

HP-UX 11i Version 3 September 2009 Release Notes Operating Environments Update Release

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Revision History

This document is part of a series. Each document in the series describes what is new, changed, deprecated, or obsoleted since the previous release of HP-UX 11i v3 (or, in the case of the initial release, since the September 2005 release of HP-UX 11i v1 and the June 2006 release of HP-UX 11i v2).

For the most recent documents in this series, as well as the most recent version of this document, see the HP-UX 11i v3 documentation at <http://hp.com/go/hpux-core-docs>. Documents in this series are also available on the Instant Information media, but may be superseded by new editions on the web.

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

Table 1 Current Document in This Series

Document Title and Edition	Document manufacturing part number	Supported operating systems	Edition	Publication date
<i>HP-UX 11i Version 3 September 2009 Release Notes</i>	5900-0578	HP-UX 11i v3	Edition 2	September 2009

For Edition 2 of the *HP-UX 11i Version 3 September 2009 Release Notes*, information in "ProviderSvcsBase" (page 123) was updated.

Table 2 Previous Documents in This Series

Document Title and Edition	Document manufacturing part number	Supported operating systems	Edition	Publication date
<i>HP-UX 11i Version 3 September 2009 Release Notes</i>	5992-6561	HP-UX 11i v3	Edition 1 (retired)	September 2009
<i>HP-UX 11i Version 3 March 2009 Release Notes</i>	5992-5804	HP-UX 11i v3	Edition 1	March 2009
<i>HP-UX 11i Version 3 September 2008 Release Notes</i>	5992-4174	HP-UX 11i v3	Edition 1	September 2008
<i>HP-UX 11i Version 3 March 2008 Release Notes</i>	5992-3373	HP-UX 11i v3	Edition 1	March 2008
<i>HP-UX 11i Version 3 September 2007 Release Notes</i>	5992-3231	HP-UX 11i v3	Edition 3	September 2007
<i>HP-UX 11i Version 3 September 2007 Release Notes</i>	5992-1996	HP-UX 11i v3	Edition 2 (retired)	September 2007
<i>HP-UX 11i Version 3 September 2007 Release Notes</i>	5992-0698	HP-UX 11i v3	Edition 1 (retired)	September 2007
<i>HP-UX 11i v3 Release Notes Errata</i>	5992-5827	HP-UX 11i v3	Edition 3	October 2008
<i>HP-UX 11i v3 Release Notes Errata</i>	5992-2881	HP-UX 11i v3	Edition 2 (retired)	September 2007

Table 2 Previous Documents in This Series (*continued*)

Document Title and Edition	Document manufacturing part number	Supported operating systems	Edition	Publication date
<i>HP-UX 11i v3 Release Notes Errata</i>	5991-7585	HP-UX 11i v3	Edition 1 (retired)	July 2007
<i>HP-UX 11i Version 3 Release Notes</i>	5991-6469	HP-UX 11i v3	B.11.31	February 2007



NOTE: Revisions to the initial (February 2007) *HP-UX 11i Version 3 Release Notes* are contained in the *HP-UX 11i v3 Release Notes Errata*, Edition 3, MPN 5992-5827, located at <http://docs.hp.com/en/oshpux11iv3.html> (navigate to **Release Notes**).

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1 How to use this document

The purpose of the HP-UX 11i Version 3 September 2009 release notes

This document is part of a series. Each document in the series describes what is new, changed, deprecated, or obsoleted since the previous release of HP-UX 11i v3 (or, in the case of the initial, February 2007, release, since the September 2005 release of HP-UX 11i v1 and the June 2006 release of HP-UX 11i v2).

As with other HP-UX release notes, the *HP-UX 11i Version 3 September 2009 Release Notes* does not completely document all the features of this release. Instead, it contains high-level information and pointers to more detailed 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 v3 Operating Environments (OE) media.

<http://docs.hp.com/en/oshpux11iv3.html>

About the Initial HP-UX 11i v3 Release Notes (February 2007) The *HP-UX 11i Version 3 Release Notes* describes what is new, has changed, or has been deprecated or obsoleted in HP-UX 11i v3 since the following two releases:

- HP-UX 11i v1 September 2005 Operating Environment Update Release
- HP-UX 11i v2 June 2006 Operating Environment Update Release

The *HP-UX 11i Version 3 Release Notes* addresses two sets of customers: those who are migrating from the HP-UX 11i v1 September 2005 release; and those are migrating from the HP-UX 11i v2 June 2006 release.



NOTE: Revisions to the *HP-UX 11i Version 3 Release Notes* (February 2007) are contained in the *HP-UX 11i v3 Release Notes Errata*, Edition 3, MPN 5992-5827, located at <http://docs.hp.com/en/oshpux11iv3.html> (navigate to **Release Notes**).

Where you should begin

This book is organized in such a way that you need only read Chapter 3: “What is new at a glance” (page 33) for a quick overview of what is new, has changed, and has been deprecated or obsoleted in the current and previous HP-UX 11i v3 releases.

Chapter 3 contains a set of summaries for each update (or the initial) release. Each summary in the set contains a very high-level sampling of the changes for a single product or feature.



NOTE: For the initial (February 2007) release of HP-UX 11i v3, you will find *two* sets of change-summaries in Chapter 3: one set of change-summaries for customers migrating from HP-UX 11i v1 and one set of change-summaries for customers migrating from HP-UX 11i v2.

For further information about a particular item, follow the cross-reference to the corresponding section in the remainder of the book or, if the item pertains to a previous release, go to an earlier version of this document.

The *HP-UX Release Notes* document does not provide exhaustive information about the changes in any one product or feature. It provides only high-level highlights and pointers to product-specific documentation. For more detailed information, you should see the product’s own documentation, especially if you would like to learn more about defect fixes, known problems, and work-arounds.

About defect fixes In general, information about defect fixes are not provided in the *HP-UX 11i v3 Release Notes*. For details of defect fixes, refer to the product’s own documentation (such as product release notes).

About known problems For information about known problems that relate to the installation and update of HP-UX 11i v3, see the following documents for the current release. Both can be found at <http://www.docs.hp.com/en/oshpux11iv3.html>.

- *HP-UX 11i v3 installation and update guide* (see Appendix A: “Known install and update problems”)
- *HP-UX 11i v3 read before installing or updating* (also provided as a booklet in the OEUR media kit)

For information about product-specific known problems, refer to the product's own documentation (such as product release notes).

About manpages The most current HP-UX manpages are provided by the product release or patch and can be viewed using the man command. The HP-UX manpages on the web may not include the most recent updates.

2 Introduction to HP-UX 11i version 3

This chapter provides an introduction to HP-UX 11i v3 and the Operating Environments, along with information about compatibility and compatibility issues.

Welcome to HP-UX 11i version 3

HP-UX 11i v3 is an enterprise release delivering the highest level of integrated virtualization and automation. HP-UX 11i v3 dynamically reduces complexity and cuts deployment times to maximize return on investment.

Some key highlights of HP-UX 11i v3 include advancements in performance, integrated multi-pathing, new security and availability offerings which provide increased resiliency, layered security and in-depth protection, Hyper-Threading (HT) Technology support using Dynamic LCPU, and multi-OS management across HP-UX and other HP supported OS's. HP-UX 11i and Virtual Server Environment (VSE) solutions accelerate deployment times.

With the March 2008 release, HP began offering new HP-UX 11i v3 Operating Environments. The new Operating Environments, which offer a richer set of products, are available only for version 3 of HP-UX 11i. Customers requiring versions 1 or 2 of HP-UX 11i may still purchase the original set of Operating Environments through the end of their planned sales life. For detailed information on the new HP-UX 11i v3 Operating Environments, please see:

<http://www.hp.com/go/hpux11iv3>

Information about the new OE contents is also available in this Release Notes document at “NEW HP-UX 11i v3 Operating Environments” (page 23).

Abundant information about the HP-UX 11i v3 release is available at the following websites:

- HP-UX 11i v3 for HP Integrity and HP 9000 servers
www.hp.com/go/hpux11iv3
- QuickSpecs: HP-UX 11i v2 & v3
http://h18004.www1.hp.com/products/quickspecs/12079_div/12079_div.PDF
- HP-UX 11i v3 on HP Integrity Servers
<http://h71028.www7.hp.com/ERC/downloads/5982-7653EN.pdf>

HP-UX 11i release names and release identifiers

Each HP-UX 11i release has an associated release name and release identifier. The `uname(1)` command with the `-r` option returns the release identifier. The following table shows the releases available for HP-UX 11i:

Table 2-1 HP-UX 11i Releases

Release Name	Release Identifier	Supported Processor Architecture
HP-UX 11i v1	B.11.11	PA-RISC
HP-UX 11i v1.5	B.11.20	Intel® Itanium®
HP-UX 11i v1.6	B.11.22	Intel® Itanium®
HP-UX 11i v2	B.11.23	Intel® Itanium® PA-RISC ¹
HP-UX 11i v3	B.11.31	Intel® Itanium® PA-RISC

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

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

```
# swlist | grep HP-UX11i
```

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

```
HP-UX11i-BOE B.11.31.0903 HP-UX Base Operating Environment
```

The above revision string signifies the following:

B.11.31 = HP-UX 11i v3

0903 = March 2009 Update Release

HP-UX 11i v3 Operating Environment install/update structure

HP-UX 11i v3 has an Operating Environment (OE) Install/Update structure that provides more flexibility in managing the products you wish to install and update on your system. The OE structure for HP-UX 11i v3 separates software components into several product categories, making it easier and more reliable for you to incrementally update your system with OE software components.

For more information about installation with the HP-UX 11i v3 OE structure, see the *HP-UX 11i Version 3 Installation and Update Guide*, available at <http://docs.hp.com/en/oshpux11iv3.html>.

HP-UX 11i v3 Software Bundles

HP-UX 11i v3 contains three types of OE software components:

- *Required*: Software and network driver bundles that are required and is always installed with the operating system. Software in this category cannot be deselected.
- *Recommended*: Software bundles that are recommended and should be installed because it fulfills required software dependencies, if any exist. You can manually deselect the bundles before you install or update your system.
- *Optional*: Software bundles that are not installed or updated by default. You must manually select these bundles before you install or update your system.

HP recommends that you do not deselect recommended bundles or remove them from your system unless you know for certain that the software contained in these bundles is not required for your operating environment.

For a detailed list of the required, recommended, and optional software bundles, see the *HP-UX 11i Version 3 Installation and Update Guide*, available at <http://docs.hp.com/en/oshpux11iv3.html>.

Original HP-UX 11i v3 Operating Environments

The March 2008 release of HP-UX 11i v3 was the last full Operating Environments Update Release (OEUR) provided for the following original HP-UX 11i Operating Environments (OEs):

- Foundation OE
- Enterprise OE
- Mission Critical OE
- Technical Computing OE

Although the end of sale for HP-UX 11i v3 media of original Operating Environments (March 2008 release) was October 30th 2008, you may still continue to purchase licenses for these products. These licenses, along with Operating Environment media for version 1 and version 2 will also be available until the planned end of sales life for the original OEs.

Information on v3 Operating Environments is located in this document at “NEW HP-UX 11i v3 Operating Environments” (page 23). Information on transition, support, and mapping from original to new v3 Operating Environments can be found at

<http://h20338.www2.hp.com/hpux11i/us/en/products/hpux11iv3-oes-support-costs.html>.

NEW HP-UX 11i v3 Operating Environments

Overview

The September 2009 release represents HP’s fourth release of new Operating Environments for version 3 of HP-UX 11i. These new Operating Environments, listed below, provide a richer set of products and improved choices over the original set of HP-UX 11i OEs.

Licenses for the original set of OEs are still available, and customers requiring versions 1 or 2 of HP-UX 11i may purchase the original set of Operating Environments through the end of their planned sales life. For more information on transition, mapping, etc. from original OEs to new OEs, please see:

<http://h20338.www2.hp.com/hpux11i/us/en/products/hpux11iv3-oes-support-costs.html>

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 new HP-UX 11i v3 OEs:

- **HP-UX 11i v3 Base OE (BOE)** — Provides integrated HP-UX functionality for customers requiring less complex installations. The BOE contains all the applications included in the Foundation OE, and improves the bundle set by adding much-requested products such as HP Process Resource Manager (PRM), APA, as well as math libraries and graphics for technical computing applications. This OE is bundled as HPUX11i-BOE. For more details, see “HP-UX 11i v3 Base Operating Environment” (page 23).
- **HP-UX 11i v3 Virtual Server OE (VSE-OE)** — Designed for customers seeking higher resource utilization or embarking on consolidation projects and need virtualization for a flexible UNIX environment. The VSE-OE contains all the products included in the BOE (and the original EOE) and adds a host of other products including the entire VSE Suite. This OE is bundled as HPUX11i-VSE-OE. For more details, see “HP-UX 11i v3 Virtual Server Operating Environment” (page 27).
- **HP-UX 11i v3 High Availability OE (HA-OE)** — For customer requiring high availability for large mission critical applications, this OE contains all the products included in the BOE (and the original EOE), plus applications such as HP Serviceguard and HA toolkits required to enable a mission-critical server. This OE is bundled as HPUX11i-HA-OE. For more details, see “HP-UX 11i v3 High Availability Operating Environment” (page 28).
- **HP-UX 11i v3 Data Center OE (DC-OE)** — For customers who need both flexibility and high availability, the Data Center OE provides mission critical virtualization by combining the robust product selection in the VSE-OE and HA-OE in one integrated and tested bundle. This OE contains all the products included in the BOE, VSE-OE, HA-OE (and the original MCOE) and is bundled as HPUX11i-DC-OE. For more details, see “HP-UX 11i v3 Data Center Operating Environment” (page 29).

