTE

A list of systems that use the three currently supported Gigabit Ethernet drivers is located in the *HP-UX Ethernet Driver Support Matrix, Edition 2* (for the September 2004 release and later) at <http://docs.hp.com> under “Networking and Communications” and then under “Gigabit Ethernet”.

---

### Summary of Change

The September 2005 release of HP-UX 11i v1 includes the following changes:

- The GigEther-01 (`igelan`) driver has been updated to version B.11.11.20. The IEther-00 (`iether`) driver has been updated to version B.11.11.09. The `gelan` driver has not been updated.
- HP-UX 11i v1 now supports the following new networking cards:
  - AB290A PCI-X 2-Port U320 SCSI / 2-Port 1000Base-T Adapter (supported by the `iether` and `mpt` drivers)
  - AB465A PCI-X Multifunction 2-Port 2Gb FC / 2-Port 1000Base-T Adapter (supported by the `igelan` and `fcd` drivers)<sup>1</sup>
  - AB545A PCI-X 4-Port 1000Base-T Adapter (supported by the `iether` driver)
- Checksum Offload (CKO) changes for the `iether` and `igelan` Gigabit Ethernet drivers:

These Gigabit Ethernet drivers now allow customers to turn the CKO feature of the Gigabit Ethernet interface ON or OFF. With this and subsequent versions of the `iether` and `igelan` drivers, the default for receive-side CKO will be OFF (disabled). The current CKO settings can be determined with the following command:

```
lanadmin -x cko
```

If desired, the previous settings can be restored with the new driver by using the `lanadmin -X` command. The exact `lanadmin` commands are as follows (note that the X is capitalized in these commands):

```
lanadmin -X send_cko_on
```

```
lanadmin -X recv_cko_on
```

Example settings for the `iether` driver:

The settings are preserved across reboots by setting both `HP_IETHER_SEND_CKO` and `HP_IETHER_RECV_CKO` to ON or OFF in the `/etc/rc.config.d/hpietherconf` file.

---

1. See also “FibrChanl-01 (Fibre Channel)” on page 78.

- Support of 1000FD mode of switches:  
HP-UX 1000Base-T ports will support a link partner (switch or end-station) that is operating in 1000FD fixed/manual mode. Please ensure that your setting is one of the following supported configurations:

**Table 4-2 HP-UX 1000Base-T Supported Configurations**

| HP-UX 1000Base-T Port | Link Partner                        | Resulting Speed                                   |
|-----------------------|-------------------------------------|---|
| AUTO                  | AUTO                                | Highest Common Speed (HP-UX supports 10/100/1000) |
| AUTO                  | 1000 FD fixed/manual                | 1000 Mbit/s FD                                    |
| 10 HD                 | 10 HD (for example, a 10Base-T Hub) | 10 Mbit/s HD                                      |
| 10 FD                 | 10 FD                               | 10 Mbit/s FD                                      |
| 100 HD                | 100 HD                              | 100 Mbit/s HD                                     |
| 100 FD                | 100 FD                              | 100 Mbit/s FD                                     |

### Impact

With the Gigabit Ethernet drivers updated for this release, CKO settings can be set to what they used to be prior to this release by using the `lanadmin -X` command. The exact `lanadmin` commands are as follows (note that the X is capitalized in these commands):

```
lanadmin -X send_cko_on <ppa>
```

```
lanadmin -X recv_cko_on <ppa>
```

Example settings for the `iether` driver:

The settings are preserved across reboots by setting both `HP_IETHER_SEND_CKO` and `HP_IETHER_RECV_CKO` to ON or OFF in the `/etc/rc.config.d/hpietherconf` file.

### Compatibility

There are no known compatibility issues.

### Performance

There are no known performance issues.

### Documentation

Installation guides for the AB545A, AB290A, and AB465A are at <http://docs.hp.com> under “Networking and Communications.”

Details of the new options to support the CKO change can be obtained from the `lanadmin` manpage.

**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.

**Table 4-3 Selectable Networking Drivers<sup>a</sup>**

| <b>Networking Driver Bundle</b> | <b>Driver</b>         | <b>Card Number</b>  | <b>Description</b>   |
|---------------------------------|-----------------------|---|--|
| 10GigEthr-00                    | ixgbe                 | AB287A  | PCI-X Gigabit Ethernet card  |
| 100BaseT-00                     | btlan0                | A4308B,<br>A3658A   | EISA 100BaseT Card   |
| 100BaseT-01                     | btlan1                | A3495A  | HPPB 100BaseT card   |
| ATM-00                          | atm2pci<br><br>atmpci | A5483A,<br>A5513A,<br>A5515A,<br>J3557A                     | PCI ATM cards  |
| ATM-01                          | atm2gsc               | J2468A,<br>J2469A,<br>J2499A,<br>J3420B,<br>J3573A          | HSC ATM cards  |
| FDDI-01                         | fddi3                 | A3722A<br><br>A3723A  | HSC FDDI cards   |
| FDDI-02                         | fddi                  | J2157B  | HP-PB FDDI card  |
| FDDI-03                         | fddi0                 | A3659A,<br>B5502BA  | EISA FDDI cards  |
| HyprFabr-00                     | clicd                 | A4919A<br><br>A4920A<br><br>A4921A<br><br>A6092A,<br>A6386A | PCI HyperFabric<br><br>HSC HyperFabric<br><br>HSC HyperFabric<br><br>PCI HyperFabric |

**Table 4-3 Selectable Networking Drivers<sup>a</sup> (Continued)**

| Networking Driver Bundle | Driver    | Card Number                                | Description                               |
|--------------------------|-----------|--|---|
| TermIO-00                | pci_mux0  | J3592A,<br>A6748A<br><br>J3593A,<br>A6749A | PCI MUX (8-port)<br><br>PCI MUX (64-port) |
| TermIO-01                | eisa_mux0 | J2482A,<br>J2483A                          | EISA MUX                                  |
| TokenRing-00             | pcitr     | A5783A,<br>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.

### 10GigEthr-00

The 10GigEthr-00 bundle supplies the `ixgbe` driver, which supports the AB287A PCI-X 10 Gigabit Ethernet card.

The 10 Gigabit Ethernet (`ixgbe`) driver is delivered as a selectable product in the September 2005 update of HP-UX 11i v1.

#### Summary of Change

As of September 2005, the 10GigEthr-00 bundle is available on HP-UX 11i v1.

#### Impact

This software is required to operate the AB287A 10 Gigabit Ethernet network adaptor.

#### Compatibility

There are no compatibility issues.

#### Performance

There are no performance issues.

#### Documentation

For further information, refer to the following documents, available at <http://docs.hp.com/en/netcom.html#10%20Gigabit%20Ethernet>:

- *10GigEthr-00 (ixgbe) 10 Gigabit Ethernet Driver for HP-UX 11i v1 of September 2005 Release Notes*
- *AB287A PCI-X 10 Gigabit Ethernet Card Installation Guide*

**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.

**Table 4-4 Always-Installed Mass Storage Drivers**

| <b>Mass Storage Driver Bundle</b> | <b>Driver</b>  | <b>Card Number</b> | <b>Description</b>  |
|-----------------------------------|----------------|--------------------|---|
| FibrChan1-00                      | td             | A5158A             | PCI Tachyon TL/TS Fibre Channel card                          |
| FibrChan1-00                      | td             | A6684A             | HSC-eff Tachlite Fibre Channel Adapter                        |
| FibrChan1-00                      | td             | A6685A             | HSC Tachlite Fibre Channel Adapter                            |
| FibrChan1-00                      | td             | A6795A             | PCI Tachyon XL2 Adapter card                                  |
| FibrChan1-01                      | fcd            | A6826A             | PCI-X Dual Port 2 Gb/1 Gb Fibre Channel Adapter               |
| FibrChan1-01 and GigEther-01      | fcd and igelan | A9782A             | PCI-X 2Gb Fibre Channel/1000Base-SX (Fiber) Combination Card  |
| FibrChan1-01 and GigEther-01      | fcd and igelan | A9784A             | PCI-X 2Gb Fibre Channel/1000Base-T (Copper) Combination Card  |
| FibrChan1-01 and GigEther-01      | 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                         |

**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-01 (Fibre Channel)**

The `FibrChanl-01` bundle delivers FC-FCD (`fcd` driver) version B.11.11.06 for the following hardware:

- A6826A PCI-X Dual Port 2 Gb/1 Gb Fibre Channel Adapter
- A9782A PCI-X 2Gb Fibre Channel/1000Base-SX (Fiber) Combination Card
- A9784A PCI-X 2Gb Fibre Channel/1000Base-T (Copper) Combination Card
- AB465A PCI-X Multifunction 2-Port 2Gb FC / 2-Port 1000Base-T Adapter<sup>1</sup>

### **Summary of Change**

This release includes defect fixes for the A6826A, A9782A, A9784A, and AB465A cards. For details, see the Fibre Channel documentation at <http://docs.hp.com/en/netcom.html#Fibre%20Channel>.

### **Impact**

There are no impacts.

### **Compatibility**

There are no known compatibility issues.

### **Performance**

There are no known performance issues.

### **Documentation**

Documentation for the Fibre Channel cards, as well as the `FibrChanl-01` (`fcd`) Fibre Channel Mass Storage driver, is available at <http://docs.hp.com/en/netcom.html#Fibre%20Channel>.

### **Obsolescence**

Not applicable.

## **RAID-01**

The `RAID-01` bundle delivers the driver `ciss` for the A9890A and A9891A Smart Array Controllers.

---

1. This adapter is also supported by the Gigabit Ethernet (`igelan`) driver. See “GigEther-00, GigEther-01, and IEther-00 (Gigabit Ethernet)” on page 73.

### Summary of Change

This release includes defect fixes for the A9890A and A9891A Smart Array cards.

### Impact

There are no impacts.

### Compatibility

There are no compatibility issues.

### Performance

There are no performance issues.

### Documentation

Documentation for the A9890A and A9891A Smart Array Controllers, as well as the RAID-01 (ciSS) HP Smart Array Controller driver, is available at <http://docs.hp.com/en/netcom.html#HP%20RAID>.

### Obsolescence

Not applicable.

---

## Offline Diagnostics Environment

Offline Diagnostics Environment (ODE) is an offline support tools platform on HP 9000 systems. ODE enables users to troubleshoot a system that is running without an operating system and systems that cannot be tested using the online tools.

### Summary of Change

With the September 2005 release of HP-UX 11i, the following changes have been made:

- For HP-UX 11i v1, the Offline Diagnostics tools will no longer be available on the Support Plus media. Instead, they will be 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.
- For HP-UX 11i v1, the Offline Diagnostics LIFLOAD package will no longer be delivered on the OnlineDiag bundle,<sup>1</sup> but instead will be 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.

---

1. See “Online Diagnostics” on page 117.

## Impact

There are no impacts other than those listed previously.

## Compatibility

There are no known compatibility issues.

## Performance

There are no known performance issues.

## Documentation

For further information, refer to the ODE documentation available at <http://docs.hp.com/en/diag.html#Offline%20Diagnostics>.

## Obsolescence

Starting with HP-UX 11i v1 September 2005, the Offline Diagnostics tools will *not* be available on the Support Plus Media. In addition, the LIFLOAD package will be removed from the OnlineDiag bundle. The Offline Diagnostics tools and the LIFLOAD package will be 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.

---

## 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 81)
- Supported Workstations (see page 84)

---

### 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 84.

## 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<sup>1</sup> 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>.

**Table 4-5 Supported Servers**

| Bezel or Model                                    | 32-bit Support | 64-bit Support | Comments  |
|---|----------------|----------------|---|
| A-Class: A180, A180C                              | Yes            |                | PA-7300LC<br>A180/A180C discontinued February 1, 2001.  |
| A-Class: A400, A500                               |                | Yes            | PA-8500 and newer processors<br>A400/A500 discontinued September 1, 2002.   |
| bp2200 blade<br>(in an HP bh3710 chassis)         |                | Yes            | PA-8600 processor only<br>HP-UX model string:<br>900/800/HPServerBlade8600/3xx2   |
| D-Class: D220, D230, D320, D330                   | Yes            |                | PA-7xxx<br>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-8xxx<br>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<br>All other K-Class servers: PA-8xxx<br>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. |

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

**Table 4-5 Supported Servers (Continued)**

| Bezel or Model        | 32-bit Support | 64-bit Support | Comments  |
|-----------------------|----------------|----------------|---|
| L-Class: L1000, L2000 |                | Yes            | PA-8500 and newer processors<br>L1000/L2000 discontinued May 1, 2002.                                     |
| L-Class: L1500, L3000 |                | Yes            | PA-8600 and newer processors<br>L1500/L3000 discontinued January 1, 2004.                                 |
| N-Class: N4000        |                | Yes            | PA-8500 and newer processors<br>Discontinued April 25, 2003.  |
| R-Class: R380, R390   | Yes            | Yes            | PA-8000 and newer processors<br>R380 discontinued August 1, 2000. R390 discontinued September 1, 2001.    |
| rp2400                |                | Yes            | PA-8500 processor<br>HP-UX model string: A400-44<br>Discontinued September 1, 2002.                       |
| rp2405/rp2405-2       |                | Yes            | PA-8700 processor<br>Discontinued November 1, 2004.   |
| rp2430/rp2430-1       |                | Yes            | PA-8700 processor<br>HP-UX model string: A400-6X<br>Discontinued November 1, 2004.                        |
| rp2450                |                | Yes            | PA-8500 and newer processors<br>HP-UX model string: A500-44 or A500-5X<br>Discontinued September 1, 2002. |
| rp2470/rp2470-2       |                | Yes            | PA-8700 processors<br>HP-UX model string: A500-6X or A500-7X<br>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<br>HP-UX model string: L1000-36, -44, -5X<br>Discontinued May 1, 2002.     |
| rp5405/rp5405-4       |                | Yes            | PA-8700 processors<br>HP-UX model string: L3000-6X  |

**Table 4-5 Supported Servers (Continued)**

| Bezel or Model                         | 32-bit Support | 64-bit Support | Comments  |
|--|----------------|----------------|---|
| rp5430                                 |                | Yes            | PA-8600 and newer processors<br>HP-UX model string: L1500-5X, -6X, -7X, or -8X<br>Discontinued July 1, 2004.  |
| rp5450                                 |                | Yes            | PA-8500 and PA-8600 processors<br>HP-UX model string: L2000-36, -44, -5X<br>Discontinued May 1, 2002.   |
| rp5470/rp5470-4                        |                | Yes            | PA-8600 and newer processors<br>HP-UX model string: L3000-5X, -6X, -7X, or -8X<br>Discontinued July 1, 2004.  |
| rp7400                                 |                | Yes            | PA-8500 processors<br>HP-UX model string: N4000-65 or N4000-75<br>Discontinued February 1, 2003.  |
| rp7405/rp7405-8 and<br>rp7410/rp7410-8 |                | Yes            | PA-8700 processor<br>HP-UX model string: 9000/800/rp7410 (both rp7405<br>and rp7410)  |
| rp7420/rp7420-16                       |                | Yes            | PA-8800 and newer processors  |
| rp8400/rp8400-16                       |                | Yes            | PA-8700 and newer processors<br>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   |
| 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-8xxx<br>Discontinued August 1, 1999.   |
| V-Class: V2200, V2250,<br>V2500, V2600 |                | Yes            | PA-8200 and newer processors<br>V2200 discontinued September 1999. V2250<br>discontinued July 1, 2000. V2500 discontinued<br>January 1, 2001. V2600 discontinued December 1,<br>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<sup>1</sup> 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 4-6** Supported Workstations

| Model(s)                     | 32-bit Support | 64-bit Support | Comments                   |
|------------------------------|----------------|----------------|----------------------------|
| B-Class: PA-7300LC           | Yes            |                | B180L                      |
| B-Class: PA-8500 and forward |                | Yes            | B1000                      |
| B-Class: PA-8600             |                | Yes            | B2600                      |
| C-Class: PA-8500 and forward |                | Yes            | C3000                      |
| C-Class: PA-8700 and forward |                | Yes            | C3650, C3700, C3750        |
| C-Class: PA-8800             |                | Yes            | C8000                      |
| J-Class: PA-8500 and forward |                | Yes            | J5000, J5600, J6000, J7000 |
| J-Class: PA-8700 and forward |                | Yes            | J6700, J6750               |

## 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 v2, 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**.

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

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**.