HP-UX 11i v3 Base Operating Environment

The HP-UX 11i v3 Base Operating Environment is the standard OE from which the Virtual Server OE, High Availability OE, and Data Center OE have been derived by adding appropriate applications. The HP-UX 11i v3 Base OE includes the all the features of the original HP-UX 11i v3 Foundation OE, as well as features from the Technical Computing OE.

Along with the 64-bit HP-UX operating system, the Base OE contains the following features.



NOTE: For a description of the *recommended* core OS bundles, which are not listed here, see the *HP-UX 11i Version 3 Installation and Update Guide*, available at <http://docs.hp.com/en/oshpux11iv3.html>.

For definitions of *required*, *recommended*, and *optional*, see “HP-UX 11i v3 Software Bundles” (page 22).

For an overview of the features that are new or have changed in this release, see Chapter 3 (page 33).

Required Features

- CommonIO
- EMSWeb
- Event Monitoring Service
- Feature Enablement Patch Bundle (FEATURE11i)
- GigEther-00
- GigEther-01
- Hardware Enablement Patch Bundle (HWEnable11i)
- HP Instant Capacity (iCAP, formerly iCOD)
- HP Instant Capacity Manager
- HP WBEM Services for HP-UX
- HP-UX Accounts for Users and Groups
- HP-UX Disks and File Systems (fsweb)
- HP-UX Kernel Configuration
- HP-UX Peripheral Device Tool
- HP-UX Security Attributes Configuration
- IEther-00
- Judy Libraries
- Logical Volume Manager (LVM)
- Network Interfaces & Network Services Configuration (Ncweb)
- nPartition Commands
- nPartition Provider
- Obsolescence Bundle (for Updates only)
- ONCplus (NFS/AutoFS/CacheFS/NIS/RPC)
- Online Diagnostics
- OpenSSL
- Printer Management Tool
- Prop Plus (SysMgmtPlus)
- Provider Utils (ProviderSvcsBase)
- Quality Pack Patch Bundles (QPKBASE and QPKAPPS)
- scsiU320-00
- RAID-01
- Sendmail
- SerialSCSI-00
- SWGETTOOLS
- SWManager
- SysMgmtBASE

- SysMgmtMin
 - Software Distributor
- System Fault Management
- Update-UX
- USB-00
- VxFS 4.1

Recommended Features

- Distributed Systems Administration Utilities
- Dynamic nPartitions
- Dynamic Root Disk
- FibrChanl-00
- FibrChanl-01
- FibrChanl-02
- Firefox/Firefox Source
- GuestAvioLan
- GuestAVIOStor
- GNOME
- GTK/GTK Source
- GTK+ Libraries
- HostAVIOLan
- HostAVIOStor
- HP Auto Port Aggregation
- HP-ACC-Link
- HP Caliper
- HP CIFS Client
- HP CIFS Server
- HP Integrity VM Guest Support Libraries (VMGuestLib)
- HP Process Resource Manager
- HP Wildebeest Debugger
- HP-UX Bastille
- HP-UX FTP Server (WU-FTPD)
- HP-UX IPFilter
- HP-UX Java Runtime Environment (JRE) 5.0 (1.5)
- HP-UX Java Runtime Environment (JRE) 6.0
- HP-UX Java Development Kit (JDK) for the Java™ 2 Platform Standard Edition (J2SE) 5.0 (1.5)
- HP-UX Java Development Kit (JDK) for the Java 2 Platform Standard Edition 6 (Java™ SE 6) 6.0
- HP-UX Nameserver (BIND)
- HP-UX Software Development Kit and Runtime Environment for the Java 2 Platform Standard Edition v1.4
- HP-UX Secure Shell
- HP-UX WBEM Storage Indication Provider (DAS Provider)
- 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)
- Java for HP-UX Add-On C++ Libraries for SDK/JDK and RTE/JRE 1.4, 5.0, 6.0
- Java Runtime Plug-in (JPI) for HP-UX 1.4

- LDAP-UX
- Mozilla Application Suite
- Mozilla Source
- PAM Kerberos
- Partition Manager
- Perl
- PRMKernelSW
- PRMLibraries
- ProviderDefault Bundle
 - HP Application Discovery Agent (AppDiscAgent)
 - HP Global Workload Manager Agent
 - HP Integrity Virtual Machines Provider (VMProvider)
 - HP-UX WBEM Fibre Channel Provider
 - HP-UX WBEM File System Provider
 - HP-UX WBEM IOTree Indication Provider
 - HP-UX WBEM KC Providers
 - HP-UX WBEMP-LAN Provider (WBEMP-LAN-00)
 - HP-UX WBEM Online Operations Service Provider (OLOS)
 - HP-UX WBEM RAIDSA Provider
 - HP-UX WBEM SAS Provider
 - HP-UX WBEM SCSI Provider
 - HP-UX WBEM Storage Indication Provider (DAS Provider)
 - Utilization Provider
 - vPar Provider
- SATADVD-00
- Sec00 Security Tools
- Software Assistant
- SysMgmtWeb (contains HP System Management Homepage)
- Thunderbird/Thunderbird Source
- Tune-N-Tools
- VxFS 5.0

Optional Features

- 3D Graphics Run Time Environment
- 10GigEthr-00
- 10GigEthr-01
- Base VxTools 5.0
- Common Desktop Environment (all languages)
- Cpio Enhancement
- Dynamic System V Semaphore Tunables
- FIFOENH
- getenv Performance Enhancement
- HP MLIB
- HP MPI
- HP Pay per use
- HP Process Resource Manager Web GUI Systems Insight Manager Integration Files (PRMSIMTools)
- HP Systems Insight Manager

- HP Virtual Server Environment Management Software (VSEMgrt)
- HP-UX Atomic APIs (libatomic)
- HP-UX Auditing System Extensions
- HP-UX Host Intrusion Detection System (HIDS)
- HP-UX IPSec
- HP-UX Mobile IPv4
- HP-UX NSA (Network Server Accelerator) HTTP
- HP-UX Password Hash Infrastructure for HP-UX 11i v3
- HP-UX Role-based Access Control Extension
- HP-UX Security Containment Extensions
- HP-UX-SLP
- HP-UX Swapoff (Command)
- HyprFabrc-00
- IB4X-00 Driver for InfiniBand
- Ignite-UX
- ISOIMAGE-ENH
- IPv6 Upgrade for HP-UX 11i v3
- Kerberos Client (KRB5CLIENT)
- Libc Enhancement
- MallocNextGen
- MemFS
- Mobile IPv6
- Multimedia Streaming Protocols
- Numeric User Group Name
- PAX-ENH (Pax Enhancement)
- PCIMUX-00
- Java Out-of-Box
- RCEenhancement
- Red Hat Directory Server
- Security Level 10
- Security Level 20
- Security Level 30
- Software Package Builder
- TermIO-00
- UmountallEnh
- Virtual Server Environment Configuration Assistant (VseAssist)
- VxVM 5.0

HP-UX 11i v3 Virtual Server Operating Environment

The HP-UX 11i v3 Virtual Server Operating Environment is designed for customers seeking higher resource utilization, a robust set of manageability tools, or embarking on consolidation projects that require virtualization. The entire set of products contained in the original HP-UX 11i v3 Enterprise OE may also be found in the Virtual Server OE.

In addition to the features described previously in the HP-UX 11i v3 Base OE (upon which it is built), the Virtual Server OE includes the following additional features.



NOTE: For a description of the *recommended* core OS bundles, which are not listed here, see the *HP-UX 11i Version 3 Installation and Update Guide*, available at <http://docs.hp.com/en/oshpux11iv3.html>.

For definitions of *required*, *recommended*, and *optional*, see “HP-UX 11i v3 Software Bundles” (page 22).

For an overview of the features that are new or have changed in this release, see Chapter 3 (page 33).

Required Features

- See Required Features (page 24).

Recommended Features

- GlancePlus Pak
- High Availability Monitors
- HP Capacity Advisor LTU
- HP Global Workload Manager LTU
- HP Integrity Virtual Machines (VMGuestSW)
- HP Integrity VM Manager (VMMGR)
- HP Virtualization Manager LTU
- HP VSE Suite LTU
- HP-UX Workload Manager
- HP-UX Workload Manager Toolkits
- MirrorDisk/UX (not in BOE)
- OnlineJFS 5.0
- Plus the list in Recommended Features (page 25)

Optional Features

- HP Integrity Virtual Machines
- HP OnlineJFS 4.1
- HP-UX Virtual Partitions
- VMKernelSW
- Plus the list in Optional Features (page 26)

HP-UX 11i v3 High Availability Operating Environment

The HP-UX 11i v3 High Availability Operating Environment provides an integrated environment tested and designed for mission critical applications. The entire set of products contained in the original HP-UX 11i v3 Enterprise OE may also be found in the High Availability OE.

In addition to the features described previously in the HP-UX 11i v3 Base OE (upon which it is built), the High Availability OE includes the following features.



NOTE: For a description of the *recommended* core OS bundles, which are not listed here, see the *HP-UX 11i Version 3 Installation and Update Guide*, available at <http://docs.hp.com/en/oshpux11iv3.html>.

For definitions of *required*, *recommended*, and *optional*, see “HP-UX 11i v3 Software Bundles” (page 22).

For an overview of the features that are new or have changed in this release, see Chapter 3 (page 33).

Required Features

- See Required Features (page 24).

Recommended Features

- Enterprise Cluster Master Toolkit
- GlancePlus Pak
- High Availability Monitors
- HP Serviceguard
- HP Serviceguard NFS Toolkit
- MirrorDisk/UX (not in BOE)
- OnlineJFS 5.0
- Plus the list in Recommended Features (page 25)

Optional Features

- HP OnlineJFS 4.1
- Plus the list in Optional Features (page 26)

HP-UX 11i v3 Data Center Operating Environment

The Data Center Operating Environment is designed for customers who require both flexibility and high availability. Combining all the features of both the High Availability and Virtual Server OEs, the Data Center OE provides robust mission critical virtualization in an integrated and tested bundle. The entire set of products contained in the original HP-UX 11i v3 Mission Critical OE may also be found in the Data Center OE.

In addition to the features described previously in the HP-UX 11i v3 Base OE (upon which it is built), the Data Center OE includes the following features.



NOTE: For a description of the *recommended* core OS bundles, which are not listed here, see the *HP-UX 11i Version 3 Installation and Update Guide*, available at <http://docs.hp.com/en/oshpux11iv3.html>.

For definitions of *required*, *recommended*, and *optional*, see “HP-UX 11i v3 Software Bundles” (page 22).

For an overview of the features that are new or have changed in this release, see Chapter 3 (page 33).

Required Features

- See Required Features (page 24).

Recommended Features

- Enterprise Cluster Master Toolkit
- GlancePlus Pak
- High Availability Monitors
- HP Serviceguard
- HP Serviceguard NFS Toolkit

- HP Capacity Advisor LTU
- HP Global Workload Manager LTU
- HP Integrity Virtual Machines (VMGuestSW)
- HP Integrity VM Manager (VMMGR)
- HP Virtualization Manager LTU
- HP VSE Suite LTU
- HP-UX Workload Manager
- HP-UX Workload Manager Toolkits
- MirrorDisk/UX (not in BOE)
- OnlineJFS 5.0
- Plus the list in Recommended Features (page 25)

Optional Features

- HP Integrity Virtual Machines
- HP OnlineJFS 4.1
- HP-UX Virtual Partitions
- VMKernelSW
- Plus the list in Optional Features (page 26)

Software Pack (optional HP-UX 11i v3 core enhancements)

The HP-UX 11i v3 Software Pack (SPK) contains optional core enhancements for HP-UX 11i v3. For the September 2009 release of HP-UX 11i v3, the following SPK products have been added to the Operating Environments as optionally installed features/products:

- “ISOIMAGE-ENH” (page 118)
- “RC Enhancement (boot time improvement in HP-UX commands and rc scripts)” (page 125)

HP's Green Business Technology Initiative

In support of HP's Green Business Technology Initiative and move towards electronic delivery, printed documentation previously included in this software media offering is now being provided electronically. The documentation is available on the Instant Information CD/DVD-ROM or may be viewed, downloaded, and printed from the web at these locations:

- For HP-UX 11i v3:
<http://www.docs.hp.com/en/oshpux11iv3.html>
- For HP-UX 11i v2:
<http://www.docs.hp.com/en/oshpux11iv2.html>
- For HP-UX 11i v1:
<http://www.docs.hp.com/en/oshpux11i.html>

The following books are offered for each HP-UX 11i version:

- Installing and Updating
- Release Notes
- System Administration
- User Guides

Links to “Localized documentation” are found on the left navigation bar, including *Configuring HP-UX for Different Languages*.

Furthermore, please note that the entire docs.hp.com content is being migrated to the HP Business Support Center (BSC) website, which houses both technical documentation and additional product support information. The migration of the HP-UX documentation collection is scheduled

for completion this fall. When complete, under the HP-UX section of the <http://docs.hp.com> homepage, you will find a link to redirect you to the new Business Support Center location. For more information, visit the “More info on document moves to BSC” section at the bottom of the <http://docs.hp.com/> homepage.

HP-UX 11i compatibility for HP Integrity and HP 9000 Servers

Hewlett-Packard (HP) understands your need for investment protection. By providing multiple levels of compatibility between operating system versions, between hardware platforms, on virtual machines, and even between chip architectures, we believe the HP-UX operating system provides the most comprehensive investment protection in the industry.

For more information about HP-UX compatibility, see the white paper at <http://www.hp.com/go/hpux11compatibility>

Compatibility issues or exceptions in HP-UX 11i v3 September 2009

Compatibility issues or exceptions have been noted for the following products or features in HP-UX 11i v3 September 2009. For details, see the indicated pages.

Chapter 5 (page 101)

- “Application Discovery agent” (page 104)
- “ProviderSvcsBase” (page 123)

Chapter 8 (page 145)

- “HP-UX Host Intrusion Detection System” (page 147)
- “HP-UX IPsec” (page 148)

Chapter 10 (page 155)

- “Perl” (page 157)

3 What is new at a glance

This chapter provides a quick overview of what is new, has changed, and has been deprecated or obsoleted in each HP-UX 11i v3 release. For further details, see the cross-referenced pages in the remainder of this book or, as noted, in previous editions.



NOTE:

About defect fixes In general, information about defect fixes are not provided in the *HP-UX 11i v3 Release Notes*. For details of defect fixes, refer to the product's own documentation (such as product release notes).

About known problems For information about known problems that relate to the installation and update of HP-UX 11i v3, see the following documents for the current release. Both can be found at <http://www.docs.hp.com/en/oshpux11iv3.html>.

- *HP-UX 11i v3 installation and update guide* (see Appendix A: "Known install and update problems")
- *HP-UX 11i v3 read before installing or updating* (also provided as a booklet in the OEUR media kit)

For information about product-specific known problems, refer to the product's own documentation (such as product release notes).

About manpages The most current HP-UX manpages are provided by the product release or patch and can be viewed using the `man` command. The HP-UX manpages on the web may not include the most recent updates.

What is new in the HP-UX 11i v3 September 2009 release

In the following summaries, you can obtain a general picture of how the September 2009 release of HP-UX 11i v3 differs from the March 2009 release of HP-UX 11i v3.

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

Chapter 2 (page 21)

- Software Pack (Optional HP-UX 11i v3 Core Enhancements): New products (ISOIMAGE-ENH and RCEnhancement) are available in the Operating Environments as optional products. See “Software Pack (optional HP-UX 11i v3 core enhancements)” (page 30).
- HP's Green Business Technology Initiative: Previously printed books will now be delivered electronically. Additionally, documentation at <http://docs.hp.com> will be migrated to the BSC. See “HP's Green Business Technology Initiative ” (page 30).

Chapter 4 (page 87)

- CommonIO: Updated with quality improvements. See “CommonIO” (page 87).
- Hardware Enablement Bundle for HP-UX 11i v3: Provides support for new PCI-Express I/O adapters in HP Integrity Servers, and HP-UX support for HP servers using PA8900 processors or latest Intel Itanium processors. Includes new HP-UX 11i v3 patches for support of new tape devices using the LTO5 format. New patches were also added for future graphics adapters, along with PCIe Error Recovery, and improved support for USB devices. See “Hardware Enablement Bundle for HP-UX 11i v3” (page 87).
- HP Instant Capacity: Updated to version B.11.31.09.02.00. Performance of GiCAP enhanced. Group Manager can now accept members with longer passwords. See “HP Instant Capacity” (page 99).
- iCAP Manager: Complex names containing special characters are now displayed correctly. See “iCAP Manager” (page 100).
- “Networking and mass storage drivers” (page 88)
 - 10GigEthr-01 Updated with quality improvements. See “10GigEthr-01” (page 88).
 - 10GigEthr-02: Supports future products. As a result, there are no changes that affect customer systems. See “10GigEthr-02” (page 89).
 - FibrChanl-00: Updated to version B.11.31.0909 to incorporate defect fixes. See “FibrChanl-00 ” (page 95).
 - FibrChanl-01: Updated with quality improvements. See “FibrChanl-01” (page 95).
 - FibrChanl-02 Updated with quality improvements. See “FibrChanl-02 ” (page 96).
 - GigEther-01: Updated to incorporate defect fixes. See “GigEther-01” (page 89).
 - IB4X-00 Driver for InfiniBand: Supports the Reliable Datagram Sockets (RDS) protocol for Oracle RAC environments. Only on AH304A and 448262-B21. See “IB4X-00 Driver for InfiniBand” (page 91).
 - IEther-00: Updated with quality improvements. See “IEther-00” (page 90).
 - PCIMUX-00: Updated to version B.11.31.0909 to incorporate defect fixes. See “PCIMUX-00” (page 92).
 - RAID-01: Updated with quality improvements. See “RAID-01” (page 92).
 - **New:** SATADVD-00: Newly added to the OEs as a recommended (default-installed) product. Supports future products. See “SATADVD-00” (page 96).
 - scsiU320-00: Updated with quality improvements. See “scsiU320-00” (page 93).

- SerialSCSI-00: Updated with quality improvements. See “SerialSCSI-00” (page 93).
- USB-00: Version D.11.31.0909 enables the enhanced legacy USB driver stack, with quality improvements, and added functionality which includes support for USB 2.0 high speed devices and DVD write capability. See “USB-00” (page 94).
- Mass Storage Stack: Enhanced to do intelligent congestion control in a HP Serviceguard (SG) cluster environment. Requires Serviceguard patch PHSS_39614. See “Mass Storage Stack” (page 97).

Chapter 5 (page 101)

- Dynamic Root Disk: Includes enhancements to improve performance and provide a more robust experience. See “Dynamic Root Disk” (page 101).
- EMSWeb: Includes defect fixes. See “EMSWeb” (page 101).
- FEATURE11i: Includes support for improved dump time and dump analysis tools, file system enhancements including MemoryFS, performance improvements for multithreaded applications, Locality-Optimized Resource Alignment (LORA), allowing vPars users improved performance, power minimization and management enhancements, Internationalization improvements, and many other enhancements. Japanese manpage patches added. See “Feature Enablement Patch Bundle (Feature11i)” (page 102).
- “HP Partitioning and Virtual Server Environment” (page 103)
 - Accelerated Virtual I/O (AVIO): Updated to incorporate defect fixes. See “Accelerated Virtual I/O (AVIO)” (page 103).
 - Application Discovery agent (AppDiscAgent): Updated to incorporate defect fixes. See “Application Discovery agent” (page 104).
 - HP Virtual Server Environment (VSE): HP Application Discovery, HP Global Workload Manager (gWLM), Instant Capacity (iCAP) Manager updated to incorporate defect fixes. See “HP Virtual Server Environment (VSE)” (page 106).
 - HP-UX nPartition Configuration Commands: Introduces two new commands (`pardefault` and `pardbmgr`) on the latest Integrity Superdome systems. See “HP-UX nPartition Configuration Commands” (page 107).
 - nPartition Provider: Updated to support the latest HP Integrity systems. See “nPartition Provider” (page 108).
 - Utilization Provider: Updated to version A.01.08.02.01 to support VSE Management Software and HP Insight Dynamics - VSE version 4.1 Update 1. See “Utilization Provider” (page 108).
 - vPar Provider: Now supported on HP Integrity Superdome systems. Also incorporates defect fixes. See “vPar Provider” (page 109).
- HP Serviceguard NFS Toolkit: Enhanced to provide Modular Package support. See “HP Serviceguard NFS Toolkit ” (page 110).
- HP System Management Homepage: Now supports IPv6, Internet Explorer v8, and long-length passwords in shadow password mode. Also incorporates defect fixes. See “HP System Management Homepage” (page 111).
- HP Systems Insight Manager: Includes new hardware support and enhanced providers support. See “HP Systems Insight Manager ” (page 111).
- HP-UX Accounts for Users and Groups (ugweb): Supports long passwords up to 255 characters when in shadow password mode. See “HP-UX Accounts for Users and Groups (ugweb)” (page 113).
- HP-UX Disks and File Systems (fsweb): With the enhancements in this version, you can now take advantage of the improvements being done in the higher versions of volume groups. Also incorporates defect fixes. See “HP-UX Disks and File Systems (fsweb)” (page 114).
- HP-UX Kernel Configuration (kcweb): Incorporates defect fixes. See “HP-UX Kernel Configuration (kcweb)” (page 115).

- HP-UX Peripheral Devices Manager (pdweb): Offers the capability to enable and disable SAS (Serial Attached SCSI) adapters. See “HP-UX Peripheral Devices Manager (pdweb)” (page 115).
- HP-UX Software Assistant: Includes improvements in the integration with HP-SIM. See “HP-UX Software Assistant” (page 116).
- Ignite-UX: Allows NFS to replace TFTP when downloading files from the Ignite-UX server. **Guided Installation User Interface Option** has been removed. See “Ignite-UX” (page 117).
- **New: ISOIMAGE-ENH:** Provided in a new DLKM module. Required to mount, read and umount the ISO Image file. Software Pack product. See “ISOIMAGE-ENH” (page 118).
- Logical Volume Manager: Includes new command (vgmove), enhancements to pvmove, and command enhancements for shared volume groups, plus support for forced deactivation. See “Logical Volume Manager” (page 118).
- Network Interfaces Configuration and Network Services Configuration: Two additional attributes are included for modifying IP attributes in the NIC area. See “Network Interfaces Configuration and Network Services Configuration” (page 120).
- Online Diagnostics: Starting from September 2009, OnlineDiag will not be supported on newer platforms. System Fault Management (SysFaultMgmt) will be the default monitoring mode on both older and newer platforms. This release includes defect fixes. See “Online Diagnostics” (page 120).
- Printer Management (web-based): Updated with defect fixes. See “Printer Management (web-based)” (page 121).
- PropPlus (SysMgmtPlus): New command line tool, cprop, provides equivalent information of GUI. .New "Health Test" feature is supported when ProviderSvcsBase is installed. See “PropPlus (SysMgmtPlus)” (page 122).
- ProviderSvcsBase: Provides an infrastructure for running health tests as a functionality support for WBEM Providers. Also enables the providers to update, retrieve, and archive events from postgres database. See “ProviderSvcsBase” (page 123).
- Quality Pack Patch Bundles: Updated for September 2009. See “Quality Pack Patch Bundles” (page 124).
- **New:** RC Enhancement (boot time improvement in HP-UX commands and rc scripts): By installing specific products, you may see improved boot time. See “RC Enhancement (boot time improvement in HP-UX commands and rc scripts)” (page 125).
- Software Distributor: IPv6 support is enabled along with defect fixes. See “Software Distributor (SD)” (page 126).
- Software Package Builder: Enhanced to enforce HP-UX Packaging Policy Rules related to requisites. See “Software Package Builder” (page 126).
- System Fault Management: Introduces new providers, includes Logviewer enhancement, new property pages, health test, and more. See “System Fault Management” (page 127).
- Tune-N-Tools: Added another tunable *maxssiz* to the list of kernel parameters. Added new *prebind(1M)* tool, which can be used to improve the startup time of frequently used shared executables. See “Tune-N-Tools” (page 129).
- Update-UX: Updated to incorporate defect fixes. No new features or functionality in update-ux. See “Update-UX and SW-GETTOOLS” (page 130).
- “WBEM services and providers” (page 130)
 - HP WBEM Services for HP-UX: Now based on OpenPegasus 2.9 source base and CIM Schema 2.17.1; a command-based troubleshooting utility, *wbemassist*, is introduced; CIM repository is now a database. See “HP WBEM Services for HP-UX” (page 130).
 - Direct Attached Storage Provider (DAS Provider): Requires ProviderSvcsBase product. Incorporates defect fixes. See “Direct Attached Storage Provider (DASProvider)” (page 132).
 - HP-UX WBEM Fibre Channel Provider: Updated to incorporate a defect fix. See “HP-UX WBEM Fibre Channel Provider” (page 132).