---

## Technical System Configuration (TechSysConf)

By delivering part of the functionality that was featured in Easy Setup HP-UX 11.0 (product B5532A) for HP Workstations, the Technical System Configuration bundle addresses the need of HP workstation and technical server customers for improved out-of-the-box performance. The TechSysConf bundle (version B.11.11.xx) is an always-installed part of the Minimal Technical Operating Environment (MTOE) (and, by extension, the Technical Computing Operating Environment [TCOE]).

The TechSysConf bundle consists of two component products:

- **TC-SysSetup**

Alters kernel configurable parameters, assigning values that are proven to increase performance in technical environments. (See Table 4-7 on page 86 for actual values.)

Alters selected system configuration files to ease NFS and AutoFS configuration.

Makes other system changes to correct minor nuisances and oversights.

- **TC-OpenSource**

Delivers a set of high-demand Open Source software tools:

- bash 2.04 (The Bourne-Again Shell)
- tcsh 6.10 (tcsh [a superset of C-shell])
- vim 5.7 (Vi IMproved)
- emacs 20.7 (GNU Emacs)
- gmake 3.79.1 (GNU make)
- less 358 (GNU less)
- xcdroast 0.98alpha9 (X-CD-Roast)
- cdrecord 1.10 (CDRecord)

### Summary of Change

TechSysConf has been updated to version B.11.11.09.04. In this version, `/etc/password` and `/etc/group` are NOT modified to import NIS-served data.

### Impact

The TechSysConf bundle increases the target system disk space occupancy by about 140MB, mostly attributable to the TC-OpenSource product.

Installing the TC-SysSetup product changes kernel parameters, which results in a kernel build and system reboot. Since most of the kernel parameters are selected for the ability to improve performance in typical EDA and MDA application environments, a performance increase should be realized without further kernel tuning.

Specific non-kernel changes include the following:

- Configure the system as an NFS server in `/etc/rc.config.d/nfsconf`.
- Set NFS daemons to 30 and BIO daemons to 16 in `/etc/rc.config.d/nfsconf`. (Both daemon values are changed *only* if they increase current settings.)
- Modify the search sequence and fallback activities in `/etc/nsswitch.conf`.
- Enable AutoFS and automount in `/etc/rc.config.d/nfsconf`.
- Set read and write block size to 32K in `/etc/auto_master`.

### Kernel Configurable Parameters

The following table lists the kernel parameters that are changed by installing the TechSysConf bundle. Existing parameter values are tested and are not changed if the new value would be less than the current value.

**Table 4-7 Kernel Parameters Changed by TechSysConf**

| Parameter                   | Parameter Value <sup>a</sup> <256MB | Parameter Value <sup>a</sup> <1024MB | Parameter Value <sup>a</sup> >=1024MB |
|-----------------------------|-------------------------------------|--------------------------------------|---------------------------------------|
| create_fastlinks            | Ignored <sup>b</sup>                | 1                                    | 1                                     |
| dbc_min_pct                 | Ignored <sup>b</sup>                | Ignored <sup>b</sup>                 | Formula <sup>c</sup>                  |
| dbc_max_pct                 | Ignored <sup>b</sup>                | Ignored <sup>b</sup>                 | Formula <sup>c</sup>                  |
| hfs_max_ra_blocks           | Ignored <sup>b</sup>                | 20                                   | 20                                    |
| hfs_max_revra_blocks        | Ignored <sup>b</sup>                | 20                                   | 20                                    |
| hfs_ra_per_disk             | Ignored <sup>b</sup>                | 256                                  | 256                                   |
| hfs_revra_per_disk          | Ignored <sup>b</sup>                | 256                                  | 256                                   |
| maxdsiz                     | 268435456                           | 3221225472                           | 3221225472                            |
| maxdsiz_64bit (64-bit only) | 1073741824                          | 274877906944                         | 274877906944                          |
| max_fcp_reqs                | Ignored <sup>b</sup>                | 512                                  | 512                                   |
| maxfiles                    | Ignored <sup>b</sup>                | 2048                                 | 2048                                  |
| maxfiles_lim                | Ignored <sup>b</sup>                | 2048                                 | 2048                                  |
| maxssiz                     | 8388608                             | 100610048                            | 100610048                             |
| maxssiz_64bit (64-bit only) | 8388608                             | 1073741824                           | 1073741824                            |

**Table 4-7 Kernel Parameters Changed by TechSysConf**

| <b>Parameter</b>            | <b>Parameter Value<sup>a</sup><br/>&lt;256MB</b> | <b>Parameter Value<sup>a</sup><br/>&lt;1024MB</b> | <b>Parameter Value<sup>a</sup><br/>≥1024MB</b> |
|-----------------------------|--|---|--|
| maxswapchunks               | Ignored <sup>b</sup>                             | 1024  | 16384  |
| max_thread_proc             | Ignored <sup>b</sup>                             | 2048  | 2048   |
| maxtsiz                     | 67108864   | 1073741824  | 1073741824                                     |
| maxtsiz_64bit (64-bit only) | 1073741824                                       | 4294967296  | 4294967296                                     |
| maxuprc                     | Ignored <sup>b</sup>                             | 819   | 3277   |
| maxvgs                      | Ignored <sup>b</sup>                             | 80  | 80   |
| msgmap                      | Ignored <sup>b</sup>                             | 5122  | 5122   |
| msgmax                      | Ignored <sup>b</sup>                             | 32768   | 32768  |
| msgmnb                      | Ignored <sup>b</sup>                             | 65536   | 65536  |
| msgmni                      | Ignored <sup>b</sup>                             | 512   | 512  |
| msgseg                      | Ignored <sup>b</sup>                             | 20480   | 20480  |
| msgssz                      | Ignored <sup>b</sup>                             | 128   | 128  |
| msgtql                      | Ignored <sup>b</sup>                             | 5120  | 5120   |
| nfile                       | Ignored <sup>b</sup>                             | 2048  | 8192   |
| nflocks                     | Ignored <sup>b</sup>                             | 2048  | 2048   |
| ninode                      | Ignored <sup>b</sup>                             | 4000  | 8192   |
| nkthread                    | Ignored <sup>b</sup>                             | 2048  | 6000   |
| nproc                       | Ignored <sup>b</sup>                             | 1024  | 4096   |
| npty                        | Ignored <sup>b</sup>                             | 200   | 200  |
| nstrpty                     | Ignored <sup>b</sup>                             | 200   | 200  |
| nswapdev                    | Ignored <sup>b</sup>                             | 25  | 25   |
| semgni                      | Ignored <sup>b</sup>                             | 1024  | 4096   |
| semgni                      | Ignored <sup>b</sup>                             | 2048  | 8192   |
| semnu                       | Ignored <sup>b</sup>                             | 1020  | 4092   |

**Table 4-7 Kernel Parameters Changed by TechSysConf**

| Parameter                         | Parameter Value <sup>a</sup><br><256MB | Parameter Value <sup>a</sup><br><1024MB | Parameter Value <sup>a</sup><br>≥1024MB |
|-----------------------------------|--|---|---|
| semume                            | Ignored <sup>b</sup>                   | 512                                     | 512                                     |
| semvmx                            | Ignored <sup>b</sup>                   | 32767                                   | 32767                                   |
| shmmni                            | Ignored <sup>b</sup>                   | 512                                     | 512                                     |
| shmseg                            | Ignored <sup>b</sup>                   | 512                                     | 512                                     |
| shmmax (32-bit only) <sup>d</sup> | Ignored <sup>b</sup>                   | 1073741824                              | 1073741824                              |
| shmmax (64-bit only) <sup>d</sup> | Ignored <sup>b</sup>                   | 2147483648                              | 2147483648                              |
| STRMSGSZ                          | Ignored <sup>b</sup>                   | 65535                                   | 65535                                   |
| swapmem_on                        | Ignored <sup>b</sup>                   | 1                                       | 1                                       |
| vps_ceiling                       | Ignored <sup>b</sup>                   | 64                                      | 64                                      |
| vx_fancyra_enable                 | Ignored <sup>b</sup>                   | 1                                       | 1                                       |
| vx_ncsize                         | Ignored <sup>b</sup>                   | 8000                                    | 8000                                    |
| vxfs_max_ra_kbytes                | Ignored <sup>b</sup>                   | 1024                                    | 1024                                    |
| vxfs_ra_per_disk                  | Ignored <sup>b</sup>                   | 1024                                    | 1024                                    |

- a. Kernel parameter value is changed only if it increases the current setting, except as noted below.
- b. Kernel parameter is not changed.
- c. The value should be determined by the formula: MIN (15, MAX (3, 40000/Memory)) where Memory is in Megabytes. This formula sets 20 percent of memory for static buffer cache up to a maximum of 400MB (when system has 2667MB memory). However, the minimum allowable parameter value is 3 percent, which takes effect when a system of 13333MB is encountered. The formula is applied only if the current value of `dbc_min_pct` and `dbc_max_pct` are the defaults (5 and 50 respectively).
- d. Changed for September 2002.

### Compatibility

There are no known compatibility issues.

### Performance

There are no known performance issues.



## Documentation

There is no external documentation for this product.

## Obsolescence

Not applicable.

---

## Utility Pricing Solutions (formerly On Demand Solutions)

The HP Instant Capacity and HP Pay per use (PPU) software products are a part of the HP Utility Pricing Solutions program. The HP Instant Capacity product is a purchase model in which processor 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 (formerly Instant Capacity on Demand) (see page 89)
- HP Pay per use (see page 91)

## HP Instant Capacity (formerly Instant Capacity on Demand)

The HP Instant Capacity (iCAP) version B.11.11.07.01 software (product number B9073BA) provides the ability to instantly increase or decrease processing capacity on specified HP enterprise servers.

### Summary of Change

- The name of the product has changed from Instant Capacity on Demand (iCOD) to HP Instant Capacity (iCAP) for HP 9000 and HP Integrity Servers. The new version number of the software for HP-UX 11i v1 is B.11.11.07.01.
- For certain configurations, previous versions of the Instant Capacity software required e-mail connectivity to HP to send asset reports as encrypted e-mail messages. Instant Capacity versions B.07.x no longer require e-mail connectivity or asset reporting; however, you may choose to configure it (or leave it configured) because it can be useful for viewing complex-wide asset information at the HP Utility Pricing Solutions portal (<http://www.hp.com/go/icod/portal>).

Note that for a new installation, asset reporting is on by default, so that unless you turn asset reporting off or configure the e-mail connectivity, error messages may be logged when the software attempts to send asset reports. The `icod_stat` command displays the current configuration for asset reporting. You can turn asset reporting on or off with the `icod_modify -a` command. For e-mail configuration details, see the *HP Instant Capacity User's Guide for versions B.07.x*.

- There are also new features associated with the use of Temporary Capacity (TiCAP):

- There is a new warning message to indicate that temporary capacity will expire. By default, the message will warn users when temporary capacity is projected to be exceeded in 15 days. However, the warning message can be configured to specify a shorter or longer value for 15 as the warning period. This is accomplished with the new `-w` option on the `icod_modify` command.
- If temporary capacity is exceeded and the value goes negative (unlicensed processors continue to be used), then on the next reboot of the system, the Instant Capacity software will automatically deactivate one or more unlicensed processors in order to bring the system into closer licensing compliance. The Instant Capacity software will deactivate as many processors as is necessary to either stop consumption of temporary capacity or to bring the partition to the minimum number of required active processors. You must purchase additional temporary capacity or purchase the appropriate number of (RTU) processor licenses to be in full compliance.

### Impact

On HP-UX 11i v1, HP Instant Capacity (iCAP) version B.11.11.07.01 supersedes Instant Capacity on Demand (iCOD) version 6.50.

### Compatibility

While the name of the product has changed to HP Instant Capacity (iCAP), many of the commands, warning, and error messages still refer to the software as iCOD. Commands such as `icod_modify` do not change their name in this version.

HP recommends installing from the latest HP-UX Operating Environment Update Release (OEUR) or Application Release (AR) distribution.

If you must install individual components, you might encounter issues due to mutual prerequisite products. For example, HP Instant Capacity requires a certain version of the nPartition Provider<sup>1</sup>, and vice versa. To simultaneously satisfy both prerequisites, you must install both bundles from the same depot (as on an OEUR or AR distribution).