- HP-UX WBEM Online Operations Service Provider: Updated to incorporate defect fixes. See “HP-UX WBEM Online Operations Service Provider” (page 133).
- HP-UX WBEM RAIDSA Provider: Requires ProviderSvcBase product to be installed on Integrity systems to obtain Smart Array HBA attribute details. See “HP-UX WBEM RAIDSA Provider” (page 134).
- HP-UX WBEM SAS Provider: A native indication provider is supported on the latest HP Integrity system. See “HP-UX WBEM SAS Provider” (page 135).
- HP-UX WBEMP-LAN Provider: Enhanced to provide additional information through HP SMH. Also incorporates defect fixes. See “HP-UX WBEMP-LAN Provider” (page 135).

Chapter 6 (page 137)

- MemFS: New mount options added to modify the permissions and ownership of root of the file system during mount. Will eliminate the need to modify the permissions/ownership of root after every mount. See “MemFS” (page 137).
- Updated to version B.11.31.07.01 to incorporate defect fixes. See “ONCplus” (page 137).
- VERITAS File System (VxFS): VxFS 5.0 is delivered as a recommended (default-installed) product. VxFS 4.1 is delivered as a required (always-installed) product. See “VERITAS File System (VxFS)” (page 138).

Chapter 7 (page 141)

- HP CIFS Server: Updated to version A.02.04 release. Supports Windows Server 2008 and Windows Vista operating systems. Incorporates defect fixes. See “HP CIFS Server” (page 142).
- “HP-UX Web Server Suite” (page 142)
 - HP-UX Apache-based Web Server: v.2.0.59.11 is primarily a security/bug fix release. See “HP-UX Apache-based Web Server” (page 143).
 - HP-UX Tomcat-based Servlet Engine: version upgrade to 5.5.27.02: Implements the Servlet 2.4 and JavaServer Pages 2.0 specifications. Designed to run on JDK 1.5 (5.0) and later versions. See “HP-UX Tomcat-based Servlet Engine” (page 144).
- Firefox, FirefoxSrc: Updated to version 2.0.0.19. Fixes several security vulnerabilities reported by the Mozilla Foundation. .See “Browsers” (page 141).
- Thunderbird, ThunderbirdSrc: Updated to version 2.0.0.19. Fixes several security vulnerabilities reported by the Mozilla Foundation. .See “Browsers” (page 141).

Chapter 8 (page 145)

- HP-UX Auditing and Security Attributes Configuration (secweb): Provides capability to modify and delete custom events that are set for auditing. See “HP-UX Auditing and Security Attributes Configuration (secweb)” (page 145).
- HP-UX Auditing System Extensions: Provides two features: Audit Filtering Tools and Audit Reporting Tools. Includes defect fixes. See “HP-UX Auditing System Extensions” (page 145).
- HP-UX Host Intrusion Detection System: Version 4.3 includes only defect fixes. See “HP-UX Host Intrusion Detection System” (page 147).
- HP-UX IPSec: Version A.03.00 includes changes to the areas of IKE Policy, Authentication Record, Host and Tunnel Policy, and much more. Mobile IPv6 support and Gateway Policies are obsolete. See “HP-UX IPSec” (page 148).
- HP-UX Secure Shell: Version A.05.20 is linked with OpenSSL A.00.09.8k instead of OpenSSL A.00.09.8j. Incorporates new features introduced in OpenSSH5.2p1. See “HP-UX Secure Shell” (page 149).
- HP-UX Software Assistant: Includes improvements in the integration with HP-SIM. See “HP-UX Software Assistant” (page 150).
- OpenSSL: Updated to incorporate defect fixes. See “OpenSSL” (page 151).
- PAM Kerberos: Incorporates defect fixes. See “PAM Kerberos ” (page 152).

Chapter 9 (page 153)

- *ioscan(1M)*: The `-P` option enhanced to accept two properties: *ms_scan_time* and *physical_location*. See “*ioscan(1M)*” (page 153).
- *mediainit(1)*: Enhanced to provide a new option, `-V`, which makes the command validate the scrub operation. See “*mediainit(1)*” (page 153).
- **New:** *mincore(2)* system call: Reports on the core residency of memory pages. Will enable Independent Software Vendors (ISVs) to provide memory capacity planning tools. See “*mincore(2)* system call” (page 154).

Chapter 10 (page 155)

- “Java 2 Standard Edition Platform” (page 155)
 - JDK/JRE version 6.0.04: Update includes the Sun 6.0u12 and 6.0u13 releases functionality. Incorporates defect and security bulletin fixes. IPv6 support is improved and new flags have been added. See “Java JDK/JRE for HP-UX” (page 155).
 - JDK/JRE version 5.0.16 : Update includes the Sun 5.0u18 release functionality. Incorporates defect and security bulletin fixes. IPv6 support is improved. See “Java JDK/JRE for HP-UX” (page 155).
 - SDK/RTE version 1.4.2.22: Update includes the Sun 1.4.2_20 release functionality. Incorporates defect and security bulletin fixes. See “Java JDK/JRE for HP-UX” (page 155).
- `libc`: With the new APIs added in September 2009, 32-bit applications can compute time beyond 2038. See “`libc`” (page 156).
- Perl: Version 5.8.8 incorporates defect fixes and performance improvements. Delivered from OpenSource, rather than ActiveState. See “Perl” (page 157).

Chapter 11 (page 159)

- **New:** Devanagari (Indic) TrueType Fonts: You can now print and display text written in Devanagari script. See “Devanagari (Indic) TrueType fonts” (page 159)
- `iconv` codeset conversion: Command and APIs for the Integrity platform are updated to check the `/usr/lib/nls/iconv/config.iconv` configuration file for user or third-party application added codeset converters. See “`iconv` codeset conversion” (page 160).
- Internationalized PostScript Printing: Supports the printing and proper shaping of Arabic, Hebrew, Thai, and Devanagari (Indic) characters. See “Internationalized PostScript printing” (page 160).

Chapter 12 (page 163)

- **New:** Locality-Optimized Resource Alignment (LORA): A framework for delivering ease-of-use and improved performance on HP servers with Non-Uniform Memory Architecture (NUMA). Delivered through patches in the `FEATURE11i` bundle on all OEs. See “Locality-Optimized Resource Alignment (LORA)” (page 163).

What is new in the HP-UX 11i v3 March 2009 release

The following summaries pertain to the HP-UX 11i v3 March 2009 release. In particular, they provide general picture of how the March 2009 release of HP-UX 11i v3 differs from the September 2008 release of HP-UX 11i v3. For further information, see the indicated chapters in the *HP-UX 11i Version 3 March 2009 Release Notes*, available in its most current version at

<http://docs.hp.com/en/oshpux11iv3.html>

March 2009 Release Notes, Chapter 2: “Introduction to HP-UX 11i Version 3”

- Software Pack (Optional HP-UX 11i v3 Core Enhancements): Several new and updated Software Pack products are available in the Operating Environments as optional products.

March 2009 Release Notes, Chapter 4: “Hardware-Specific Information”

- CommonIO: Updated with quality improvements.
- **New:** Dynamic P-States Feature: Adds the ability to control processor performance from within HP-UX, allowing systems to conserve power when not fully loaded. Requires Intel® Itanium® 9100 series or later processors.
- Hardware Enablement Bundle for HP-UX 11i v3 (HWEenable11i): Includes support for new PCI-Express I/O adapters in HP Integrity Servers, and HP-UX support for HP servers with PA8900 processors and the sx2000 chipset. Also includes new HP-UX 11i v3 patches that improve PCIe Error Recovery (ER) and support of new PCIe devices. New patches were also added for CPU and memory On-Line Addition/Deletion (OLAD) for future HP platforms.
- Mass Storage Stack: Enhancements include congestion control, server manageability, ease-of-use, and I/O performance.
- Networking and Mass Storage Drivers
 - FibrChan1-00: Updated to version B.11.31.0903 for a defect fix.
 - FibrChan1-01: Updated with quality improvements.
 - FibrChan1-02: Updated with quality improvements.
 - GigEther-00: Updated to incorporate defect fixes.
 - GigEther-01: Updated to incorporate defect fixes.
 - IB4X-00 Driver for InfiniBand: Supports the Reliable Datagram Sockets (RDS) protocol for Oracle RAC environments and for connectivity to the HP/Oracle Exadata intelligent storage cell.
 - IEther-00: Updated with quality improvements.
 - RAID-01: Updated with quality improvements.
 - scsiU320-00: Updated with quality improvements.
 - SerialSCSI-00: Updated with quality improvements.
 - USB-00; Version D.11.31.0903 bundle enables the new USB 2.0 support.
- Utility Pricing Solutions
 - HP Instant Capacity: Updated to version B.11.31.09.01.00. Provides more versatility in configuring GiCAP groups (with IPV6) and more functionality with gWLM and iCAP Manager; and defect fixes.

March 2009 Release Notes, Chapter 5: “General System Administration”

- Distributed Systems Administration Utilities: You can benefit from the ease-of-use that the web-based interface provides for configuration synchronization and consolidated logging.
- Dynamic Root Disk: You will be able to update your OE level on the clone while your original system remains up and running. Once the update on the clone is done, you can boot the clone and keep your original image as backup. Defect fixes and packaging changes involving run time checks and dependencies are also being introduced.
- Enterprise Cluster Master Toolkit: Version B.05.00 includes support for Modular Packages, Oracle 11g R1, Oracle 10g R2 ASM on Itanium servers, and more.

- Event Monitoring Service: Updated to incorporate defect fixes.
- Feature Enablement Patch Bundle (FEATURE11i): Updated for HP-UX 11i v3 with patches that enhance or provide new core features (including performance improvements) and enable support for improved dump time and dump analysis tools, file system enhancements including MemFS, performance improvements for multithreaded applications, power minimization and management enhancements, Internationalization improvements, and many other enhancements.
- FirstBoot: Updated to support Dynamic Root Disk (DRD).
- High Availability Monitors: Updated to incorporate defect fixes.
- “HP Partitioning and Virtual Server Environment” (page 103)
 - Accelerated Virtual I/O (AVIO) (includes GuestAvioLan, HostAvioLan, GuestAVIOStor, and HostAVIOStor): Provide significant performance improvements over the existing VIO products and support Integrity VM Online Guest Migration with Integrity VM V4.1.
 - HP Application Discovery (AppDiscAgent): You will obtain more reliable behavior and data from Application Discovery agent. You no longer need to configure the agent on installation.
 - HP Integrity Virtual Machines (Integrity VM): Updated to version 4.1. Includes support for online VM migration, SSH 3rd-party alternative for secure communications, and more.
 - HP Integrity VM Guest Support Libraries (VMGuestLib): Upgrade to Version 4.1 includes support for the new features of HP Integrity Virtual Machines V4.1.
 - **New:** HP Integrity Virtual Machines (VMGuestSW): A repackaging of the software on the Integrity VM virtual machines that was contained in the T2767BC bundle to the VMGuestSW bundle.
 - HP Integrity Virtual Machines (VMKernelSW): Updated in support of the Integrity VM V4.1.
 - **New:** HP Integrity Virtual Machines Manager: Enables managers to view and manipulate Integrity VM resources on VM Hosts running HP-UX 11.31. VM Manager supports HP Integrity Virtual Machines V4.0, including support of HP-UX 11.31 agile storage device addressing and other features. Newly added as optional software on the VSE-OE and DC-OE.
 - HP Integrity Virtual Machines Provider (VM Provider): Upgrade to V4.1 supports the new features of HP Integrity Virtual Machines V4.1, including support for Online VM Migration.
 - HP Process Resource Manager: With version C.03.05, you can now have PRM use the real user ID for placing processes based on user records.
 - HP Virtual Server Environment (VSE) Management Software: In version 4.1 (A.04.01.00), the following components were added or updated:
 - HP Virtualization Manager
 - Logical Server Management
 - HP Integrity Virtual Machines Manager
 - HP Application Discovery
 - HP Capacity Advisor
 - HP Partition Manager
 - Virtual Server Environment Configuration Assistant
 - HP Process Resource Manager

For information about the above components and about licensing requirements, see the VSE section.
 - **New:** HP-UX nPartition Configuration Commands: New command *parconfig(1M)* runs a set of the Locality-Optimized Resource Alignment (LORA) rules and provides

recommended configuration of the nPartition that is LORA compliant. (LORA will be released in the future.)

- HP-UX Virtual Partitions: Includes defect fixes and will support LORA when the feature is released.
- Partition Manager: Includes a defect fix.
- Utilization Provider: Updated to version A.01.08.01.02 to support VSE Management Software and HP Insight Dynamics - VSE version 4.1. Supports dynamic nPartition systems and is now available for both 32-bit and 64-bit HP ProLiant Linux systems.
- PRMLibraries: Version number has changed to stay in-sync with the B3835DA (HP PRM) bundle.
- PRMKernelSW Version number has changed to stay in-sync with the B3835DA (HP PRM) bundle.
- PRMSIMTools: Updated to support the new features of HP PRM.
- HP Serviceguard: Version A.11.19 provides faster failover, improved cluster and package uptime, more robust network monitoring, greater scope and flexibility in network configuration, and more.
- HP Serviceguard NFS Toolkit: Updated to incorporate a set of defect fixes.
- HP System Management Homepage: Provides better user experience by offering custom views - icon and list, and controls to determine settings such as session timeout and login page display. Additionally, you can now determine software dependency using the new `smhassist` command.
- HP Systems Insight Manager: Version 5.3 includes support for display of IPv6 addresses, improved Linux identification, improved discovery and identification of ESX hosts, and more. HP Insight Power Manager no longer contained by HP SIM version 5.3 and later.
- HP-UX Disks and File Systems (`fswb`): You can now perform backup and recovery tasks using a web-based interface, and can resize VxFS 5.0 without unmounting the file system. Reporting and auditing of changes to Veritas file systems is improved. With the newly available file system consistency check feature, you are better equipped to diagnose and manage corrupted file systems.
- HP-UX Kernel Configuration (`kweb`): Updated to incorporate defect fixes.
- HP-UX Peripheral Devices Manager (`pdweb`): Offers additional diagnostics features for Fibre Channel (FC) adapters.
- HP-UX Software Assistant: Updated to version C.02.11. Now allows you to select the analyzers to be used when generating reports within HP SIM and now supports Java™ SE6. And more.
- iCAP Manager: Updated to provide configuration capabilities for Instant Capacity on a single system. Provides capability to apply an Instant Capacity codeword, modify Instant Capacity properties, and change the number of active cores on the system.
- Ignite-UX: Updated to version C.7.8. Includes improved Ignite and vPars interaction on 11i v3, ability to avoid use of TFTP networking, ability to use Ignite on a network that has IPV6 enabled, and more.
- Logical Volume Manager: Includes `vgmodify` command enhancements that enable you to handle the physical volume size changes and modify configuration parameters of an existing LVM volume group belonging on all supported volume group versions. Also includes new command, `vgversion`, which enables you to take advantage of the improvements in volume group Version 2.0 and higher, and to get higher limits, in-place volume group migration from 1.0 to 2.0 and higher. Plus much more.
- Network Interfaces Configuration and Network Services Configuration: You can now use the HP SMH web interface for managing IPv6 neighbor discovery cache.

- **Obsolescence Bundle:** Used during an update when obsolete software on the system needs to be removed. Is automatically selected for updates. During the update process selected obsolete or incompatible products and/or drivers are removed.
- **Online Diagnostics:** Updated to support new and future devices, and to incorporate defect fixes. Has new pre-requisite.
- **Printer Management (web-based):** Includes defect fixes.
- **New: PropPlus (SysMgmtPlus):** Enhances the property pages of HP SMH by adding additional details and introducing dynamic capability to the web page. Newly added as a required (always-installed) product in all OEs.
- **New: ProviderSvcsBase:** Provides a new logging daemon that reads error log records from the HP-UX kernel and stores them in the circular log files, which can be read by user space processes. Upon storing the error records in log files, the daemon sends EVM notification to the clients that are interested in reading the error logs.
- **Quality Pack Patch Bundles:** Updated for the March 2009 OEUR.
- **Software Distributor (SD):** Updated to incorporate defect fixes. Now delivered in the SysMgmtMin bundle instead of the SwMgmtMin bundle.
- **Software Package Builder:** Updated to incorporate defect fixes.
- **System Fault Management:** With new CIMUtil command, one can enumerate instances related to various devices and create filters, handlers, and subscriptions that SFM supports. No longer supports storage disks; instead, they are supported by DAS Provider. Has new pre-requisite
- **Update-UX and SW-GETTOOLS:** Updated to reflect defect fixes. There are no new features or functionality in update-ux.
- **WBEM Services and Providers**
 - **HP WBEM Services for HP-UX:** Updated to version A.02.07.04, which is a minor update to the HP WBEM Services A.02.07 that is already released with HP-UX 11i v1, 11i v2 and 11i v3.
 - **New: Direct Attached Storage Provider (DAS Provider):** Contains Indication and Instance providers which deliver information about the direct attached storage devices on a HP-UX 11.31 server. Delivered as a recommended (default-installed) product on all OEs.
 - **HP-UX WBEM Fibre Channel Provider:** HP System Management Homepage (HP SMH) web page display is enhanced to provide detailed information about the FC adapter installed on the system. And more.
 - **HP-UX WBEM IOTree Indication Provider:** System Management Homepage (HP SMH) web page display is enhanced to provide detailed information about PCI I/O subsystem installed on the system.
 - **HP-UX WBEM Kernel Providers:** Boot provider supports Modify Instance feature, which enables the user to modify boot instance parameter values.
 - **HP-UX WBEM Online Operations Service Provider:** Updated to incorporate a defect fix.
 - **HP-UX WBEM RAIDSA Provider:** System Management Homepage (HP SMH) web page display is enhanced to provide detailed information about Smart Array HBAs installed on the system. And more.
 - **HP-UX WBEM SAS Provider:** System Management Homepage (HP SMH) web page display is enhanced to provide detailed information about SAS HBAs installed on the system. And more.
 - **HP-UX WBEM SCSI Provider:** System Management Homepage (HP SMH) web page display is enhanced to provide detailed information about SCSI HBAs installed on the system. And more.
 - **HP-UX WBEMP-LAN Provider:** You can obtain detailed Ethernet-based LAN card properties information from the HP SMH application. And more.

March 2009 Release Notes, Chapter 6: "Disk and File Management"

- **New:** MemFS: A memory-based filesystem that provides fast access to temporary files by storing them in main memory. Software Pack product.
- ONCplus: Updated to version B.11.31.06.01. Delivers IPv6 support for the `rpc.rquotad`, `rpc.rstatd`, `rpc.sprayd`, `rup`, and `spray` commands and daemons. Also delivers ONC 2.5 functionality for the NFSv2 and NFSv3 Client.

March 2009 Release Notes, Chapter 7: "Internet and Networking"

- Firefox, FirefoxSrc: Updated to version 2.0.0.16. Fixes several security vulnerabilities reported by the Mozilla Foundation.
- Thunderbird, ThunderbirdSrc: Updated to version 2.0.0.16. Fixes several security vulnerabilities reported by the Mozilla Foundation.
- HP CIFS Server: Updated to 3.0j version A.02.03.04. Contains the security fix for CVE-2008-1105 and defect fixes.
- HP-UX Auto Port Aggregation: Supports the use of Internet Protocol over InfiniBand (IPoIB) interfaces to create failover groups (*LAN_MONITOR* mode).
- HP-UX Web Server Suite
 - HP-UX Apache-based Web Server: Updated to v.2.0.59.08 as primarily a security/bug fix release.
 - HP-UX Tomcat-based Servlet Engine: Updated to v.5.5.27.02. Implements the Servlet 2.4 and JavaServer Pages 2.0 specifications.
- Internet Services
 - HP-UX Mail Server (Sendmail): Updated to incorporate defect fixes.
 - HP-UX Nameserver (BIND): Support for RFC 4193 (Unique Local IPv6 Unicast Addresses).
- LDAP-UX Integration: Provides several fixes, plus NGROUP support and Windows 2008 Support.
- Red Hat Directory Server for HP-UX: Updated to version B.08.00 with several enhancements, including stronger Hashed Password Storage support, improved SASL support for Kerberos Authentication, file hierarchy system support, and more.

March 2009 Release Notes, Chapter 8: "Security"

- HP-UX Auditing and Security Attributes Configuration (`secweb`): Updated to incorporate defect fixes.
- HP-UX Bastille: Updated to version **B.3.1.01**. Expanded security hardening choices in this *major* revision of Bastille allow you to further lockdown your systems in order to align with the latest CIS Benchmark for HP-UX (or other similar security hardening standards).
- HP-UX IPFilter: Updated to version A.11.31.16. Includes performance improvements, new command option for `ipfstat`, and defect fixes.
- **New:** HP-UX Password Hash Infrastructure for HP-UX 11i v3: Enhances the security on HP-UX 11i v3. Provides a new, SHA512-based algorithm for user password hashes as an alternative to the traditional, DES-based password hash algorithm. Only available on systems with shadowed passwords. Software Pack product.
- HP-UX Secure Shell: Updated to version A.05.00.026. Based on OpenSSH5.1p1 and includes several new features and defect fixes.
- **New:** HP-UX Security Containment Extensions: Simplifies the configuration of application containment and enables compartment login restrictions for enhanced application stacking and workload consolidation.
- HP-UX Software Assistant: Updated to version C.02.11. Now allows you to select the analyzers to be used when generating reports within HP SIM and now supports Java™ SE6. And more.

- **New:** Kerberos Client (KRB5CLIENT): Helps to provide Kerberos authentication and strong cryptography for secure communication over the network. Software Pack product.
- OpenSSL: Provides enhanced security features, additional public-key encryptions, additional hardware ENGINES. Includes defect fixes.

March 2009 Release Notes, Chapter 9: "Commands and System Calls"

- **New:** CpioCmdEnh: Can archive and extract files with UID and GID > 60K. Software Pack product.
- *diskowner*(1M) Command: Enhanced to identify the Extensible Firmware Interface (EFI) partitions present on the disk. Enhanced to list all subsystem names that are all using the specified path.
- *ioscan*(1M): New option can produce a compact listing which includes *alias_path* property.
- *mediainit*(1) Command: New option, -s, scrubs the disk media content with a set of patterns so that retrieval of its content becomes more difficult.
- **New:** PAX-ENH: With this enhancement, the *pax*(1) command supports backup of ACLs and usage of graph files. Software Pack product.

March 2009 Release Notes, Chapter 10: "Libraries and Programming"

- Java 2 Standard Edition Platform
 - JDK/JRE 6.0 (including add-on) updated to version 6.0.02 for defect and security bulletin fixes. Allocation Site Statistics and Zero Preparation Verbosegc features are implemented.
 - JDK/JRE 5.0 (including add-on) updated to version 5.0.14 to include the Sun 1.5.0_16 drop and incorporate defect and security bulletin fixes. Allocation Site Statistics and Zero Preparation Verbosegc features are implemented.
 - SDK/RTE 4.0 (including add-on and plug-in) updated to version 1.4.2.21 to include the Sun 1.4.2_18 drop and incorporate defect and security bulletin fixes. SDK 1.4.2.21 designed to take advantage of more efficient memory management algorithms being implemented in HP-UX.
- **New:** Libc Enhancement: Contains new APIs to get instantaneous thread time consumption statistics for bound threads.
- Perl: Has moved from ActivePerl to OpenSource Perl on HP-UX.
- pthread Library: New API, *pthread_yield*(3T), is provided. Enables the unbound thread to yield in user space (yielding between user threads).
- MallocNextGen: Applications that allocate many large blocks of size greater than 128 KB may see improved memory utilization.

March 2009 Release Notes, Chapter 11: "Internationalization"

- *iconv* Codeset Conversion: Supports more varied forms of user or third-party codeset translation tables for MFCONV.

March 2009 Release Notes, Chapter 12: "Other Functionality"

- **New:** HP-UX Parallel Umounts (*UmountallEnh*): A multi-threaded *umountall* feature that unmounts all or selected filesystems in parallel. Software Pack product.
- Locality-Optimized Resource Alignment (LORA): Patches have been delivered in the March 2009 *FEATURE11i* patch bundle to enable future support of the Locality-Optimized Resource Alignment (LORA) feature. Some patches also include changes for other features and defect fixes.

What is new in the HP-UX 11i v3 September 2008 release

The following summaries pertain to the September 2008 HP-UX 11i v3 release. In particular, they provide general picture of how the September 2008 release of HP-UX 11i v3 differs from the March 2008 release of HP-UX 11i v3. For further information, see the indicated chapters in the *HP-UX 11i Version 3 September 2008 Release Notes*, available in its most current version at

<http://docs.hp.com/en/oshpux11iv3.html>

September 2008 Release Notes, Chapter 2: "Introduction to HP-UX 11i Version 3"

- Original HP-UX 11i v3 Operating Environments (OEs): The March 2008 release of HP-UX 11i v3 was the last full Operating Environments Update Release (OEUR) release provided for the **original** HP-UX 11i OEs.
- New HP-UX 11i v3 Operating Environments: With the March 2008 release, HP first presented a set of **new** Operating Environments for HP-UX 11i v3. These new OEs provide a richer set of products and improved choices over the original set of HP-UX 11i OEs. In the September 2008 OEUR, several new products and features have been added. See the remainder of this section for summaries of the new products and features.
- Software Pack (Optional HP-UX 11i v3 Core Enhancements): Several new and updated Software Pack products are available in the Operating Environments as optional products.