### Performance

There are no known performance issues.

### Documentation

For further information, refer to the following:

- Manpages:
  - `icod` (5)
  - `icod_modify` (1M)
  - `icod_notify` (1M)
  - `icod_stat` (1M)
- Web Sites:  
HP Software Depot: <http://hp.com/go/softwaredepot>

1. See “nPartition Provider” on page 104.

HP Technical Documentation: <http://docs.hp.com>

- Documents:

The following documents are available at

<http://docs.hp.com/en/netsys.html#Utility%20Pricing%20Solutions%20%28formerly%20On%20Demand%20Solutions%29>:

- *HP Instant Capacity User's Guide for versions B.07.x*
- *HP Instant Capacity Release Notes for versions B.07.x*

### **Obsolescence**

The name of the product has changed to HP Instant Capacity for HP 9000 and HP Integrity Servers. The name *iCOD* for the product as a whole is now obsolete (although there are still internal references to the *iCOD* name).

### **HP Pay per use**

The HP Pay per use (PPU) software (HP product T2351AA) is a lease model in which customers are charged only for the processor usage on (specified) HP servers.

### **Summary of Change**

- The name of the product (formerly Pay Per Use) has 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) on HP-UX 11i v1, 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.

### **Impact**

PPU version B.07.00.01 supersedes PPU versions 6.x on HP-UX 11i v1.

### **Compatibility**

There are no known compatibility issues.

### **Performance**

There are no known performance issues.

### **Documentation**

For further information, refer to the following:

- Manpages:
  - *ppu* (5)
  - *ppuconfig* (1M)
  - *ppud* (1M)
- Web Sites:

HP Software Depot: <http://hp.com/go/softwaredepot>

HP Technical Documentation: <http://docs.hp.com>

Utility Pricing Solutions: <http://www.hp.com/go/Payperuse>

- Documents:

The following documents are available at

<http://docs.hp.com/en/netsys.html#Utility%20Pricing%20Solutions%20%28formerly%20On%20Demand%20Solutions%29>:

- *HP Pay per use (PPU) User's Guide for versions 7.x*
- *HP Pay per use (PPU) Release Notes for versions 7.x*

### **Obsolescence**

Not applicable.

## What is in This Chapter?

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

- Event Monitoring Service (see page 94)
- High Availability Monitors (see page 94)
- HP Partitioning (see page 95)
  - HP Global Workload Manager (see page 96)
  - HP Process Resource Manager (see page 98)
  - HP-UX Processor Sets (see page 99)
  - HP-UX Virtual Partitions (vPars) (see page 101)
  - HP-UX Workload Manager (see page 102)
  - HP-UX Workload Manager Toolkits (see page 103)
  - nPartition Provider (see page 104)
  - Partition Manager (see page 105)
  - PRM Libraries (see page 107)
  - vPar Provider (see page 107)
- HP Servicecontrol Manager (see page 108)
- HP Serviceguard NFS Toolkit (see page 109)
- HP System Management Homepage (see page 110)
- HP Systems Insight Manager (see page 111)
- HP WBEM Services for HP-UX (see page 115)
- Ignite-UX (see page 116)
- Online Diagnostics (see page 117)
- Software Distributor (see page 119)
- Software Package Builder (see page 120)
- Update-UX (see page 121)

## Event Monitoring Service

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

EMS has been updated to reflect defect fixes. The EMS framework manpages are now also available in Japanese.

### Impact

There are no impacts other than those listed previously.

### Compatibility

There are no known compatibility issues.

### Performance

There are no known performance issues.

### Documentation

For further information, refer to the following documents:

- The *Event Monitoring Service Release Notes* available on the Instant Information media and at <http://docs.hp.com/en/ha.html>.
- The *Using Event Monitoring Service* user manual, available at <http://docs.hp.com/en/ha.html>.

### Obsolescence

Not applicable.

---

## High Availability Monitors

High Availability (HA) Monitors help in providing high availability in an HP-UX environment by monitoring particular system resources and then 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 impacts.

## Compatibility

There are no known compatibility issues.

## Performance

There are no known performance issues.

## Documentation

The following documents are available on the Instant Information media and on the Web at <http://docs.hp.com>:

- *Using High Availability Monitors*
- *High Availability Monitors Release Notes*

## Obsolescence

Not applicable.

---

## HP Partitioning

Partitioning provides the ability to subdivide system resources into isolated regions that operate independently from each other (the equivalent of a box within a box). HP is the only high-end UNIX offering to provide a broad range of solutions designed to meet the diverse needs of our customers. Changes to these solutions are described in the following sub-sections:

- HP Global Workload Manager (see page 96)
- HP Process Resource Manager (see page 98)
- HP-UX Workload Manager (see page 102)
- HP-UX Processor Sets (see page 99)
- HP-UX Virtual Partitions (vPars) (see page 101)
- HP-UX Workload Manager Toolkits (see page 103)
- nPartition Provider (see page 104)

- Partition Manager (see page 105)
- PRM Libraries (see page 107)

## HP Global Workload Manager

HP Global Workload Manager (gWLM) is a tool that 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. gWLM's monitoring abilities provide both real-time and historical monitoring of the resource allocation.

gWLM A.01.01.x has two components:

- Central Management Server, or CMS (T2412AA)  
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<sup>1</sup> installed.
- Agent (T2743AA)  
You can 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 managed nodes, you define workloads based on:

- nPartitions with Instant Capacity installed
- Virtual partitions (vpar)
- Processor sets (pset)
- fss groups

gWLM manages your workloads by controlling the resource allocations to the npars, vpars, psets, or fss groups.

### Summary of Change

In September 2005, gWLM is shipping for the first time on the HP-UX 11i v1 Operating Environments. (In December 2004, gWLM A.01.00 was delivered on the HP Software Depot at <http://www.hp.com/go/softwaredepot>.)

### Impact

The benefits of gWLM A.01.01.x include the following:

- Better use of the server capacity you already have  
Typically, servers are set up with a single workload and ample reserve capacity to handle the peak demand of that workload. gWLM allows you to combine multiple workloads on a single server and make use of the reserve capacity when it is not needed by your mission-critical workload.
- Confidence that your mission-critical workloads get the resources they need

---

1. See "HP Systems Insight Manager" on page 111.



Even with multiple workloads on a server, you can ensure your mission-critical workload gets the resources it needs: gWLM automatically adjusts resource allocation, making it easy to share resources when they are plentiful, but also to dedicate those resources to workloads when there are spikes in resource demand.

- Reduced system administration costs

With gWLM managing resource allocation, you can combine more workloads on fewer servers, thereby reducing administration costs.

### **Compatibility**

There are no known compatibility issues.

### **Performance**

When properly configured, gWLM improves performance system utilization.

### **Documentation**

For further information, refer to the following:

- Manpages:

- *gwm* (1M)
- *gwlmcmd* (1M)
- *gwlmconfig* (1M)
- *gwlmplace* (1M)
- *gwlmreport* (1M)
- *gwlmssend* (1M)
- *gwlmsslconfig* (1M)
- *gwlmxml* (4)
- *gwm* (5)

- Web site:

<http://www.hp.com/go/gwlm>

- Documents:

The following documents are available at

<http://docs.hp.com/en/netsys.html#HP%20Global%20Workload%20Manager>:

- *Getting Started with gWLM*
- *gWLM: Reference and Additional Topics*
- *HP gWLM Version A.01.01.x Release and Installation Notes for HP-UX 11i v1, HP-UX 11i v2, and Linux*

### **Obsolescence**

Not applicable.

## HP Process Resource Manager

HP Process Resource Manager (PRM) version C.03.00 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

PRM has been updated to version C.03.00 with the following changes:

- Support for 256 PRM groups
- Integration with HP Systems Insight Manager<sup>1</sup>
- To enhance security, the daemon used for remote management is now off by default
- SSL encryption is now enabled by default
- To make memory enhancement more robust:
  - *PRM\_SYS* is now able to import memory
  - *OTHERS* must always be able to export (You cannot set *EXPORT* for *OTHERS* to 0.)

### Impact

The changes to PRM version C.03.00 have the following impacts;

- More secure environment if desired
- More PRM groups
- Remote management must now be manually configured (*prm3d* must be started on the remote systems; SSL encryption must be configured)

### Compatibility

- The *prm3d* daemon is no longer started by default.

For security purposes, the *prm3d* daemon used for remote management is no longer started by default at boot in the file `/etc/rc.config.d/prm`. You can manually set the value of *PRM\_RMTCONF* to 1 in the `/etc/rc.config.d/prm` file to allow automatic starting of the daemon.
- SSL encryption of remote management using *xprm* is now enabled by default.

The property *prmmi\_ssl* in the file `/var/opt/prm/prmmi.properties` is now set to *true* by default. Each system you attempt to securely connect to must also have this property set to *true*. Set this value to *false* to use *xprm* with PRM versions that do not support the `/var/opt/prm/prmmi.properties` file.

### Performance

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

---

1. See “HP Systems Insight Manager” on page 111.

## Documentation

For further information, refer to the following:

- Manpages:
  - The *prm* (5) manpage provides an overview of PRM and points to all the other manpages.
- Web sites:
  - <http://www.hp.com/go/prm> (the “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.03.00 Release Notes for HP-UX 11i v1 and HP-UX 11i v2*

## Obsolescence

Not applicable.

## HP-UX Processor Sets

HP-UX Processor Sets provides a flexible mechanism for managing system processor resources among multiple workloads, users, and departments within an enterprise. A processor set represents a set of processors grouped together for exclusive access to applications assigned to that processor set. Each application is assigned to a processor set and will run only on processors in the assigned processor set.

The `PROCSETS` bundle version A.01.00.00.07 is available on Software Pack (SPK) for HP-UX 11i v1 September 2005. For more information about SPK, see “Software Pack (Optional HP-UX 11i v1 Core Enhancements)” on page 27.

## Summary of Change

The `PROCSETS` bundle delivers the optional HP-UX Processor Sets product with latest patches. This new version includes the latest patch for the Processor Sets product as well the relevant latest core kernel patches.

The Processor Sets (PSET) functionality was first released in 2001 as an optional product for HP-UX 11i v1. Since then HP has released some number of kernel patches to this product as well as to the core HP-UX product. A recent set of kernel patches introduced some dependency that required PSET customers to install both the core kernel patches as well as the PSET patch at the same time, failing which the customer would get an install failure, or worse, a system panic at run time.

This new bundle revision repackages the Processor Sets product by including the latest relevant patches so that all patch dependencies are managed automatically. All additional patches included in this bundle are already available from the IT Resource Center (<http://itrc.hp.com>).

## Impact

If the `PROCSETS` bundle version A.01.00.00.06 is already installed on your system, it can be superseded with this new bundle, version A.01.00.00.07. If the old version is not installed, this new version can directly be installed. This new bundle version will help you avoid potential problems while trying to install kernel patches `PHKL_30032`, `PHKL_30033`, `PHKL_30034`, `PHKL_30035`, `PHKL_30037` or their superseding patches.

The bundle ensures that the necessary patch to the Processor Sets product is also installed when these patches are installed. You could see a potential patch install failure or a run-time panic if the patch dependencies for these patches are not met correctly when using the Processor Sets product.

## Compatibility

There are no known compatibility issues.

## Performance

The new kernel patches in this bundle will potentially improve the performance in HP Process Resource Manager (PRM)<sup>1</sup> or HP-UX Workload Manager (WLM)<sup>2</sup> environments. There will be no performance degradation as a result of installing or upgrading to this new version.

## Documentation

For detailed information about the HP-UX Processor Sets feature, see the following documentation:

- HP-UX Processor Sets manpages:
  - `pset_create` (2)
  - `pset_assign` (2)
  - `pset_bind` (2)
  - `pset_destroy` (2)
  - `pset_ctl` (2)
  - `pset_getattr` (2)
  - `pset_setattr` (2)
  - `psrset` (1M)
  - `pstat_getpset` (2)
  - `pthread_pset_bind_up` (3T)
- The HP-UX Processor Sets white paper at <http://docs.hp.com/en/hpux11i.html>.
- The *HP Process Resource Manager User's Guide* available at <http://docs.hp.com/hpux/ha/>.
- For details on using processor sets on nPartition systems, refer to the *HP System Partitions Guide: Administration for nPartitions*, available <http://docs.hp.com/en/multios.html#System%20Administration>.

---

1. See “HP Process Resource Manager” on page 98.  
2. See “HP-UX Workload Manager” on page 102.

### **Obsolescence**

This is a solution for HP-UX 11i v1 only. The Processor Sets functionality is in the core kernel in HP-UX 11i v2 and later.

### **HP-UX Virtual Partitions (vPars)**

HP-UX Virtual Partitions (vPars) version A.03.03 (product number T1335AC) enables multiple instances of the HP-UX 11i v1 Operating Environment (OE) to run simultaneously on one server or within one nPartition, with each OE instance hosting its own set of applications in an isolated environment.

HP-UX Virtual Partitions for HP-UX 11i v1 (product number T1335AC) is available at the Software Depot at <http://hp.com/go/softwaredepot> (search for T1335AC).

### **Summary of Change**

vPars version A.03.03 offers the following:

- new security functionality for vPars A.03.03 systems
- tape recovery of virtual partitions
- various customer-requested fixes, including the real-time clock fix

### **Impact**

There are no impacts other than those described previously.

### **Compatibility**

There are no known compatibility issues.

### **Performance**

There are no known performance issues.

### **Documentation**

For further information, refer to the *HP-UX Virtual Partitions Release Notes (A.03.03)*, available at <http://docs.hp.com/hpux/11i/index.html#Virtual%20Partitions>.

Also refer to Software Depot at <http://hp.com/go/softwaredepot> (search for T1335AC).

### **Obsolescence**

For obsolescence information, refer to the *HP-UX Virtual Partitions Ordering and Configuration Guide* at <http://docs.hp.com/en/oshpux11i.html#Virtual%20Partitions>.