September 2008 Release Notes, Chapter 4: "Hardware-Specific Information"

- Hardware Enablement Patch Bundle for HP-UX 11i v3 (HWE`enable11i`): Provides support for new PCI-Express I/O adapters in HP Integrity Servers, and HP-UX support for HP servers with PA8900 processors and the sx2000 chipset. Supports the AMD/ATI Radeon 7000 graphics adapter and improved kernel debugger support for HP LAN cards. Also supports the optional HP-UX Dynamic nPartitions feature for servers without System Bus Adapter devices.
- HP Instant Support Enterprise Edition: No longer included. Has reached end of life. New solution: HP Service Essentials Remote Support Pack.
- **New:** HP-UX Scheduler Enhancements for Power Management: A new dynamic tunable is provided to dynamically enable or disable the mechanism to put processors in low power consumption state when idle.
- **New:** HP-UX Swapoff: Provides the ability to remove swap devices without rebooting the system. This feature is enabled by a new command and an enhanced system call. The command is a Software Pack feature and is optional on all OEs.
- Networking and Mass Storage Drivers
 - `10GigEthr-00`: Updated to include accelerated virtual I/O (AVIO).
 - `10GigEthr-01`: Newly added as an optional product to the Operating Environments and includes accelerated virtual I/O (AVIO).
 - `CommonIO`: Updated with quality improvements.
 - `FibrChan1-00`: Updated to incorporate defect fixes.
 - `FibrChan1-01`: To see what's changed from one release to the next, see the driver's release history.
 - `FibrChan1-02`: Updated to incorporate defect fixes.
 - `GigEther-01`: The gigabit interface to be configured to connect at **ONLY** speed 100FD and fail if there is a fallback in the speed (100FD/100HD or 10FD/10HD). Supports accelerated virtual I/O (AVIO) to significantly improve Integrity VM (HPVM) I/O performance.
 - `IB4X-00`: Includes defect fixes and enhancements.
 - `IEther-00`: To see what's changed from one release to the next, see the `IEther-00` driver's release history.
 - `PCIMUX-00`: Diagnostic utility `pmux_diag` for AD278A/AD279A now supports several new functionalities. Includes defect fixes.
 - `RAID-01`: Updated with quality improvements.

- scsiU320-00: Updated with quality improvements.
- SerialSCSI-00: Updated with quality improvements.
- I/O Subsystem: Includes defect fixes and usability enhancements to enhance the system's availability, performance, and ease-of-use.
- Mass Storage Stack: Includes defect fixes and usability enhancements to enhance the system's availability and ease-of-use.
- Utility Pricing Solutions
 - HP Instant Capacity: Includes the ability to create a standby Group Manager to be available for use as an active Group Manager if the current Group Manager is unavailable. Improvements in iCAP and GiCAP logging. And more.

September 2008 Release Notes, Chapter 5: "General System Administration"

- Boot Loader: Includes several enhancements, including, in the Itanium-based Boot Loader, warning that more than one console output devices are configured.
- Distributed Systems Administration Utilities: Upgrade to new versions of open source components has the latest features and defect fixes, and further minimizes any complexities. Now that DSAU supports the UPCC-style Serviceguard packages, you can experience better ease-of-use.
- Dynamic Root Disk: Supports rehosting, the ability to create a clone on one system, then boot the clone on another system by providing personality information about the new system. The September 2008 release supports this capability for rehosting from blade to blade using Virtual Connect, and from VM to VM.
- Event Monitoring Service: Updated to incorporate defect fixes.
- Feature Enablement Patch Bundle (FEATURE11i): Updated for HP-UX 11i v3 with new patches that enhance or provide new core features (including performance improvements) and enable support for base page sizes larger than 4 KB on Itanium, Numeric User Group Name, Integrity VM (HPVM) support, FIFO performance improvements, Internationalization improvements, and many other enhancements.
- **New:** FIFOENH: Provides high and low thresholds on buffered data in the pipe. As a result, major performance improvement can be seen on a multiprocessor environment when multiple threads are operating on the same fifo. Software Pack feature, optional on all OEs.
- High Availability Monitors: Updated to incorporate defect fixes.
- HP Caliper: Features and changes include support for thread contention analysis and visualization; data-centric cache profiling; scaling of the system-wide performance view to larger cell-based systems; and many others.
- HP GlancePlus Pak: New metrics are included.
- HP Partitioning and Virtual Server Environment
 - **New:** Accelerated Virtual I/O (AVIO): Added are three new Accelerated Virtual I/O device drivers. Provide significant performance improvements over the existing VIO products.
 - HP Application Discovery Agent: Updated to version A.04.00.07.33 to incorporate defect fixes.
 - HP Global Workload (gWLM) Agent: The bundle name has changed from T2743AA to gWLMAgent.
 - **New:** HP Instant Capacity Manager: A web-based interface that can be used to monitor your Instant Capacity (iCAP) environment. Newly added as a component of the VSE Management Software (VSEmgmt). Delivered as an optional product in VSE-OE and DC-OE.
 - **New:** HP Integrity Virtual Machines: A soft partitioning and virtualization technology that provides operating system isolation, with sub-CPU allocation granularity and shared I/O. Version 4.0 added to the VSE-OE and DC-OE.

- HP Integrity VM Guest Support Libraries (VMGuestLib): Includes support for the new features of HP Integrity Virtual Machines V4.0, which supports the HP-UX 11i v3 operating system as a VM Host.
 - HP Integrity Virtual Machines Provider (VMProvider): Supports the new features of HP Integrity Virtual Machines V4.0, including support for the HP-UX 11i v3 operating system as a VM Host.
 - HP Process Resource Manager: The `prmconfig` command now has a `-c` option, which performs a subset of the `prmconfig -s` checks. Also includes other changes.
 - HP Virtual Server Environment (VSE) Management Software (VSEMgr): Updates to components such as HP Virtualization Manager, HP Capacity Advisor, HP Integrity Virtual Machines Manager, PRMSIMTools, and more. VSEMgr includes a defect fix.
 - HP-UX nPartition Configuration Commands: Updated to incorporate defect fixes.
 - HP-UX Virtual Partitions: Updated to version A.05.04. Includes defect fixes, support for directed LAN boot, support for tunable base page size, and NUMA advisor support.
 - HP-UX Workload Manager: Supports IPv6. Changes in `wlmd -p` behavior and more usernames allowed. Java 1.5 or later required for GUI and wizard.
 - nPartition Provider: Updated to version B.31.01.10.05 to incorporate defect fixes.
 - Partition Manager: v2.0, version B.31.02.04.01. Updated to incorporate defect fixes.
 - PRMKernelSW: Version number has changed in support of the update to HP PRM.
 - PRMLibraries: Version number has changed in support of the update to HP PRM.
 - Utilization Provider for HP-UX 11i v3: Updated to version A.01.07.14.01 to support VSE Management Software version 4.0.
 - **New:** VMKernelSW: One of the software bundles that is used with HP Integrity Virtual Machines (HPVM) V4.0.
- HP Serviceguard NFS Toolkit: Now supports highly available NFSv4 servers and now supports SecureNFS with Kerberos environment. .
 - HP System Management Homepage: Updated to version A.2.2.9 to incorporate defect fixes and support for virtual IDs.
 - HP Systems Insight Manager: Updated to version 5.2 with enhancements for Remote Support Pack.
 - HP-UX Accounts for Users and Groups: Supports use of numeric login names for local and NIS user names and group names.
 - HP-UX Kernel Configuration: Allows you to obtain separate graphically represented reports for usage of kernel resources for time intervals of Five Minutes, Hourly, Daily, and Weekly.
 - HP-UX Peripheral Devices Manager: Supports FC (Fibre Channel) adapters.
 - Ignite-UX: Updated to version C.7.7. Supports new hardware enabled by the HP-UX release. Includes defect fixes.
 - **New:** Kernel Tracing on HP-UX (`kttracer`): Provides the ability to analyze and troubleshoot HP-UX operating system behavior. Captures information on kernel procedure calls, parameters and timing across all processes and processors, and reports it on demand.
 - Logical Volume Manager: Increased limits of Version 2.1 volume groups enable much larger and more flexible LVM configurations. Other features improve the availability and usability of the server.
 - Network Interfaces Configuration and Network Services Configuration: Updated to incorporate defect fixes.
 - NGROUPS Expansion: Allows users and processes to have group-level permissions based on a larger number of groups than the previous fixed limit.
 - Obsolescence Bundle: Used during an update when obsolete software on the system needs to be removed. Is automatically selected for updates. During the update process selected obsolete or incompatible products and/or drivers are removed.
 - Online Diagnostics: Supports updated to support new and future HBAs.

- Printer Management (web-based): Provides support in the TUI for adding remote printer and for adding printer to a TSM terminal.
- Quality Pack Patch Bundles (QPKAPPS and QPKBASE): Third release for HP-UX 11i v3 with a sizable increase in the number of defect fix patches included.
- Software Distributor: Updated to incorporate defect fixes.
- Software Package Builder: Updated to incorporate defect fixes. Now supports detection of possible installation errors in addition to the packaging errors.
- System Fault Management: Several changes including the introduction of MCA Indication Provider and ComputerSystem Chassis Provider, and support for MCA logs and Agile information.
- **New:** Tunable Base Page Size: Enhancement makes it possible to tune the size of the system base page, which was formerly fixed at 4 KB. Now the additional sizes 8 KB, 16 KB, and 64 KB are available. The larger system base page size reduces the kernel's memory footprint and makes certain memory management operations more efficient.
- **New:** Tune-N-Tools: Delivers the tool *tuneserver(1m)*. When executed, sets kernel tunables to values appropriate for major customer business application workloads.
- Update-UX and SW-GETTOOLS: Updated to incorporate defect fixes.
- Virtual Server Environment Configuration Assistant (VseAssist): Extended with additional checks supporting new features of VSE Management Software version 4.0, including updated licensing checks and a new iCAP status check.
- WBEM Services and Providers
 - HP WBEM Services for HP-UX: Updated to incorporate defect fixes and support for virtual IDs.
 - HP-UX WBEM Fibre Channel Provider: Updated to incorporate defect fixes.
 - HP-UX WBEM IOTree Provider: Supports consolidated status (CSP) feature.
 - HP-UX WBEM Kernel Providers: Support new features.
 - HP-UX WBEM RAIDSA Provider: Updated to incorporate a defect fix.
 - HP-UX WBEM SAS Provider: Updated to incorporate a defect fix.
 - HP-UX WBEM SCSI Provider: Updated to incorporate defect fixes.
 - HP-UX WBEMP-LAN Provider: Supports new 1000fd data transfer speed setting. New operational status for LAN cards are available. LAN Indication Provider is supported with DLPI patch PHNE_37799.

September 2008 Release Notes, Chapter 6: "Disk and File Management"

- **New:** Base-VxTools-50: Contains a set of enablers and infrastructure tools for VxVM.
- HP CIFS Client: Updated to version A.02.02.02. Maintenance release that mainly contains defect fixes and a few minor enhancements.
- HP CIFS Server: Updated to 3.0i version A.02.03.03. Provides security fixes and several defect fixes. Supports new configuration parameters in `smb.conf`.
- HP-UX Disks and File Systems: Additional LVM functions are possible, a paging device can be deleted without having to reboot the system, and the NFS automounter and AutoFS functions can be performed.
- ONCplus: Updated to version B.11.31.04. Delivers full NFSv4 functionality. Also delivers IPv6 support for the `on`, `rpc.rexd`, `rpc.rwalld`, `rpc.rusersd`, `rusers`, and `rwall` commands and daemons. In addition, performance has been optimized in several areas of NFS.
- **New:** OnlineJFS 5.0: Available as an optional product in DC-OE, VSE-OE, and HA-OE.
- **New:** VxFS 5.0: Provides you with new commands and features for managing files of increased sizes, and better optimization of storage resources.
- **New:** VxVM 5.0: Provides enhanced volume management features, improved cluster and node functionality and additional multipathing capabilities.

September 2008 Release Notes, Chapter 7: "Internet and Networking"

- HP-UX Auto Port Aggregation: Supports improved HP Integrity Virtual Machine support.
- HP-UX Web Server Suite
 - HP-UX Apache-based Web Server: Updated to v.B.2.0.59.07. Primarily a security/defect fix release.
 - HP-UX Tomcat-based Servlet Engine: Tomcat version upgraded to 5.5.23.02. Tomcat version 5 implements the Servlet 2.4 and JavaServer Pages 2.0 specifications. Tomcat 5.5.x is designed to run on JDK 1.5 and later versions.
- Firefox, FirefoxSrc: Updated to version 2.0.0.12. Includes Firefox 2.0.0.12 changes from the Mozilla Foundation. This version fixes several security vulnerabilities reported by the Mozilla Foundation.
- Thunderbird, ThunderbirdSrc: Updated to version 2.0.0.12. Fixes several security vulnerabilities reported by the Mozilla Foundation.
- Internet Services
 - HP-UX FTP Server (WU-FTPD): New audit reporting APIs are enabled in *ftpd(1M)*. *ftpd(1M)* supports more than 20 user groups (NGROUPS). Includes defect fixes.
 - HP-UX Mail Server (Sendmail): *Sendmail(1M)* supports user groups (NGROUPS) more than 20. Includes defect fixes.
 - HP-UX Nameserver (BIND): *named(1M)* now supports 64-bit addresses. Includes defect fixes.
- **New:** IPv6 Upgrade for HP-UX 11i v3: Privacy extension to IPv6 auto-configuration feature is available in the IPv6 Upgrade bundle. Software Pack product. Optional on all OEs.
- LDAP-UX Integration: Updated to version B.04.17. Maintenance release that provides several fixes.
- Red Hat Directory Server for HP-UX: Updated to version B.07.10.40. Maintenance release that mainly delivers defect fixes.

September 2008 Release Notes, Chapter 8: "Security"

- HP-UX Secure Shell: Updated to version A.05.00.023. Added several defect fixes and enhancements.
- HP-UX Software Assistant: Updated to version C.01.05. Includes integration with HP SIM, improved HTML report, and improved administration guide.
- OpenSSL: Updated to version A.00.09.08g.031. Federal Information Processing Standard (FIPS) 140-2 OpenSSL is now added to the OpenSSL product.

September 2008 Release Notes, Chapter 9: "Commands and System Calls"

- *getaddrinfo(3N)* Function: Modified to support Destination Address Selection algorithm defined in RFC 3484.
- *ioinit(1M)* Command: New option *-A* invokes Critical Resource Analysis and generates usage report, before modifying existing instance number of an IO node.
- *ioscan(1M)* Command: *-P* option of the command has been enhanced to accept new properties.
- *mpsched(1)* Command: Enhanced to provide the system topology information at Proximity, Socket and Core level. You can use this information to create processor sets by choosing SPUs with appropriate locality.
- *scsimgr(1M)* Command: More user-friendly identifiers enhance the usability of the mass storage stack.

September 2008 Release Notes, Chapter 10: "Libraries and Programming"

- **New:** Decimal Floating-Point Arithmetic: Includes support for decimal floating-point (decimal FP) arithmetic for C on HP-UX 11i v3 (11.31) September 2008 Update for Integrity

servers, following the current draft revision of the IEEE 754 floating-point standard and ISO/IEC Technical Report 24732.

- **New:** Dynamic System V Semaphore Tunables: Allows the system administrator to change the system V semaphore tunable(s) value(s) dynamically without requiring a reboot of the system. Software Pack product. Optional on all OEs.
- HP WildeBeest Debugger: Provides decimal floating point debugging support, improved memory debugging capabilities, improved Core file debugging support, and more.
- HP-UX Linker and HP Dynamic Loader: Features include improved `fastbind` mechanism for decreasing program startup time; improved `dld` startup time; non-suspension of threads; and more.
- Java 2 Standard Edition Platform
 - **New:** Java JDK/JRE for HP-UX: JDK/JRE version 6.0 is a new version of the HP-UX Java Development Kit (JDK) for the Java 2 Platform Standard Edition. JDK/JRE version 5.0 and SDK/RTE 1.4.2 have been updated to incorporate defect and security bulletin fixes.
- Libc Enhancement: The `printf(3S)` and `scanf(3S)` family of functions have been enhanced to recognize decimal floating point conversion specifiers. Software Pack product. Optional on all OEs.
- `libIO.so` Shared Library: Provides APIs for accessing the kernel I/O system data structures maintained by the HP-UX I/O subsystem. Delivers new shared libraries which are thread safe.
- **New:** MallocNextGen: Provides a totally new implementation of the user space memory allocator. This new allocator may show better performance for multi-threaded applications or applications with small block allocations. Software Pack product. Optional on all OEs.
- **New:** Numeric User Group Name: With this feature it is possible to create user/group names that begin with a numeric character and in turn be entirely numeric. Software Pack product. Optional on all OEs.
- Perl: Updated to version 5.8.8 build 822.2 to incorporate defect fixes. Includes performance improvements.

September 2008 Release Notes, Chapter 11: “Internationalization”

- European TrueType Fonts Extension - Arabic, Hebrew, Thai, and Vietnamese: You can now print Arabic, Hebrew, Thai, and Vietnamese characters using the PostScript print filter.
- Internationalized PostScript Printing Enhancements: Includes support for the printing and proper shaping of Arabic, Hebrew and Thai characters with enhanced bidirectional printing support; new PostScript Printer Description (PPD) files to support additional HP PostScript printers; illegal command line options will now be listed in the banner page; and more.
- New and Updated Asian Iconv Converters: Several Asian character sets now have `iconv` conversion support added to convert data directly from these character sets to and from various transformation formats of Unicode such as UTF-8, UTF-16 and UTF-32.

September 2008 Release Notes, Chapter 12: “Other Functionality”

- There are no changes in September 2008 for the products or features that are normally documented in this chapter.

What is new in the HP-UX 11i v3 March 2008 release

The following summaries pertain to the March 2008 HP-UX 11i v3 release. For further information, see the indicated chapters in the *HP-UX 11i Version 3 March 2008 Release Notes*, available in its most current version at

<http://docs.hp.com/en/oshpux11iv3.html>

March 2008 Release Notes, Chapter 2: "Introduction to HP-UX 11i Version 3"

- Original HP-UX 11i v3 Operating Environments (OEs): The March 2008 release of HP-UX 11i v3 is the last full Operating Environments Update Release (OEUR) release provided for the **original** HP-UX 11i OEs.
- **New:** HP-UX 11i v3 Operating Environments: With the March 2008 release, HP presents a set of **new** Operating Environments for HP-UX 11i v3. These new OEs provide a richer set of products and improved choices over the original set of HP-UX 11i OEs.
- Software Pack (Optional HP-UX 11i v3 Core Enhancements): Several Software Pack products are available in the Operating Environments as optional products.

March 2008 Release Notes, Chapter 4: "Hardware-Specific Information"

- **New:** Graphics: Newly delivered as an optional product in the HP-UX 11i v3 BOE, VSE-OE, HA-OE, and DC-OE.
- Hardware Enablement Patch Bundle (`HWEnable11i`) for HP-UX 11i v3: Provides support for new PCI-Express I/O adapters in HP Integrity Servers, and HP-UX support for HP servers with PA8900 processors and the sx2000 chipset. Includes new patches that enable the HP Insight Power Manager (IPM) for supported systems with Intel® Itanium® processors 9100 series. Also includes patches that enable the PCI-express Error Recovery (PCIe-ER) functionality on HP Integrity servers with the sx2000 chipset.
- HP Instant Support Enterprise Edition: Updated to version A.03.95.520.22.05. Provides minor defect fixes. HP Runner is no longer bundled with HP ISEE installations.
- I/O Subsystem: The `rmsf` command supports the `-H` option with the `-x` option to remove stale device special files associated with a specific hardware path. Adding or deleting CPUs redistributes I/O interrupts more equitably across the CPUs. And more.
- Mass Storage Stack: Offers new performance and usability options to manage multi-pathed disks and disk arrays, and more.
- Networking and Mass Storage Drivers
 - `10GigEther-00` : Supports the new AD385A 266Mhz PCI-X 10 Gigabit Ethernet cards as well as the AB287A cards.
 - `CommonIO`: Updated with quality improvements.
 - `FibrChan1-00`: Updated to add support for users to update the EFI driver for the Tachyon XL2 (A6795A) Fibre Channel HBAs using the FC Mass Storage utility `/opt/fcms/bin/fcmsutil`.
 - `FibrChan1-01`: Updated to incorporate defect fixes.
 - **New:** `FibrChan1-02`: First release on HP-UX 11i v3: recommended product on all OEs. Driver for the Fibre Channel HBAs.
 - `GigEther-01`: Change history is located on <http://docs.hp.com>.
 - `IB4X-00`: Updated to incorporate defect fixes.
 - `IEther-00`: Change history is located on <http://docs.hp.com>.
 - `RAID-01`: Updated with quality improvements.
 - `scsiU320-00`: Updated with quality improvements.
 - `SerialSCSI-00`: Updated with quality improvements.
 - `USB-00`: Updated to version C.01.05.08. Install kernel for the HP-UX 11i March 2008 release contains an EHCI driver (USB 2.0 hi-speed capability) which significantly decreases the time necessary for installs from local USB devices. Includes defect fixes.

- **New:** Proximity Topology: Provides a mechanism to programmatically determine a system's proximity topology in order to make informed decisions to minimize cache-to-cache latency.
- Utility Pricing Solutions
 - The HP Instant Capacity: Updated with defect fixes and several enhancements, including GiCAP Disaster Recovery, which allows customers to transfer usage rights to other group members when a member is unavailable.

March 2008 Release Notes, Chapter 5: "General System Administration"

- Distributed Systems Administration Utilities: Supports cross subnet Serviceguard configurations.
- Dynamic Root Disk (DRD): Supports cloning of a VxVM root on HP-UX 11i v3. Introduces the `drd status` command, which allows the user to easily view clone information on the system.
- **New:** EMSWeb: Event Monitoring Service (on SAM) is now available as EMSWeb tool on the HP System Management Homepage (HP SMH). Provides both web-based GUI and TUI.
- Enterprise Cluster Master Toolkit: Newly added as a recommended product to the HA-OE and DC-OE. Supports HP Serviceguard Storage Management Suite Version A.02.00 on HP-UX 11i v3.
- Feature Enablement Patch Bundle (`FEATURE11i`): Updated for HP-UX 11i v3 with new patches that enhance core features (including performance) and enable the support of the vPars, Version 2.0 LVM volume groups, Integrity VM (HPVM), and new core products.
- **New:** HP Caliper: A general-purpose performance analysis tool for applications, processes, and systems. Allows you to understand the performance and execution of an application and to identify ways to improve its run-time performance. Newly added as a recommended product to the BOE, HA-OE, VSE-OE, DC-OE.
- HP GlancePlus Pak: Updated to version 4.70. A set of new metrics have been added in HP Performance Agent.
- Hp Partitioning and Virtual Server Environment
 - **New:** Accelerated Virtual I/O (`GuestAvioLan`): Delivers a new re-architected I/O path for Integrity VM (HPVM). Newly delivered as a recommended product on the HP-UX 11i v3 BOE, HA-OE, VSE-OE, DC-OE, and the FOE, EOE, MCOE, TCOE.
 - HP Integrity VM Guest Support Libraries (`VMGuestLib`): Upgrade to version A.03.50 includes support for the new features of HP Integrity Virtual Machines A.03.50.
 - HP Integrity Virtual Machines Provider (`VMProvider`): Upgrade to A.03.50 supports the new features of HP Integrity Virtual Machines A.03.50.
 - **New:** HP Process Resource Manager: Newly delivered as a recommended product in the BOE, VSE-OE, HA-OE, and DC-OE.
 - **New:** HP Virtual Server Environment: Integrates with HP SIM to provide intelligent control of your virtualized environment from one location. Components assist in planning and automating system and application management tasks, and allow you to optimize server utilization in real time by creating virtual servers that can automatically grow and shrink based on business priorities and service-level objectives. Several individual VSE products/components are delivered as optional or recommended products on the new OEs, providing you with a variety of options.
 - HP-UX nPartition Configuration Commands: Updated to incorporate defect fixes.
 - **New:** HP-UX Virtual Partitions: Version A.05.03 enables multiple instances of the HP-UX 11i v3 OE to run simultaneously on one server or within one nPartition, with each OE instance hosting its own set of applications in a isolated environment. Newly added as an optional product to the HP-UX 11i v3 VSE-OE and DC-OE.
 - **New:** HP-UX Workload Manager: Newly delivered as a recommended product in the VSE-OE and DC-OE. Updated to incorporate defect fixes.