## HP-UX Workload Manager

HP-UX Workload Manager (WLM) A.03.00.01 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 has been upgraded to version A.03.00.01 with the following features:

- CPU migration across nested nPartitions, virtual partitions, and FSS groups
- Support for virtual partitions on HP Integrity servers
- Secure network communications via SSL
- Host-based configurations, which simplify management of nPartitions and virtual partitions
- Improved diagnostic tools
- Integration with HP Systems Insight Manager<sup>1</sup>
- Configuration file for `wlmpard` no longer supports the *partitions* or *weight* keywords
- The `wlminfo` command has various new features:
  - The `-q` option to suppress messages in the `wlminfo` output
  - The `group` subcommand has an `-S` option to show data for the `PRM_SYS` group
  - The new subcommand `proc` shows data for the most active processes
  - The deprecated `vpar` subcommand is no longer available
  - The `host` subcommand now has a “CPU Used” column in its output to display CPU utilization data
- The *mincpu*/*maxcpu* keywords are now optional in all cases
- New behavior when the sum of the `gmincpu` values exceed the total CPU:

Previously, when this sum exceeded the total CPU, the values were scaled down proportionately so that the sum equals the total CPU. Now, those values are treated as CPU requests to be met before any other requests are considered. Any weight values assigned to the workload groups apply.
- Support for cross-partition management when the partitions within the complex are of different architectures (HP 9000 vs. HP Integrity)

### Impact

WLM A.03.00.01 provides the following:

- More flexibility in resource management
- More secure environments

---

1. See “HP Systems Insight Manager” on page 111.

## Compatibility

If you use either the *partitions* or *weight* keywords in your `wlmpard` configuration file, you will get errors.

## Performance

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

## Documentation

For further information, refer to the following:

- Manpages:
  - The *wlm* (5) manpage provides a list of all the WLM manpages in its SEE ALSO section.
- Web site:
  - <http://www.hp.com/go/wlm> (the “Information Library” 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.03.00.01 Release Notes for HP-UX 11i v1 and HP-UX 11i v2*

## Obsolescence

Not applicable.

## HP-UX Workload Manager Toolkits

The HP-UX Workload Manager Toolkits (WLMTK) product version A.01.08 enhances functionality provided by HP-UX Workload Manager (WLM) and simplifies the integration of various products with WLM. These products include Apache, Oracle database instances, SAS, SNMP, and WebLogic.

### Summary of Change

The Pay Per Use Toolkit, which is part of WLMTK, currently helps integrate HP-UX Workload Manager and the Utility Pricing Solutions (iCAP and Pay Per Use) products.<sup>1</sup>

This toolkit and its `utilitydc` command are being deprecated.

While the functionality will still exist for a certain amount of time, you are encouraged to use the new solution, which is centered around the `wlmpard` command.

---

1. See “Utility Pricing Solutions (formerly On Demand Solutions)” on page 89.

### Impact

If you are currently using `utilitydc`, begin conversion to the new solution based on the `wlmpard` command. For information on this solution, see the *wlmpard* (1M) manpage.

### Compatibility

There are no known compatibility issues.

### Performance

There are no known performance issues.

### Documentation

For further information, refer to the following:

- Manpages:
  - The *wlmtk* (5) manpage provides an overview of the toolkits and lists all the other manpages.
- Web site:
  - <http://www.hp.com/go/wlm> (the “Information Library” 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.01.08 Release Notes for HP-UX HP-UX 11i v1 and HP-UX 11i v2*

### Obsolescence

Not applicable.

## nPartition Provider

The nPartition Provider, version B.11.11.01.04.01.*xx*, 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

The nPartition Provider has been upgraded to version B.11.11.01.04.01.*xx* to incorporate performance improvements and bug fixes, including a fix that provides improved support for HP Superdome SD16000 servers.

### Impact

There are no impacts other than those listed previously.



## 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.

If you must install individual components, you might encounter issues due to mutual corequisite products. For example, the nPartition Provider requires a certain version of HP Instant Capacity<sup>1</sup> and vice versa. To simultaneously satisfy both prerequisites, you must install both bundles from the same depot (as on an OEUR or 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

Partition Manager v2.0 (version B.11.11.02.00.05.xx) provides system administrators with a convenient graphical user interface (GUI) 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

Partition Manager now runs as an application under HP System Management Homepage<sup>2</sup>. This has the following effects on Partition Manager installation and operation:

- The location of installed files has changed.
- Authentication of user identities is now provided by HP System Management Homepage.
- Partition Manager can now be launched from within HP System Management Homepage.
- The `parmgr` command will automatically start HP System Management Homepage if it is not already running.
- The `-s` option to the `parmgr` command is now obsolete.

---

1. See “HP Instant Capacity (formerly Instant Capacity on Demand)” on page 89.  
2. See “HP System Management Homepage” on page 110.

- If the `parmgr` command is run by a user with Administrator (root) privileges, the `-b` option can be used to bypass the authentication step under HP System Management Homepage.

---

**NOTE**

To use this feature on HP-UX 11i v1, you must install KRNG11i (Strong Random Number Generator software for HP-UX 11i v1), available from HP Software Depot at <http://h20293.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=KRNG11I>

---

Additional bug fixes have also been incorporated in this release, including a fix that provides improved support for HP Superdome SD16000 servers.

**Errata**

Under certain circumstances, a blank page will appear in the Web browser when selecting **Partition Manager Help** from the HP Systems Management Homepage help menu. If this occurs, use your browser's **Reload** button to correct the problem.

The Japanese version of the *parmgr* (1M) manpage included with this release omits the following information:

- The `parmgr` command no longer supports the `-s` option.
- The `parmgr` command now allows root users to bypass the authentication step under HP System Management Homepage by using the `-b` option (see previous "Note").
- The procedures for managing SSL certificates have changed. Refer to the **Managing SSL certificates** help topic for details.

**Impact**

There are no impacts other than those described previously.

**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.

## PRM Libraries

The PRM Libraries (version C.03.00) contains only the HP Process Resource Manager (PRM) kernel product, `PRM-Sw-Krn`.

### Summary of Change

The version number for the `PRM-Sw-Krn` product is now C.01.03.

### Impact

When upgrading PRM, the system will need to be rebooted.

### Compatibility

There are no known compatibility issues.

### Performance

There are no known performance issues.

### Documentation

The following documents are available at the HP Documentation Site at <http://docs.hp.com/hpux/ha/index.html#Process%20Resource%20Manager>:

- *HP Process Resource Manager User's Guide*
- *HP PRM Version C.03.00 Release Notes for HP-UX 11i v1 and HP-UX 11i v2*

### 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 where virtual partitions are booted from. 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, then 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.<sup>1</sup> This release of vPar Provider is supported on all HP server systems that support HP-UX Virtual Partitions (vPars).

### Summary of Change

The vPar Provider is new to the HP-UX 11i v1 Operating Environments with the September 2005 release. (It was previously released on the HP-UX 11i v1 Application Software media in May 2005). It has the following features:

- It is a WBEM vPar Provider, which displays information about virtual partitions.
- Clients cannot modify virtual partition configurations with it, as it is a read-only provider.

### Impact

There are no impacts other than those described previously.

### 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 Servicecontrol Manager

HP Servicecontrol Manager (SCM) provides a convenient multi-system management solution for HP-UX and Linux systems. You can access SCM using a Web-enabled graphical user interface or a command line interface. SCM enables you to execute HP-UX and Linux manageability tools, including custom tools and scripts, across multiple systems simultaneously.

### Summary of Change

HP Servicecontrol Manager has been removed from the HP-UX 11i v1 Operating Environments (OEs) as of the September 2005 update release. It has been replaced by HP Systems Insight Manager, which is delivered on the OEs as of September 2005.

1. See “HP WBEM Services for HP-UX” on page 115.

## Impact

You can now use HP Systems Insight Manager, which contains a superset of SCM's functionality. For more information about HP Systems Insight Manager, see "HP Systems Insight Manager" on page 111.

## Compatibility

There are no known compatibility issues.

## Performance

There are no known performance issues.

## Documentation

Further information about HP Servicecontrol Manager can be found at the following Web sites:

- <http://www.hp.com/go/softwareinfo/SCMGR>
- <http://www.docs.hp.com/hpux/netsys/index.html#Servicecontrol%20Manager>

Further information about HP Systems Insight Manager can be found at <http://www.hp.com/go/hpsim>. Also see "HP Systems Insight Manager" on page 111.

## Obsolescence

This product is deprecated. HP Systems Insight Manager is its replacement and contains a superset of SCM's functionality.

---

## HP Serviceguard NFS Toolkit

HP Serviceguard Network File System (NFS) Toolkit (formerly MC/ServiceGuard NFS Toolkit) uses HP Serviceguard (formerly MC/ServiceGuard) to set up highly available NFS servers. An NFS server is a host that "exports" its local directories (makes them available for client hosts to mount using NFS). On the NFS client, these mounted directories look to users like part of the client's local file system. With HP Serviceguard NFS, the NFS server package containing the exported file systems can move to a different node in the cluster in the event of failure.

## Summary of Change

HP Serviceguard NFS Toolkit version A.11.11.05 includes fixes for two defects. See the *HP Serviceguard NFS Toolkit A.11.11.05 and A.11.23.04 Release Notes* for more information.

## Impact

There are no impacts other than those listed previously.

## Compatibility

There are no known compatibility issues.

## Performance

There are no known performance issues.

## Documentation

For further information, see the following documents, available at <http://docs.hp.com/hpux/ha/index.html#Highly%20Available%20NFS>:

- *Serviceguard NFS Toolkit A.11.11.04 and A.11.23.03 Administrator's Guide*
- *Serviceguard NFS Toolkit A.11.11.05 and A.11.23.04 Release Notes*

## Obsolescence

Not applicable.

---

## HP System Management Homepage

HP System Management Homepage (bundle `SysMgmtWeb`) 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 version 2.2 is a new product for HP-UX 11i v1 (11.11) and HP-UX 11i v2 (11.23).

HP System Management Homepage provides enhanced security and streamlined operations for servers running HP-UX, including the following:

- Browser access using OS-based SSL-secure authentication
- Common HTTP and HTTPS services for HP management applications and utilities, for reduced complexity and system resource requirements

### Impact

HP System Management Homepage version 2.2 provides the following key customer benefits:

- Host based authentication and tight integration with existing security infrastructure
- Management tools that consume minimal system resources. A Tools tab is provided to launch management tools (similar to the SAM Functional Area Launcher).

- Usable “out of the box” (default installed) by root with no user configuration
- Simplified, intuitive, and task-oriented user interface (UI)
- Highly responsive UI supporting “access from anywhere” via a browser
- Support JSP-based plug-ins with minimal performance and usability degradation
- Consistent Help and Localization strategy with HP System Insight Manager (HP SIM)<sup>1</sup>
- Common logging facility and area for customers to view application/tool and system specific logs

## Compatibility

There are no known compatibility issues.

## Performance

HP System Management Homepage version 2.2 is intended as a highly responsive user interface supporting “access from anywhere” via a browser.

## Documentation

HP System Management Homepage manpages are included with product. The following documents are also available at <http://docs.hp.com>:

- *HP System Management Homepage Release Notes*
- *HP System Management Homepage Installation Guide*

## Obsolescence

Not applicable.

---

## HP Systems Insight Manager

HP Systems Insight Manager (HP SIM) combines the strengths of Insight Manager 7, HP Tootools, and HP Servicecontrol Manager to deliver a single tool for managing HP ProLiant, HP Integrity, and HP 9000 systems running Microsoft® Windows®, Linux, and HP-UX.

The core HP SIM software delivers the essential capabilities required to manage all HP server platforms. HP SIM can be extended to provide system management with plug-ins for HP clients, storage, power, and printer products. Plug-in applications for rapid

---

1. See “HP Systems Insight Manager” on page 111.

deployment, performance management, partition management, and workload management enable you to pick the value-added software required to deliver complete lifecycle management for your hardware assets.

## Summary of Change

HP SIM 4.2 replaces HP Servicecontrol Manager<sup>1</sup> on HP-UX.

HP SIM is now delivered on the HP-UX 11i v1 Operating Environments (OEs) media as a selectable product in all OEs.

HP SIM 4.2 adds support for the following:

- HP System Management Homepage<sup>2</sup>
- HP ProLiant Essentials Vulnerability and Patch Management Pack (VPM)
- HP ProLiant Essentials Virtual Machine Management Pack (VMM)
- HP BladeSystem Integrated Management
- HP Configure or Repair Agents

## Impact

You can now take advantage of a single tool for managing HP ProLiant, HP Integrity, and HP 9000 systems running Microsoft® Windows®, Linux, and HP-UX.

## Compatibility

HP SIM version 4.2 supports the following operating systems:

- Central management server
  - HP-UX 11i v1
  - HP-UX 11i v2
  - HP-UX 11i v2 September 2004
  - Red Hat Enterprise Linux 2.1 Advanced Server, Update 4
  - Red Hat Enterprise Linux 2.1 Enterprise Server, Update 4
  - Red Hat Enterprise Linux 3 Advanced Server, Update 3
  - Red Hat Enterprise Linux 3 Enterprise Server, Update 3
  - SuSE Linux Enterprise Server 8.0, Service Pack 3
  - SuSE Linux Enterprise Server 9.0
  - Microsoft Windows 2000 Server, Service Pack 4
  - Microsoft Windows 2000 Advanced Server, Service Pack 4
  - Microsoft Windows 2000 and 2003 International Server-French, German, Italian, Japanese and Spanish

1. See “HP Servicecontrol Manager” on page 108.

2. See “HP System Management Homepage” on page 110.



---

**NOTE** HP Systems Insight Manager can be installed on English, French, Italian, German, and Spanish versions of Microsoft Windows 2000 Server, and Windows 2003 Server. Database support also extends to English, French, Italian, German, and Spanish.

---

- Microsoft Windows 2003 Server Standard Edition
  - Microsoft Windows 2003 Server Enterprise Edition
  - Microsoft Windows XP Professional, Service Pack 1
  - Microsoft Windows XP Professional, Service Pack 2
- 

**NOTE** Japanese fully localized.

---

- Managed nodes
  - HP-UX 11.0
  - HP-UX 11i v1 (B.11.11)
  - HP-UX 11i v2 (B.11.23)
  - IntraNetWare 4.x
  - IntraNetWare for Small Business
  - Microsoft BackOffice Small Business Server
  - Microsoft Small Business Server 2000
  - Microsoft Windows 2000 Server
  - Microsoft Windows 2000 Advanced Server
  - Microsoft Windows 2000 Professional
  - Microsoft Windows NT Server 4.0
  - Microsoft Windows Server 2003
  - Microsoft Windows Server 2003 Enterprise Edition
  - Microsoft Windows XP Professional
  - Novell NetWare 4
  - Novell NetWare 5.x9
  - Novell NetWare 6
  - Novell NetWare Small Business Suite
  - OpenVMS
  - Red Hat Linux 7.3
  - Red Hat Linux 8
  - Red Hat Enterprise Linux 2.1 Advanced Server (IA-32 and Itanium®-based systems)

- Red Hat Enterprise Linux 2.1 Enterprise Server (IA-32 and Itanium®-based systems)
- Red Hat Enterprise Linux 3 Advanced Server (IA-32 and Itanium®-based systems)
- Red Hat Enterprise Linux 3 Enterprise Server (IA-32 and Itanium®-based systems)
- SCO OpenServer 5.0x
- SCO UnixWare 7
- SuSE Linux 7.0
- SuSE Linux 7.2
- SuSE Enterprise Server 8
- Tru64 UNIX

## Performance

There are no performance issues.

## Documentation

All HP SIM documentation is available on the Web and is bundled with the software.

- *HP Systems Insight Manager User and Installation Guide*

This document provides information about installing and getting started using HP Systems Insight Manager. This guide includes an introduction to basic concepts, definitions, and functionality associated with HP Systems Insight Manager. This document is 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/>.

Information about HP Systems Insight Manager can also be found at <http://www.hp.com/go/hpsim>.

## Obsolescence

HP Systems Insight Manager 4.2 replaces HP Servicecontrol Manager 3.0.

---

## 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 WBEM standard. Version A.02.00.07 is currently being released.

This product is based on The Open Group (TOG) Pegasus Open Source Software (OSS) project (<http://www.openpegasus.org/>).

### Summary of Change

In addition to numerous defect fixes, version A.02.00.07 of HP WBEM Services for HP-UX introduces support for CIM Process Indications as defined by the DMTF WBEM Specification.

### Impact

There is no significant change with the exception of access to the new feature listed above.

### Compatibility

There are no known compatibility issues. All well-behaved WBEM clients and providers compiled with previous releases of HP WBEM Services for HP-UX are expected to interoperate with this new version.

### Performance

There are no significant performance changes with this release of the product.

### Documentation

For further information, see the following:

- Manpages are packaged with the product and are placed in the directory `/opt/wbem/share/man`.
- The WBEM Web site is available at [www.hp.com/go/wbem](http://www.hp.com/go/wbem).
- The following documents are available at <http://www.docs.hp.com/hpux/netsys/index.html>:
  - *HP WBEM Services for HP-UX and Linux System Administrator's Guide*
  - *HP WBEM Services Version A.02.00 Release Notes (HP-UX 11i v1, HP-UX 11i v2, Linux)*

## Obsolescence

Not applicable.

---

## Ignite-UX

The Ignite-UX product is an HP-UX administration toolset that helps you do the following:

- install HP-UX 11.0 and 11i v1 (B.11.11), v1.6 (B.11.22), and v2 (B.11.23) on multiple PA-RISC and/or Itanium®-based clients on your network;
- create custom install configurations, or golden images, for use in multiple installations on clients;
- recover HP-UX clients remotely;
- create custom recovery media including tape, CD and DVD;
- manage and monitor multiple client installation sessions.

## Summary of Change

Ignite-UX version C.6.3.x delivers the following:

- Support for Veritas 4.1 products on HP-UX 11i v2
- Support for new hardware enabled by the release

---

### NOTE

For information about the changes included in the previous version of Ignite-UX, version C.6.2.x, see the *HP-UX 11i Version 2 May 2005 Release Notes*, available at <http://docs.hp.com/en/oshpux11iv2.html>.

Also note that the HP Software Depot Web site (formerly at <http://software.hp.com>), where you can obtain product downloads, has been moved to <http://hp.com/go/softwaredepot>.

---

## Impact

There are no impacts other than those described previously.

## 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 moved to <http://www.docs.hp.com/en/IUX/>.

The *Ignite-UX Administration Guide*, (product number B2355-90893) Edition 20 and later, has been updated to reflect all the changes to the product. It can be found at <http://docs.hp.com/en/oshpux11i.html#Ignite-UX>.

## Obsolescence

Not applicable.

---

## Online Diagnostics

Online Diagnostics (OnlineDiag bundle) consists of the following products:

- EMS Hardware Monitors

The EMS Hardware Monitors allow you to monitor the operation of a wide variety of hardware products and be alerted immediately if any failure or other unusual event occurs.

- Support Tools Manager (STM)

STM provides a set of online support tools, enabling you to verify and troubleshoot system hardware, and to examine system logs.

## Summary of Change

For September 2005, changes for Online Diagnostics include the following:

- A new option called `page` has been introduced for the `map` command.

When the you enter `map` at the command prompt, the system `map` output is dumped on the screen. The system `map` output may run into several pages and may not be user-friendly. To address this problem, the `page` option has been introduced to display a paginated output of the system `map`.

Enter the following command at the `cstm` prompt to get a paginated output of the system `map`:

```
cstm> map page
```

---

### NOTE

The functionality of the `map` command is not altered. When you enter `map` without the `page` option at the `cstm` prompt, you will still see the system `map` output, which is not paginated.

---

- For HP-UX 11i v1, the Offline Diagnostics LIFLOAD package will no longer be delivered on the OnlineDiag bundle, but instead will be delivered on the PA-RISC Offline Diagnostics CD.<sup>1</sup>
- See also “Hardware Enablement” on page 67.

## Impact

There are no impacts other than those described previously.

## Compatibility

The September 2005 release of the OnlineDiag bundle supports HP-UX Virtual Partitions (vPars) version A.03.xx.

## Performance

There are no known performance issues.

## Documentation

For further information, see the following documents, available at <http://www.docs.hp.com/en/diag.html>:

- 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*

---

1. See “Offline Diagnostics Environment” on page 79.

- STM documentation
  - *Frequently Asked Questions*
  - *Quick Reference*
  - *Release Notes*
  - *STM Online Help*
  - *STM Overview*
  - *STM Tutorial*

## Obsolescence

The Tape tools and monitors in STM and EMS Hardware Monitors have been deprecated. HP-UX 11i v1 (11.11) September 2005 is the last release in which STM and EMS Hardware Monitors will support tape devices. Both the Tape tools and monitors will be removed in the future.

---

## Software Distributor

Software Distributor (SD) is the HP-UX administration tool set used to deliver and maintain HP-UX operating systems and layered software applications. Delivered as part of HP-UX, SD can help you:

- Manage your OS, patches, and application software on HP-UX systems.
- Organize, standardize, and distribute software to your customers.
- Handle complex delivery challenges such as testing complete solutions for the commercial and technical desktop.

## Summary of Change

SD has been updated to incorporate defect fixes only.

## Impact

There are no impacts beyond added capability and increased performance.

## Compatibility

SD is backward compatible.

## Performance

There are no known performance issues.

## Documentation

The *Software Distributor Administration Guide* has been updated to reflect all changes. For this and other SD documentation, visit <http://hp.com/go/softwaredepot> and search for “Software Distributor.”

## Obsolescence

Not applicable.

---

## Software Package Builder

Software Package Builder (SPB) provides a visual method to create and edit software packages using the HP-UX Software Distributor (SD) package format. Once software is packaged, it can easily be transferred to a distribution medium, mass produced, and installed by administrators.

The SPB graphical user interface (GUI) provides a window into the software package structure, showing attributes that can be set for each package element. SPB dynamically loads packaging policies and validates software package attributes against these policies. The SPB command line interface (CLI) can also perform validation of software package attributes against policies and supports automated edits to the software package specification.

Whether you are new to packaging or experienced, SPB can help you. Features of SPB include the following:

- Create a product specification file (PSF) to organize files into products, filesets, and optionally, into bundles and subproducts.
- Set attribute values to define the software package characteristics such as revision, architecture, file permissions, and dependencies.
- Control scripts can further customize how the software is handled when installing or removing it on the destination system.
- Validate the PSF against packaging policies to ensure successful depot creation with the `swpackage` command and subsequent software installation.
- Edit and validate the PSF automatically as part of the nightly build process using SPB's CLI.

With SPB, developers and administrators can easily package software in SD format, making management of software with standard SD tools (such as `swinstall`, `swlist`, `swremove`) possible. For example, SPB makes it easy to put an SD wrapper around open source software. As a result, software inventory management and system administration get easier.

## Summary of Change

SPB has been updated to a new version to incorporate defect fixes.



## Impact

Currently, most customers do not choose to package software in SD format due to its complexity. SPB should significantly reduce your learning curve and the time required to package software. By packaging software in SD format, you gain the ability to easily tell what software is installed on the system, making software management easier.

## Compatibility

SPB uses Java 1.4.0 or greater.

## Performance

Java Swing behavior may cause navigational inconsistencies when running SPB through an X emulator. If your mouse click behavior setting is too slow, it can prevent SPB from buffering all mouse clicks. This could potentially lead to data loss. The SPB product release notes contain a detailed procedure for correcting this performance issue. It is highly recommended that you complete the procedure prior to using SPB. For this and other troubleshooting topics, refer to the SPB Help system.

## Documentation

For further information on Software Package Builder, see the following:

- the `spb` manpage, *spb* (1M)
- the SPB Web site at <http://www.docs.hp.com/en/SPB/>
- the *Software Package Builder 2.0 User's Guide* and other SPB documentation found at <http://www.docs.hp.com/en/SPB/infolib.html>

## Obsolescence

Not Applicable.

---

## Update-UX

The `update-ux` command updates the HP-UX operating system to a newer version.

## Summary of Change

Update-UX has been updated to reflect defect fixes. There are no new features or functionality in `update-ux`.

## Impact

There are no impacts.

## **Compatibility**

There are no known compatibility issues.

## **Performance**

There are no known performance issues.

## **Documentation**

For further information, refer to the following:

- The latest *HP-UX 11i v1 Installation and Update Guide*, available at <http://docs.hp.com/en/oshpux11i.html>
- The *update-ux* (1M) manpage

## **Obsolescence**

Not applicable.

---

**What is in This Chapter?**

This chapter covers directory, file system, and disk management, including the following:

- Enhanced AutoFS (see page 124)
- HP CIFS Client (see page 125)
- HP CIFS Server (see page 127)
- VERITAS File System (HP JFS/HP OnlineJFS) (see page 129)

## Enhanced AutoFS

Enhanced AutoFS version B.11.11.0503.1 is a filesystem that automatically mounts directories as they are accessed and unmounts them when access is no longer needed.

This product is available on Software Pack (SPK) for HP-UX 11i v1 September 2005. (For more information about SPK, see “Software Pack (Optional HP-UX 11i v1 Core Enhancements)” on page 27.)

### Summary of Change

Enhanced AutoFS version B.11.11.0503.1 is primarily a defect fix release.

In addition, the kernel symbolic debugging mechanism has been updated to include Enhanced AutoFS symbols. This will provide engineers with Enhanced AutoFS kernel symbols for use with Q4 (the HP-UX crash dump analyzer) and the like.

The primary change with this new version of Enhanced AutoFS is in the installation of the product. The previous version had a depot with three bundles. This led to some installation troubles when all of the bundles were chosen from the depot. In the new version, the contents of those bundles have been combined into one bundle, eliminating any installation difficulty. Once the bundle has been installed on the system, you will no longer see the three bundles installed, but will only see one Enhanced AutoFS bundle installed.

Enhanced AutoFS version B.11.11.0509.1, which delivers support for LDAP as a source of automount maps, is planned to be released on the Web in the Fall of 2005. For more information, refer to the SPK Web site by going to <http://www.hp.com/go/softwaredepot> and searching for “SWPACK.”

### Impact

For Q4-aware customers, Enhanced AutoFS kernel symbols are now available for viewing when debugging kernel problems. In addition, the installation of Enhanced AutoFS is improved.

### 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 refer to the *automount* (1M) and *automountd* (1M) manpages, as well as the *Enhanced AutoFS Administrator's Guide*, available at the HP Documentation Web site at <http://docs.hp.com/en/netcom.html#NFS%20Services>.

## Obsolescence

Not applicable.

---

## HP CIFS Client

CIFS is the native networking protocol on Microsoft Windows operating systems. The HP CIFS products for HP-UX 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 Pluggable Authentication Module - NT LAN Manager (PAM-NTLM) that allows HP-UX logins to be authenticated by a centralized service on a CIFS domain.

## Summary of Change

HP CIFS Client A.02.01 is available on HP-UX 11i v1 September 2005. HP CIFS Client A.02.01 is implemented based on a substantially revised and improved codebase. This release contains the following enhancements and changes:

- Enhanced Security Features
  - NTLMv2 Password Encryption

This release of HP CIFS Client supports NTLM version 2 (NTLMv2) in addition to NTLM and Kerberos. NTLMv2 uses the same challenge-response protocol as NTLM, but provides more sophisticated encryption algorithms, hence better password protection.

For details, refer to the configuration parameters *ntlmEncryptionVersion* and *authenticationMethod* in the *HP CIFS Client A.02.01 Administrator's Guide*, available at "Networking and Communications" section at <http://www.docs.hp.com>.
  - Packet Signing

This release supports packet signing. The purpose of CIFS packet signatures is prevention of man-in-the middle attacks: by requiring a unique signature on each Server Message Block (SMB) packet, the client and server are mutually assured of the other's identity.

Refer to the *HP CIFS Client A.02.01 Administrator's Guide* for a detailed description of the *smbPacketSigning* parameter.
- Enhanced Name Resolution
  - NetBIOS Name Services, WINS and DNS Support

HP CIFS Client A.02.01 supports DNS and the NetBIOS Name Services, including NetBIOS broadcast, and WINS, a Windows name resolution service similar to DNS. The configuration parameters *lookupTryNetbios*, *lookupTryDns* and *nbnsWinsIP* are used to configure which lookup mechanisms are used. For detailed information, refer to the “NetBIOS Name Services, WINS, DNS, IP Configuration” section in the *HP CIFS Client A.02.01 Administrator’s Guide*.

- New `cifsdb` Command

The `cifsdb` command is used to manage CIFS Client user and mount database entries. It provides more flexibility than previous methods, in that it allows database entries to be removed even if inactive. Refer to Chapter 5, “Commandline Utilities” in *HP CIFS Client A.02.01 Administrator’s Guide* for the detailed information on the `cifsdb`, `cifsmount`, and `cifslogin` commands.

- Other Changes

- Command Option Changes

Command options have been changed nominally between HP CIFS Client A.01.x and A.02.x.

Refer to the “Command Option Differences Between HP CIFS Client A.01.\* and A.02.\*” section in the *HP CIFS Client A.02.01 Administrator’s Guide* for details.

- Configuration Parameter Changes

New configuration parameters have been introduced in HP CIFS Client A.02.01. Also, some parameters used in versions A.01.x have been renamed or obsoleted in version A.02.01.

## Impact

The HP CIFS Client A.02.01 is implemented based on a substantially revised and improved codebase. This release provides new enhancements to customers.

## Compatibility

There is no compatibility impact.

## Performance

The implementation for the new version of HP CIFS Client A.02.01 does not degrade performance.

## Documentation

The user manual *HP CIFS client A.02.01 Administrator’s Guide* and product release note *HP CIFS Client A.02.01 Release Note* can be found in the “Networking and Communications” section at <http://www.docs.hp.com>.

## Obsolescence

Not applicable.

---

## HP CIFS Server

The HP CIFS Server provides file sharing, printer access and authentication services to CIFS clients including Microsoft Windows NT, XP, and 2000/2003, as well as HP-UX machines running HP CIFS Client software.

### Summary of Change

HP CIFS Server 3.0c (version A.02.01.02) is available on HP-UX 11i v1 September 2005 and is based on Samba 3.0.7. HP CIFS Server A.02.01.02 provides minor enhancements and bug fixes in addition to the new features provided in HP CIFS Server 3.0a (version A.02.01).

- HP CIFS Server 3.0a (version A.02.01) was based on Samba 3.0.7 and contained selected fixes from Samba 3.0.7, including `samba-3.0.7-CAN-2004-0930.patch` and `samba-3.0.7-CAN-2004-0882.patch` security fixes. HP CIFS Server 3.0a (version A.02.01) provided the following main features:
  - Active Directory support: HP CIFS Server can join an Active Directory Server (ADS) realm as a member server and authenticate users using LDAP with Kerberos security.
  - Backup Domain Controller (BDC) support: Provides the BDC features and supports BDCs in a domain in which it acts as a Primary Domain Controller (PDC).
  - Modular authentication system support: HP CIFS Server now supports multiple account storage backend databases including `smbpasswd`, HP Netscape Directory Servers (LDAP), and a new `tdbsam` database. Refer to the Samba Web Administrator Tool (SWAT) help text for `passdb` backend or view the `smb.conf` manpage for additional information.<sup>1</sup>
  - Winbind support: Dynamically assigns UNIX users and groups (UID/GIDs) to Windows users and groups to facilitate integration in Windows-based domains.
  - Support for new account management tools: You can use utilities including `pdbedit`, `net` commands, and `smbpasswd` to manage user account information. The `net` commands provide numerous new utility operations and replace others. For more information on how to use `pdbedit` and `net` commands, see the SWAT help text for `pdbedit` and `net` commands.
  - Support for three deployment models: Samba Domain Model, Windows Domain Model and Unified Domain Model are supported. These three models represent common network environments and demonstrate HP CIFS Server's flexibility.
  - Support for parameters changes in the `smb.conf` file: There are new parameters and removed parameters in the `smb.conf` file for HP CIFS Server A.02.01.
- The HP CIFS Server 3.0c (version A.02.01.02) provides the following minor enhancements:

---

1. SWAT bundled with HP CIFS Server product. To access SWAT, go to `http://cifsserver-name:901`.

- Support for new option `RUN_WINBIND` in `/etc/rc.config.d/samba` to enable automatic start of the `winbind` daemon, `winbindd`.
- Support for new `-l` and `L` options for the `wbininfo` utility to display user and group file ownership without name-length limitations.
- This release supports the “Bad Uid” option for the “map to guest” configuration parameter to provide a mapping from valid domain users to a predefined guest account even if HP-UX does not have a UNIX User ID for the domain user.
- New options `-n` (`nmbd` only) and `-s` (`smbd` only) provided to the `startsm` and `stopsm` utilities. These new options are used to start and stop the daemons individually.
- Changes have been made to support the disk quotas configuration parameter.

## Impact

HP CIFS Server 3.0c (version A.02.01.02) 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).

## Compatibility

There is compatibility impact.

## Performance

The implementation for the new version of HP CIFS Server A.02.01.01 does not degrade performance.

## Documentation

For further information, refer to the following documentation:

- The Samba Web Administrator Tool (SWAT), bundled with HP CIFS Server product. To access SWAT, go to `http://cifsserver-name:901`.
- The following Samba books, provided with the HP CIFS Server product through the SWAT 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`:
  - *HP CIFS Server 3.0b Administrator's Guide Version A.02.01.01* (part number B8725-90079)
  - *HP CIFS Server 3.0a Release Note Version A.02.01* (part number B8725-90075)
  - *HP CIFS Server 3.0b Release Note Version A.02.01.01* (part number B8725-90080)



— *HP CIFS Server 3.0c Release Note Version A.02.01.02* (part number B8725-90086)

## Obsolescence

Not applicable.

---

## VERITAS File System (HP JFS/HP OnlineJFS)

The VERITAS File System (HP JFS/HP OnlineJFS) product is an extent-based, intent-logging file system. This product is particularly designed for UNIX environments, which require high performance and availability to deal with large volumes of data.

---

### NOTE

The terms “base VERITAS File System,” “HP JFS,” and “base VxFS” are used interchangeably throughout. HP JFS is delivered on the Foundation Operating Environment (FOE).

In addition, the terms “full VERITAS File System,” “HP OnlineJFS,” and “full VxFS” are used interchangeably throughout. HP OnlineJFS is delivered on the Enterprise Operating Environment (EOE) and the Mission Critical Operating Environment (MCOE), and can also be purchased separately.

All of these terms may appear in other related VERITAS File System (HP OnlineJFS/JFS) documentation.

---

## Summary of Change

Starting with the September 2005 release, the licenses for full VxFS 3.3 (HP OnlineJFS B3929CA) are permanent.

### Impact

There are no impacts other than the permanent licenses.

### Compatibility

There are no known compatibility issues.

### Performance

There are no known performance issues.

## **Documentation**

For further information about VxFS 3.3 (HP JFS/HP OnlineJFS), refer to *HP JFS 3.3 and HP OnLineJFS 3.3 VERITAS File System 3.3 System Administrator's Guide: for HP-UX 11.00 and HP-UX 11i*, available at <http://docs.fc.hp.com/en/B3929-90011/B3929-90011.pdf>.

## **Obsolescence**

Not applicable.

## 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:

- HP-UX 11i Internet Protocol Version 6 (IPv6) (Obsolescence on Software Pack) (see page 132)
- HP-UX Web Server Suite (see page 133)
  - HP-UX Apache-based Web Server (see page 135)
  - HP-UX Tomcat-based Servlet Engine (see page 135)
  - HP-UX Webmin-based Admin (see page 136)
  - HP-UX XML Web Server Tools (unchanged for September 2005)
- LDAP-UX Client Services (LDAP-UX Integration Product) (see page 137)
- Mozilla Application Suite (see page 140)
- Netscape Directory Server for HP-UX (see page 141)

## **HP-UX 11i Internet Protocol Version 6 (IPv6) (Obsolescence on Software Pack)**

HP-UX 11i Internet Protocol Version 6 (IPv6) provides the infrastructure to enable the next wave of internet devices, such as PDAs, mobile phones, and appliances.

This product was formerly delivered as the IPv6NCF11i product bundle on Software Pack (SPK). (For more information about SPK, see “Software Pack (Optional HP-UX 11i v1 Core Enhancements)” on page 27.)

### **Summary of Change**

Starting with the September 2005 release, the IPv6NCF11i product bundle is no longer delivered on Software Pack. To get the latest version of IPv6, you should download Transport Optional Upgrade Release (TOUR) from HP Software Depot at <http://hp.com/go/softwaredepot>.

### **Impact**

You will need to download and install TOUR from HP Software Depot to get the latest version of the IPv6 product.

### **Compatibility**

There are no known compatibility issues.

### **Performance**

There are no known performance issues.

### **Documentation**

For further information on TOUR, refer to the following Web site at Software Depot:  
<http://h20293.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=TOUR>

### **Obsolescence**

Starting with the September 2005 release, the IPv6NCF11i product bundle is no longer delivered on Software Pack.

## HP-UX Web Server Suite

The HP-UX Web Server Suite v2.12 is a free 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 135)
- HP-UX Tomcat-based Servlet Engine (see page 135)
- HP-UX Webmin-based Admin (see page 136)
- HP-UX XML Web Server Tools (unchanged for September 2005)

### Installation

- Products are now separately installable into their own directory under `/opt/hpws/`.

#### 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.

**Table 7-1 Locations of Apache Products**

| Product                           | Location                        |
|-----------------------------------|---------------------------------|
| HP-UX Apache-based Web Server     | <code>/opt/hpws/apache</code>   |
| HP-UX Tomcat-based Servlet Engine | <code>/opt/hpws/tomcat</code>   |
| HP-UX Webmin-based Admin          | <code>/opt/hpws/webmin</code>   |
| HP-UX XML Web Server Tools        | <code>/opt/hpws/xmltools</code> |

- After installing, use the `README` and `GETTING_STARTED` documents for details on prerequisites and starting each component. The `README` is located at `/opt/hpws/README`. The `GETTING_STARTED` document is found in multiple locations under each component directory (i.e., `/opt/hpws/apache/GETTING_STARTED`).
- Products do *not* start automatically after installation. Previously, Apache would try to start on port 80.
- For updates, new configuration files are delivered in the standard location if the existing one is unchanged or nonexistent. Otherwise, they are delivered in an alternate location, allowing the system administrator to incorporate the changes individually. Detailed information can be found in the `GETTING_STARTED` document.
- Filenames and variables have changed for the Resource Configuration (RC) files, located in the `/etc/rc.config.d/` directory.

**Table 7-2 Resource Configuration Filenames**

| Product                           | Filename          |
|-----------------------------------|-------------------|
| HP-UX Apache-based Web Server     | hpws_apacheconf   |
| HP-UX Tomcat-based Servlet Engine | hpws_tomcatconf   |
| HP-UX Webmin-based Admin          | hpws_webminconf   |
| HP-UX XML Web Server Tools        | hpws_xmltoolsconf |

## 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 5.8.0 (available with the Operating Environment) to be installed.
- HP-UX Tomcat-based Servlet Engine and HP-UX XML Web Server Tools require the HP-UX Software Developer's Kit (SDK) 1.3 or later. If your Web application uses Java Server Pages (JSPs) then you will also need the SDK 1.3 or later so you can compile the JSPs.
- 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

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

HP-UX Apache-based Web Server has been upgraded to v.2.0.54.01 as primarily a bug fix release. For details of the following changes, refer to the *HP-UX Web Server Suite Release Notes*, available at `/opt/hpws/hp_docs` or at the product Web site at <http://www.hp.com/go/webserver>:

- Apache upgraded to 2.0.54
- `mod_jk` upgraded to 1.2.10
- OpenSSL upgraded to 0.9.7g
- `mod_perl` supports Perl 5.8.3
- PHP upgraded to 5.0.4

### Impact

There are no impacts other than those listed previously.

### 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

Performance is similar to previous HP-UX Apache-based Web Server releases.

### Documentation

See “Documentation” on page 134.

### 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 has been upgraded to version 5.5.9.01:

- Tomcat version 5 implements the Servlet 2.4 and JavaServer Pages 2.0 specifications.
- Tomcat 5.5.x is designed to run on HP-UX Software Development Kit and Runtime Environment for the Java 2 Standard Edition Platform (SDK/RTE) version 1.5 and later.

For details, refer to the *HP-UX Web Server Suite Release Notes*, available at [/opt/hpws/hp\\_docs](/opt/hpws/hp_docs) or at the product Web site at <http://www.hp.com/go/webserver>.

### Impact

There are no impacts.

### Compatibility

There are no known compatibility issues.

### Performance

There are no known performance issues.

### Documentation

See “Documentation” on page 134.

### Obsolescence

Not applicable.

## HP-UX Webmin-based Admin

HP-UX Webmin-based Admin is a configuration and administration graphical user interface (GUI) with extensive enhancements for the HP-UX Apache-based Web Server.

### Summary of Change

HP-UX Webmin-based Admin has been upgraded to 1.070.04 as primarily a bug fix release. For details, refer to the *HP-UX Web Server Suite Release Notes*, available at [/opt/hpws/hp\\_docs](/opt/hpws/hp_docs) or at the product Web site at <http://www.hp.com/go/webserver>.

### Impact

There are no impacts.

### Compatibility

There are no known compatibility issues.

### Performance

There are no known performance issues.



## Documentation

See “Documentation” on page 134.

## Obsolescence

Not applicable.

---

# LDAP-UX Client Services (LDAP-UX Integration Product)

LDAP-UX Client Services integrates HP-UX systems with an LDAP directory. Specifically, this product consolidates account, group and other configuration information into a central LDAP directory to simplify HP-UX system administration. The LDAP-UX Client Services product works with a variety of LDAP v3 capable directory servers and is fully tested with the Netscape Directory Server for HP-UX and the Windows 2000/2003 Active Directory Servers.

## Summary of Change

The LDAP-UX Client Services B.04.00 is a major release and is enhanced to provide migration from NIS or NIS+ environment to an LDAP environment. The new features have been implemented to support NIS+ migration. In addition to NIS+ migration support, several enhancements are added. This release contains the following enhancements and changes:

- Support for AutoFS maps

AutoFS is a client-side service that automatically mounts appropriate file systems when users request access to them. If an automounted file system has been idle for a period of time, AutoFS unmounts it. AutoFS uses name services files, NIS or NIS+ to store and manage AutoFS maps.

Starting with LDAP-UX Client Services B.04.00, it supports the automount service under the AutoFS subsystem. LDAP-UX Client Services B.04.00 contains a new feature that allows users to store and manage AutoFS maps in an LDAP directory server. The LDAP-UX Client Services supports the RFC2307-bis automount schema as a default. However the `nisObject` automount schema can also be used if configured via attribute mapping. In order to enable the AutoFS for LDAP support, the AutoFS patches are required. For details see the “Patch Requirements” section in the *LDAP-UX Client Services B.04.00 Release Notes*, available at <http://docs.hp.com/hpux/internet>.

- Support for `publickey`

LDAP-UX Client Services B.04.00 provides enhancements for discovery and management of `publickeys` in an LDAP directory. Both public and secret keys, used by the SecureRPC API, can be stored in user and host entries in an LDAP directory server, using the `nisKeyObject` objectclass.

Support for `publickey` requires functionality enhancement in LDAP-UX Client Services and enablement in ONC. ONC with Publickey LDAP support will be available during the second half of calendar year 2005.

- NIS+ to LDAP migration scripts provided

This release provides migration scripts that can be used to migrate name service data from an NIS+ domain into an LDAP directory server. These scripts add support for migration of `automount` maps as well as `publickey` maps. LDAP-UX Client Services only supports NIS+ to LDAP migration scripts for Netscape Directory Server. Because of the syntactic differences between NIS+ access controls and those used by the variety of LDAP directory servers, NIS+ access controls must be migrated manually. The NIS+ migration scripts support migration of the following NIS+ service data to an LDAP directory server:

- `groups`
- `password`
- `hosts`
- `services`
- `rpc`
- `netgroup`
- `protocols`
- `networks`
- `autofs`
- `publickey`
- `user-defined map`

NIS+ to LDAP migration scripts are used to migrate NIS+ service data from the NIS+ server to Netscape Directory Server for HP-UX. These scripts can not be used to migrate service data to the Windows 2000/2003 Active Directory Server.

- Support for SASL/GSSAPI authentication

This release includes support for the GSSAPI SASL authentication method for Kerberos v5. For this release, LDAP-UX Client Services only supports SASL/GSSAPI authentication for Microsoft Windows 2000 or 2003 Active Directory Server. This feature is only for proxy user authentication for the name service subsystem. Host, service, or other principals may be used for the LDAP-UX proxy identity. You can configure a user, service, or host principal using `ldap_proxy_config` or use Kerberos `keytab` file without configuring proxy. Because SASL/GSSAPI is only used for proxy authentication, user authentication to a Windows domain should still be configured using PAM-Kerberos.

- Support for `pam_authz` login authorization enhancements

Prior to LDAP-UX Client Services version B.04.00, `pam_authz` uses `netgroups` as the method to define access rights to an HP-UX host or other `pam`-enabled applications. For this release, `pam_authz` has been enhanced to provide administrators a simple policy file, `/etc/opt/ldapux/pam_authz.policy`, to set up a local access policy to better meet their need in the organization. `pam_authz` uses the access policy defined

in the policy file to determine which users are allowed to log in to the system. A policy specifies which groups, ldap groups, users, or other access control objects (such as ldap search filters) are allowed to log in to the system.

- Updated Mozilla LDAP C SDK and LDAP commands

This release of LDAP-UX Client Services updates the Mozilla LDAP C SDK to version 5.14.1. It also updates the LDAP commands `ldapsearch`, `ldapmodify`, `ldapcmp`, and `ldapcompare`.

- Support for Windows 2003 and SFU 3.5

LDAP-UX Client Services B.04.00 has been enhanced to support Window 2003 Active Directory Server and Services for Unix (SFU) 3.5. To improve support for multiple domains, the configuration profile has been moved from `cn=Configuration,...` to `cn=System,...`

- Support for SSL for profile download

Prior to LDAP-UX Client Services B.04.00, SSL support in LDAP-UX was limited to user authentication (`libpam_ldap`) and the name service subsystem (`libnss_ldap`). With this release, SSL is now supported for secure download of the configuration profile. SSL support of profile download can assure that the LDAP directory server hosting the LDAP-UX configuration can not be impersonated.

- Enhancement of `netgroup` case insensitivity

A new configuration option has been added to `ldapux_client.conf` that allows the `innetgr()` function to do case-insensitive comparisons of user names. By default, this option is disabled.

- LDAP printer configurator support for `lpadmin` options

The LDAP printer configurator now supports the ability for the administrator to specify default `lpadmin` options. These `lpadmin` options can be used when adding printers to LDAP.

## Impact

The LDAP-UX Client Services B.04.00 is a major release and is enhanced to provide migration from NIS or NIS+ environment to an LDAP environment. New features have been implemented to support NIS+ migration. In addition to NIS+ migration support, several enhancements are also added.

## 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/hpux/internet>:

- *LDAP-UX Client Services B.04.00 Administrator's Guide*, edition 2 (part number J4269-90048)
- *LDAP-UX Client Services B.04.00 with Microsoft Windows 2000/2003 Active Directory Server Administrator's Guide* (part number J4269-90049)
- *LDAP-UX Client Services B.04.00 Release Notes* (part number J4269-90045)
- *NIS+ to LDAP Migration Guide*

## Obsolescence

Not applicable.

---

## Mozilla Application Suite

The Mozilla Application Suite (product number MOZILLA) is an Open Source Web browser, email client, and HTML editor. Mozilla has replaced Netscape as the supported browser on HP-UX.

### Summary of Change

Mozilla has been updated to version 1.7.8.00 with improved Asian font support on HP-UX. It also includes the Japanese Language Pack, as well as defect fixes, security fixes, enhancements, and more advanced standards compliance.

### Impact

You can now use the browser with complete Japanese localization and also benefit from defect fixes, security fixes, enhancements, and more advanced standards compliance.

### 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>.

### Performance

Mozilla may be slow the first time it is started because it is creating a profile.

## Documentation

Documentation is included in the Mozilla Help menu and the README files delivered with the product. You can also go to <http://www.hp.com/go/mozilla>.

## Obsolescence

HP 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.

---

## Netscape Directory Server for HP-UX

HP provides an industry-standard centralized directory service to build your intranet or extranet on. Your Netscape 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 Netscape Directory Server can be extended to support your entire enterprise with a global directory service that provides centralized management of all your enterprise's resource information.

## Summary

Netscape Directory Server (NDS) for HP-UX has been updated to version B.06.21.10.001 with new features and defect fixes. Its new features are as follows:

- Support for four-way multi-master replication
- Support for fine-grained password policy
- New configuration attributes:
  - *nsslapd-conntablesizes*
  - *nsslapd-schema-ignore-trailing-spaces*
  - *nsslapd-db-import-private-mem*
- Support for the “Get Effective Rights” feature
- The option to disable tombstones
- An updated database

For detailed information about new features and defect fixes, refer to the *Netscape Directory Server B.06.21.10 for HP-UX Release Notes* available at <http://www.docs.hp.com/hpux/internet>.

**IMPORTANT**

In September 2005, the version of NDS delivered on the Operating Environments media (NDS version 6.21) differs from the version of NDS delivered on the Application Software media (NDS version 7.0).

HP strongly recommends you upgrade your systems with NDS version 7.0, which you can download from the September 2005 Application Software media or from Software Depot at <http://hp.com/go/softwaredepot>.

---

**Impact**

NDS B.06.21.10.001 for HP-UX provides new features and defect fixes.

**Compatibility**

There are no known compatibility issues.

**Performance**

Netscape Directory Server B.06.21.10.001 for HP-UX does not degrade performance.

**Documentation**

For further information, refer to the following documents available at <http://www.docs.hp.com/hpux/internet>:

- *Netscape Directory Server B.06.21.10 for HP-UX Release Notes*
- *Netscape Directory Server 6.2 Installation Guide*
- *Netscape Directory Server 6.2 Configuration, Command, and File Reference*
- *Netscape Directory Server 6.2 Deployment Guide*
- *Netscape Directory Server 6.2 Administrator's Guide*
- *Netscape Directory Server 6.2 Schema Reference*
- *Netscape Directory Server 6.2 Plug-In Programmer's Guide*
- *Netscape Directory Server 6.2 Gateway Customization Guide*

**Obsolescence**

Not applicable.

---

**What is in This Chapter?**

This chapter covers changes and enhancements to security services, including the following:

- HP-UX Host Intrusion Detection System Release 3.1 (see page 144)
- HP-UX IPFilter (see page 146)
- HP-UX Secure Shell (see page 147)
- HP-UX Shadow Passwords (see page 148)
- OpenSSL (see page 149)

---

## HP-UX Host Intrusion Detection System Release 3.1

HP-UX HIDS Release 3.1 is a host-based HP-UX security product for HP computers running HP-UX 11i. HP-UX HIDS Release 3.1 enables security administrators to proactively monitor, detect, and respond to attacks targeted at specific hosts. Since there are many types of attacks that can bypass network-based detection systems, HP-UX HIDS Release 3.1 complements existing network-based security mechanisms, bolstering enterprise security.

### Summary of Change

HIDS has been updated to version 3.1. Changes include the following:

- Version 3.0 (initially delivered via the Web at <http://hp.com/go/softwaredepot>):
  - Performance improvement: Significant reduction in CPU consumption and better performance throughput by the HP-UX HIDS Release 3.0 `idscore` correlator process.
  - Template consolidation and property changes in HIDS Release 3.0: Prior to this version of HIDS, the functionalities of the “Monitor Logins/Logouts” template and “Monitor Start of Interactive Sessions” were overlapping each other. These overlapping functionalities have been rectified in HIDS Release 3.0, and the two templates have been consolidated into a single template called the “Monitoring Logins/Logouts” template.
  - Filtering of alerts: HP-UX HIDS provides a number of new template properties for better filtering of unwanted alerts.
  - Reducing alert volume: The default template setting for out-of-the-box configurations has been fine-tuned to reduce the alert volume.
  - Automating HP-UX HIDS deployment and management processes: The command-line interface tool, `idsadmin`, is supported to automate the HIDS deployment and management process.
  - Alert Description: HP-UX HIDS provides descriptive alert messages to assist in developing more comprehensive filtering within template properties.
  - Migration Utilities: New conversion utilities are available to migrate HP-UX HIDS Release 2.x customizations to the new HP-UX HIDS Release 3.0 template format to reduce deployment efforts.
  - Using OpenSSL for securing agent-admin communication: HP-UX HIDS now has a dependency on the OpenSSL product available in the HP-UX Operating Environments (as well as at <http://hp.com/go/softwaredepot>). The main benefit is that any SSL-related vulnerability fixes can be made readily available to HP-UX HIDS customers without the need for a new release of HIDS.
  - Reducing System Reboot: The HP-UX HIDS bundle has been split into two products, namely `IDS` and `IDS-KERN`, to reduce the probability of a system reboot for future HP-UX HIDS updates.
- Version 3.1 (delivered both on the Web and with the May 2005 release of HP-UX v2):



- Defect fixes are mainly focused on addressing issues with the `idsdcor` process terminating abnormally.
- Enhancements include better filtering capabilities and additional alert information in order to facilitate more automated response.

In addition, the bundle name for HIDS has changed from `J5083AA` to `HPUX-HIDS`.

## Impact

HP-UX HIDS Release 3.1 is a maintenance release containing defect fixes, as well a few enhancements. The bundle name for HIDS is changed from `J5083AA` to `HPUX-HIDS`.

## Compatibility

HP-UX HIDS Release 3.1 is backward compatible with Release 3.0. It is not backward compatible with Release 2.0, Release 2.1, Release 2.2, and Release 1.0.

## Performance

HP-UX HIDS Release 3.1 performance has not changed, and the performance remains the same as in Release 3.0.

## Documentation

For further information, refer to the following:

- Manpages (directory path `/opt/ids/share/man/man1m`):
  - *IDS\_checkAdminCert* (1M)
  - *IDS\_checkAgentCert* (1M)
  - *IDS\_checkInstall* (1M)
  - *IDS\_genAdminKeys* (1M)
  - *IDS\_genAgentCerts* (1M)
  - *IDS\_importAgentKeys* (1M)
  - *idsadmin* (1M)
  - *idsagent* (1M)
  - *idsgui* (1M)
- Documents (available at <http://docs.hp.com/en/internet.html#HP-UX%20Host%20Intrusion%20Detection%20System>):
  - *HP-UX Host Intrusion Detection System Release 3.1 Release Notes*
  - *HP-UX Host Intrusion Detection System Administrator's Guide, Software Release 3.1*
  - *HP OpenView Operations SMART Plug-In for HP-UX HIDS* (Available at the HP Openview Management Software site at <http://openview.hp.com>. Choose **Downloads**, then **Smart Plug-ins**.)

## Obsolescence

Effective June 1, 2005, the support for Release 1.0 of HP-UX HIDS has been discontinued. HP recommends that all customers using HP-UX HIDS 1.0 upgrade to Release 3.0 / Release 3.1 immediately.

In addition, HP-UX HIDS v2.x has been deprecated and is planned for future obsolescence. You are strongly encouraged to upgrade to the latest version of HIDS in order to take advantage of all the latest enhancements and defect fixes. For further details, refer to [http://www.hp.com/software/releases/releases-media2/discon/HIDS\\_V2x.pdf](http://www.hp.com/software/releases/releases-media2/discon/HIDS_V2x.pdf).

---

## HP-UX IPFilter

The security product, HP-UX IPFilter version A.03.05.11.01, provides system firewall capabilities by filtering IP packets to control traffic in and out of a system. The firewall functions as a security defense by cutting down the number of exposure points on a machine.

### Summary of Change

HP-UX IPFilter has been updated to version A.03.05.11.01 to incorporate defect fixes.

### Impact

There is no significant impact.

### Compatibility

There are no known compatibility issues.

### Performance

There are no known performance issues.

### Documentation

For further information, refer to the following:

- Manpages:

|                    |   |
|--------------------|---|
| <i>ipf</i> (4)     | packet filtering kernel interface                   |
| <i>ipf</i> (5)     | IP packet filter rule syntax                        |
| <i>ipf</i> (8)     | alters packet filtering kernel's internal lists     |
| <i>ipl</i> (4)     | data structure for IP packet log device             |
| <i>ipmon</i> (8)   | monitors <code>/dev/ipl</code> for logged packets   |
| <i>ipfstat</i> (8) | reports on packet filter statistics and filter list |

*ipftest* (1) test packet rules with arbitrary input

- Documents (available at <http://docs.hp.com/en/internet.html#HP-UX%20IPFilter>):
  - *HP-UX IPFilter version A.03.05.09 Administrator's Guide*
  - *HP-UX IPFilter A.03.05.11.01 Release Notes*

## Obsolescence

Not applicable.

---

## HP-UX Secure Shell

HP-UX Secure Shell is based on the public domain OpenSSH 4.0p1. 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 is shipping for the first time on the HP-UX 11i v1 Operating Environments. Following are the new features in HP-UX Secure Shell A.04.00.002:

- 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*

HP-UX Secure Shell A.04.00.002 also contains the following features, which were introduced in HP-UX Secure Shell A.03.81.000:

- Use of untrusted cookies for X11-forwarding
- Support for sending Application Layer Keep-Alive messages to the server

- The `/etc/moduli` file updated
- Support for GSSAPI replaced with GSSAPI-With-MIC

### **Impact**

There are no impacts other than those listed previously.

### **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.04.00.002 Release Notes* at <http://www.docs.hp.com> under the section “Internet and Security Solutions.”

### **Obsolescence**

Not applicable.

---

## **HP-UX Shadow Passwords**

Increasing computational power available to password crackers has made the non-hidden passwords in the UNIX `/etc/passwd` file vulnerable to decryption. Shadow Passwords enhance system security by hiding user-encrypted passwords in a shadow password file. Usually, encrypted passwords are stored in the `/etc/passwd` file that is accessible to all users. With Shadow Passwords, the encrypted passwords can be optionally moved to the `/etc/shadow` file, which is accessible only to a super user.

An updated version of this product is available on Software Pack (SPK) for HP-UX 11i v1 September 2005. (For more information about SPK, see “Software Pack (Optional HP-UX 11i v1 Core Enhancements)” on page 27.)

### **Summary of Change**

HP-UX Shadow Passwords bundle version B.11.11.03 provides two defect fixes.

### **Impact**

There are no impacts other than the defect fixes.

## Compatibility

There are no regressions or compatibility issues.

## Performance

There is no impact on performance.

## Documentation

For further information, see the HP-UX Shadow Passwords Web page at <http://h20293.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=ShadowPassword> or go to the HP Software Depot at <http://hp.com/go/softwaredepot> and search for “Shadow Passwords.”

Also see the HP-UX Shadow Passwords documentation, available at <http://docs.hp.com/en/internet.html#HP-UX%20Shadow%20Passwords>.

## Obsolescence

Not applicable.

---

## OpenSSL

OpenSSL A.00.09.07e.012 is based on the open source product OpenSSL 0.9.7e, which offers a general purpose cryptography library and implementation of the Secure Sockets Layer (SSLv2/v3) and Transport Layer Security (TLS v1) protocols.

## Summary of Change

OpenSSL A.00.09.07e.012 automatically generates a self-signed host certificate and private key. The host certificate is stored as `/opt/openssl/certs/host.pem`, and the private key of the host certificate as `/opt/openssl/private/hostkey.pem`.

## Impact

There are no impacts other than those described previously.

## Compatibility

There are no known compatibility issues.

## Performance

There are no known performance issues.

## **Documentation**

For more information, refer to the *OpenSSL A.00.09.07e.012/013 Release Notes* at <http://docs.hp.com> under the section “Internet and Security Solutions.”

## **Obsolescence**

Not applicable.

---

**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 September 2005 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 31.





**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:

- EnhancedCore (see page 154)
- HP MLIB (see page 154)
- HP MPI (see page 155)
- Java 2 Standard Edition Platform (see page 157)
  - HP-UX Software Development Kit and Runtime Environment for the Java Standard Edition Platform (see page 157)
  - Java Technology for HP-UX Add-on Standard C++ Runtime Libraries (see page 158)
  - Java Out-of-Box (see page 158)
  - Runtime Plug-in (JPI) for HP-UX (see page 160)
- Perl (see page 161)

## EnhancedCore

The EnhancedCore product, version B.11.11.01, supports virtual memory to allow user-space debuggers to dump core of `setuid` programs.

This product is available on Software Pack (SPK) for HP-UX 11i v1 September 2005. (For more information about SPK, see “Software Pack (Optional HP-UX 11i v1 Core Enhancements)” on page 27.)

### Summary of Change

Currently, a `setuid` program in HP-UX 11i v1 is not allowed to dump core. With installation of this enhancement, HP-UX 11i v1 will allow a `setuid` program to be dumped if the request is from a debugger. The core file will be created using root’s credentials.

### Impact

With a debugger request, you can now get core of a `setuid` program.

### Compatibility

There are no known compatibility issues.

### Performance

There are no known performance issues.

### Documentation

For further information, refer to the `core (4)` manpage.

### Obsolescence

Not applicable.

---

## HP MLIB

HP MLIB contains mathematical software and computational kernels for engineering and scientific applications involving linear equations, least squares, eigenvalue problems, singular value decomposition, vector and matrix computations, convolutions, and Fourier Transforms. MLIB has six components: VECLIB, LAPACK, ScaLAPACK, SuperLU DIST, SOLVERS, and VMATH.

## Summary of Change

HP MLIB has updated to version 9.4 with quality enhancements.

## Impact

The impact of the HP MLIB update is improved performance.

## Compatibility

HP MLIB 9.4 is supported on PA-RISC 2.0 11i v1 (or later) and Itanium 2 11i v1.6 (or later). There are no differences in default behavior or functionality across PA-RISC and Itanium®-based architectures. There are no regressions from previous releases.

## Performance

There are no known performance issues.

## Documentation

For further information, refer to the following:

- *mllib* (3M) manpage installed at `/opt/mlib/share/man`
- Web site at [www.hp.com/go/mlib](http://www.hp.com/go/mlib)
- *HP MLIB User's Guide* and release notes at <http://docs.hp.com/hpux/dev/index.html#Performance%20Tools%20and%20Libraries>

## Obsolescence

Not applicable.

---

## HP MPI

HP MPI Version 2.1.1 is a high-performance implementation of the Message Passing Interface (MPI) standard. HP MPI complies fully with the 1.2 standard and provides full MPI-2 functionality. HP MPI provides an application programming interface and software libraries to support parallel, message passing applications that are efficient, portable, and flexible.

## Summary of Change

HP MPI has been updated to version 2.1.1 with the following enhancements:

- Interconnects supported include:
  - InfiniBand on Itanium®-based systems

- HyperFabric2
- TCP/IP on clusters
- Visual MPI for debugging and analysis
- Improved gather performance for TCP/IP
- Improved alltoall performance
- Improved ssh support
- Improved socket progression for TCP/IP communication

## Impact

There are no impacts other than those listed previously.

## Compatibility

There are no known compatibility issues.

## Performance

There are no known performance issues.

## Documentation

For further information, refer to the following:

- Manpages are installed in `/opt/mpi/share/man`. Manpages for HP MPI utilities are located in `man1*`. Manpages for the HP MPI library are located in `man3*`.
- The *HP MPI User's Guide (Ninth Edition)* is available from the MPI Web site at <http://www.hp.com/go/mpi> Web site.
- The *HP MPI V2.0 for HP-UX Release Note* is available at <http://docs.hp.com/hpux/pdf/B6060-96014.pdf> and from the <http://www.hp.com/go/mpi> Web site at <http://h21007.www2.hp.com/dspp/files/unprotected/mpi/hpux/B6060-96014.pdf>.

## Obsolescence

There are no product obsolescence plans.

---

## Java 2 Standard Edition Platform

Java™ 2 Standard Edition (J2SE™) products for HP-UX provide solutions to develop or deploy Java applications with the best performance on HP-UX servers and workstation.

This Java section covers the following topics:

- HP-UX Software Development Kit and Runtime Environment for the Java Standard Edition Platform (see page 157)
- Java Technology for HP-UX Add-on Standard C++ Runtime Libraries (see page 158)
- Java Out-of-Box (see page 158)
- Runtime Plug-in (JPI) for HP-UX (see page 160)

### HP-UX Software Development Kit and Runtime Environment for the Java Standard Edition Platform

HP-UX Software Development Kit and Runtime Environment for the Java™ Standard Edition Platform (SDK/RTE)<sup>1</sup> provides the Java 2 programming tools and runtime environment which allow you to deploy Java technology with the best performance on systems running HP-UX 11i.

#### Summary of Change

SDK/RTE versions 1.3 and 1.4 have been updated to incorporate defect fixes.

JDK/JRE 5.0 for HP-UX<sup>1</sup> has been added and has been updated to incorporate defect fixes. Among other features, JDK/JRE version 5.0 provides Java Webstart and the Runtime Plug-in (JPI) for JDK/JRE 5.0 for HP-UX.<sup>2</sup>

#### Impact

You will have the most current Java technology.

#### 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://www.hp.com/go/java> and select “information library” in the left navigation bar.

- 
1. Starting with version 5.0, the product name is J2SE™ Development Kit and Runtime Environment for HP-UX for the Java Platform.
  2. See also “Runtime Plug-in (JPI) for HP-UX” on page 160.

### **Obsolescence**

RTE version 1.2 has been obsoleted. Upon update, the `ObsJava12` bundle will remove it from your system.

SDK/RTE version 1.3 has been deprecated and is planned for future obsolescence.

## **Java Technology for HP-UX Add-on Standard C++ Runtime Libraries**

Java Technology for HP-UX Add-on Standard C++ Runtime libraries for the SDK (product T1456AAaddon) and for the RTE (product T1457AAaddon) are installed. Java developers on PA-RISC will need these C++ libraries if they are using the ANSI Standard C++ runtime (-AA) option in an application that loads Java.

### **Summary of Change**

The Java Technology for HP-UX Add-on Standard C++ Runtime Libraries have been updated to support the update of SDK/RTE versions 1.3 and 1.4, and JDK/JRE version 5.0. Version 1.5 of the Add-on Libraries is now also included.

### **Impact**

There are no impacts other than the updated support for SDK/RTE and JDK/JRE.

### **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://www.hp.com/go/java> and select "information library" in the left navigation bar.

### **Obsolescence**

Not applicable.

## **Java Out-of-Box**

Java Out-of-Box (JAVAFOB) is a small, installable product that modifies HP-UX kernel parameters and system tunables to allow large server-side Java applications to run more efficiently.

While no claim is made that JAVAFOB will enable all Java applications to run (or that it will cause any particular Java application to exhibit optimum performance), the JAVAFOB parameter values were chosen to enable the widest range of Java applications to run successfully without significant impact on other (non-Java) processes. (The original default settings were too low to run the majority of Java applications.)

## Summary of Change

For September 2005, JAVA\_OOB has been updated to incorporate defect fixes.

## Impact

JAVA\_OOB version 2.03.x modifies the following kernel parameters and system tunables. With these modifications, large server-side Java applications can run more efficiently.

**Table 10-1 Java OOB Modifications**

|                      |                                      |
|----------------------|--------------------------------------|
| maxusers             | 512                                  |
| nproc                | greater of either 2048 or (semnmu+4) |
| max_thread_proc      | 3000                                 |
| nkthread             | 6000                                 |
| nfile                | 4097                                 |
| maxfiles             | 2048                                 |
| maxfiles_lim         | 2048                                 |
| ncallout             | 6000                                 |
| maxdsiz              | 2063835136                           |
| tcp_conn_request_max | 2048                                 |

---

### NOTE

JAVA\_OOB will not lower a parameter setting. If the current value of a parameter is higher than the value that JAVA\_OOB would set, then JAVA\_OOB leaves the parameter value unchanged.

---

### 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://www.hp.com/go/java> and select “information library” in the left navigation bar.

### Obsolescence

Not applicable.

## Runtime Plug-in (JPI) for HP-UX

The Runtime Plug-in (JPI) for HP-UX allows you to use the most up-to-date version of the Run Time Environment (RTE) for HP-UX with Mozilla.

### Summary of Change

To support the newer versions of the HP-UX Software Development Kit and Runtime Environment for the Java™ 2 Standard Edition Platform (SDK/RTE),<sup>1</sup> newer versions of Runtime Plug-in 1.3 and 1.4 are delivered with the September 2005 release.

As of the September 2005 release, Netscape is no longer supported. Only Mozilla is supported with this and future releases. For Plug-in version 1.3, Mozilla for HP-UX versions 1.2.1.01 through 1.6.0.01 is the required browser. (Mozilla version 1.7.8.00 is not supported on version 1.3.1.x.) For Plug-in 1.4, Mozilla for HP-UX version 1.2.1.01 through 1.7.8 is supported.

The Mozilla Application Suite is included in the HP-UX 11i v1 Operating Environments.<sup>2</sup> It can also be downloaded free from <http://www.hp.com/products1/unix/java/mozilla/index.html>.

In addition, the 1.5 version of the Runtime Plug-in has been incorporated into JDK/JRE 5.0.

### Impact

You will now have the most current Java technology. The Netscape Web browser is no longer supported with Plug-in 1.3 and 1.4. The 1.5 version of the Plug-in is now delivered with JDK/JRE 5.0.

### 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://www.hp.com/go/java> and select “information library” in the left navigation bar.

### Obsolescence

Runtime Plug-in (JPI) for HP-UX version 1.2 has been obsoleted. Upon update, the ObsJava12 bundle will remove it from your system.

Version 1.3 of the Runtime Plug-in has been deprecated and will be obsolete in a future update release.

1. See “HP-UX Software Development Kit and Runtime Environment for the Java Standard Edition Platform” on page 157.
2. See “Mozilla Application Suite” on page 140.



## 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. The version that is submitted is 5.8.3 build 809.

### Summary of Change

Perl 5.8.3 build 809 corresponds to the Perl 5.8.3 source code release and includes the following:

- Better Unicode support
- New IO implementation
- New thread implementation
- Better numeric accuracy
- Safe Signals
- Many new modules
- More extensive regression testing

Significant changes that have occurred in the 5.8.3 build 809 release are documented in `perldelta`. This document can be viewed by entering `man perldelta`.

### Impact

There are no impacts other than those listed previously.

### Compatibility

Perl 5.8 is not binary compatible with earlier releases of Perl. for XS modules. These modules have to be 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.

### Performance

There are no known performance issues.

### Documentation

For further information, refer to the `perldelta` manpage and to the following Web sites:

- <http://www.perl.org>
- <http://www.activestate.com>
- <http://learn.perl.org>

## **Obsolescence**

Not applicable.

---

**What is in This Chapter?**

This chapter usually describes internationalization functionality. Topics in this chapter are unchanged for the September 2005 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 31.



---

**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 September 2005 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 31.