- **New:** Workload Manager Toolkits: Newly delivered as a recommended product in the VSE-OE and DC-OE.
- nPartition Provider: Updated to version B.31.01.10.03 to incorporate defect fixes.
- Utilization Provider: Updated to version A.01.06.03.03 to incorporate defect fixes.
- vPar Provider: Updated to incorporate defect fixes.
- HP Serviceguard: Now delivered as a recommended product in the HA-OE and DC-OE. Other updates available independent of the OEs.
- HP Serviceguard NFS Toolkit: Documentation updated to include information about support for Veritas Cluster File System (CFS).
- HP System Management Homepage for HP-UX: Updated to version A.2.2.8 to incorporate defect fixes.
- HP Systems Insight Manager: Updated to version 5.2. Provides ability to discover all nPars in a complex, including those not currently active, from information gathered in one nPar and the ability to discover all vPars in a vparmonitor, including those not currently active, from information gathered in one vPar. New Manage Communications feature enables you to troubleshoot communication problems between the CMS and the managed systems. Includes much more.
- HP-UX Disks and File Systems: LVM operations are more scalable now because of the enhanced limits on VGs, LVs, and PVs. Includes other changes.
- HP-UX Kernel Configuration: Provides two new features: manage kernel configuration and restore the kernel configuration values of tunables and modules from the previous boot.
- Ignite-UX: Version C.7.5 includes recovery support for Agile SAS addressing, improved small memory install performance, support for new hardware.
- Logical Volume Manager: This release of LVM supports two versions of volume groups. Version 2.0, which is new in the March 2008 release of HP-UX 11i v3, enables the configuration of larger volume groups, logical volumes, physical volumes, and other parameters.
- **New:** MirrorDisk/UX: Is the mirroring component of Logical Volume Manager, and prevents data loss due to disk failures by maintaining multiple copies of data on separate disks. Newly delivered as an recommended product in the VSE-OE, HA-OE, and DC-OE.
- Network Interfaces Configuration and Network Services Configuration: Updated to incorporate defect fixes.
- **New:** NUMA policy is a tunable and a set of related kernel enhancements that exploit the localities within platforms having a Non-Uniform Memory Architecture. This contrasts with the default symmetric policy that treats all platform resources equally.
- Obsolescence Bundle: Used during an update when obsolete software on the system needs to be removed; automatically selected for updates. Will remove several obsolete or incompatible products and/or drivers, including TechSysConf.
- Online Diagnostics: Supports new I/O cards, added support for handling PCI-express errors, provides support for hot pluggable disks, and more.
- Printer Management tool: Now provides the Text User Interface in addition to the existing Graphical User Interface.
- Quality Pack Patch Bundles: Stable, defect-fix patch bundles for the OS and applications. In this release, both the Base Quality Pack bundle and the Applications Quality Pack bundle are provided.
- Software Distributor: Updated to incorporate defect fixes.
- Software Package Builder: Updated to incorporate defect fixes.
- System Fault Management: Now the default monitoring mode. Supports PCI Express interface events on selected systems. New providers are introduced; MP Provider is enhanced. More enhancements are included, as well as defect fixes.

- Update-UX: Supports the new OEs: BOE, VSE-OE, HA-OE, DC-OE. No new features or functionality in `update-ux`.
- WBEM Services and Providers
 - HP WBEM Services for HP-UX: Updated to version A.02.07: Major update includes IPv6 Enablement, Audit Logging, Repository Archive, Indication Subscription Management, and Privilege Separation.
 - HP-UX WBEM Fibre Channel Provider: Now supported by the System Management Homepage. New classes have been added to provide additional information.
 - HP-UX WBEM Kernel Providers (formerly KC Providers): Bundle now contains the Swap provider, and the Boot and Crash Dump providers.
 - HP-UX WBEM LVM Provider: Updated to support association between a VolumeGroup and the LogicalVolumes created within the group, and other configurations.
 - HP-UX WBEM Online Operations Service Provider: Updated to version B.01.02.01 to incorporate defect fixes.
 - HP-UX WBEM RAIDSA Provider: New classes have been added to get the consolidated health status of the Smart Array HBAs available on the system.
 - HP-UX WBEM SAS Provider: New classes have been added to get the consolidated health status of the SAS HBAs available on the system.
 - HP-UX WBEM SCSI Provider: Now supported by the HP System Management Homepage.

March 2008 Release Notes, Chapter 6: “Disk and File Management”

- ONCplus: Updated to B.11.31.02. Provides defect fixes and new features, including full NIS 2.3 client functionality (with the exception of `password.adjunct` support); full CacheFS 2.3 functionality; optimized performance in several areas of NFS; and more. Note: ONC fixes were delivered in patches prior to HP-UX 11i v3.

March 2008 Release Notes, Chapter 7: “Internet and Networking”

- Firefox, FirefoxSrc: Updated to version 2.0.0.4. Fixes several security vulnerabilities reported by the Mozilla Foundation.
- **New:** HP Auto Port Aggregation: Added to as an recommended product to the BOE, HA-OE, VSE-OE, DC-OE. Is a software product that creates link aggregates, often called “trunks,” which provide a logical grouping of two or more physical ports into a single “fat pipe.” This port arrangement provides more data bandwidth than would otherwise be available. In addition, HP APA provides automatic link failure detection and recovery, and optional support for load balancing of network traffic across all of the links in the link aggregate.
- HP-UX Web Server Suite
 - HP-UX Apache-based Web Server: Updated as primarily a security/defect-fix release.
 - HP-UX Tomcat-based Servlet Engine: Updated to version 5.5.23.00. Implements the Servlet 2.4 and JavaServer Pages 2.0 specifications.
 - HP-UX Webmin-based Admin: Primarily a defect-fix release.
- Internet Services: Select Internet Services now updated through OEURs.
 - HP-UX FTP Server (WU-FTPD): Updated to version 2.6.1 to incorporate defect fixes.
 - HP-UX Mail Server (Sendmail): Updated to version 8.13.3. Incorporated defect fixes. New command-line option, `-T`, included in `identd(1M)`.
 - HP-UX Nameserver (BIND): Updated to version 9.3.2 to incorporate defect fixes.
- LDAP-UX Integration: Version B.04.15 provides new LDAP user/group command-line tools.
- Red Hat Directory Server for HP-UX: Version B.07.10.30.01 mainly provides a SD defect fix.
- Thunderbird, ThunderbirdSrc: Updated to version 2.0.0.6. Fixes several security vulnerabilities reported by the Mozilla Foundation.

March 2008 Release Notes, Chapter 8: “Security”

- HP-UX Auditing and Security Attributes Configuration: You will have access to both the Audit Configuration functional area of legacy SAM and the auditing functionality in the HP-UX Auditing and Security Attributes Configuration tool in HP SMH. Includes defect fixes.
- **New:** HP-UX Auditing System Extensions: Provides enhancements to the existing HP-UX auditing system, *audit(5)*. Offers tools to configure and enforce the data filtering policy for auditable file operations on your system. Policy is rule-based and can be customized for different file system partitions. Delivered as an optional product on all OEs.
- HP-UX Bastille: Updated to version B.3.0.31 incorporate defect fixes.
- HP-UX IPFilter: Updated to version 15.01 (A.11.31.15.01). Support for IPv6 interfaces; Dynamic Connection Allocation (DCA) feature and *ipftest* utility now support IPv6 rules; and more.
- **New:** HP-UX Role-based Access Control Extension: Introduces a set of privilege shells, allowing a non-root user to automatically invoke *privrun* when needed by simply configuring a privilege shell as their default shell. Includes integration with HP System Management Homepage and integration of access control logic directly into select commands. Delivered as an optional product in all OEs.
- HP-UX Secure Shell: Updated to version A.04.70.023. The *sshd* daemon defaults to SSH Protocol 2 in new installations; SSH channel window size has been increased; *ssh* command and *sshd* daemon now preserve MAC contexts between packets; new MAC algorithm has been added; and more.
- HP-UX Software Assistant: Has replaced Security Patch Check. Messages indicating the deprecation of Security Patch Check will be displayed when the Security Patch Check tool is invoked. Support for Security Patch Check will be terminated on November 1, 2008.
- OpenSSL: Contains some important defect fixes.

March 2008 Release Notes, Chapter 9: "Commands and System Calls"

- *intctl(1M)* and *intrbald(1M)* Commands: Enhanced to allow manual and automatic interrupt balancing based on user configuration files, with a choice of balancing algorithms.
- *ioscan(1M)* Command: Enhanced to show a new driver property that indicates if the driver supports online instance number replacement.
- *mpsched(1)* Command: Enhanced so you can now change the affinity of a thread/light weight process to a particular SPU or locality domain. You can also query the binding of a light-weight process or unbind the same.
- *rmsf(1M)* Command: Enhanced to support Critical Resource Analysis (CRA) on a node or special file before deleting it, and to support specifying a stale I/O node by hardware path.
- *rtsched(1)* Command: Enhanced to allow the change of the real time priority and/or scheduling policy of a thread/light weight process with the *-G* option.

March 2008 Release Notes, Chapter 10: "Libraries and Programming"

- **New:** aC++ Linker Driver (*aCC_link*): Invokes the HP-UX linker. Command is made available for linking aC++ objects for deployment on end-user systems. Explicitly disallows certain *aCC(1)* options used to compile. Newly delivered as a recommended product on the BOE, HA-OE, VSE-OE, and DC-OE.
- **New:** Copy-On-Write Functionality for Private Memory Objects: Provides copy-on-write functionality for privately mapped files, private segments of child process after *fork(2)* and private segments locked by *mlock(2)*.
- **New:** *getenv* Performance Enhancement: Enhances the performance of the *libc* API *getenv(3C)* for threaded applications. Delivered as an optional product in all OEs.
- **New:** HP MLIB: In TCOE, V9.5 includes a defect fix. HP MLIB is newly delivered as an optional product in VSE-OE, HA-OE, and DC-OE.
- **New:** HP-MPI: Newly delivered as an optional product in BOE, VSE-OE, HA-OE, and DC-OE.

- **New:** HP Wildebeest Debugger: An HP-supported implementation of the Open Source GNU debugger (GDB). Enables you to debug C, C++, and FORTRAN applications (32 bit and 64 bit versions) on Integrity and PA-RISC systems. Newly added as a recommended product to the BOE, HA-OE, VSE-OE, DC-OE.
- **New:** HP-UX Atomic APIs (`libatomic`): Usage of these APIs avoid the use of mutex locks or semaphores in certain scenarios. Delivered as an optional product in all OEs.
- **New:** Improved Support for Multi-threaded Applications: Extends the `mpctl(2)` API and adds several new APIs to improve HP-UX support for multi-threaded applications. Provides the capability to have finer-grain control.
- Java 2 Standard Edition Platform
 - Java JDK/JRE for HP-UX: JDK/JRE version 5.0 and SDK/RTE 1.4.2 have been updated to incorporate defect and security bulletin fixes.
 - Java Out-of-Box: Updated to version 2.05.00 to incorporate defect fixes.
- **New:** Kernel Access Infrastructure: HP-UX Virtual Memory provides a new set of APIs to map user virtual addresses into the kernel. Useful as a copy avoidance solution where user data can be accessed and modified by kernel contexts, avoiding the copying in and out of data when system calls are invoked.
- **New:** `libc` Enhancement: Contains a new API called `memsetU16(3C)`, which can be used for memory operations to set area in memory to contain 2-byte word. Delivered as an optional product in all OEs.
- **New:** `patch_active_text`: Allows `mprotect()` write access to the text of a running process such that the active text can be modified.

March 2008 Release Notes, Chapter 11: “Internationalization”

- Korean `iconv` Codeset Converters: The `iconv` converters for converting data between Korean EUC encoding and Unicode are updated to align the character mappings to match that of Microsoft Windows and other UNIX platforms.

March 2008 Release Notes, Chapter 12: “Other Functionality”

- There are no changes in March 2008 for the products or features that are normally documented in this chapter.

What is new in the HP-UX 11i v3 September 2007 release

The following summaries pertain to the September 2007 HP-UX 11i v3 release. For further information, see the indicated chapters in the *HP-UX 11i Version 3 September 2007 Release Notes*, available in its most current version at

<http://docs.hp.com/en/oshpux11iv3.html>

September 2007 Release Notes, Chapter 2: "Introduction to HP-UX 11i Version 3"

- Software Pack (SPK): No SPK content delivered on media in the HP-UX 11i v3 September 2007 release. However, a couple of core enhancements, AccessControl and AtomicAPI, have been delivered on the HP Software Depot at <http://hp.com/go/softwaredepot>.

September 2007 Release Notes, Chapter 4: "Hardware-Specific Information"

- **New:** Hardware Enablement Patch Bundle for HP-UX 11i v3 (HWE`enable11i`): Provides patches required for new systems and the latest Intel® Itanium® 2 processors, and for add-on hardware supported on HP-UX 11i v3, including I/O adapters and devices.
- **New:** HP Instant Support Enterprise Edition: Updated to version A.03.95.510.42.07 to incorporate defect fixes.
- Mass Storage Stack: New options to manage multi-pathed disks and disk arrays.
- I/O Subsystem: More networking & I/O drivers are DLKM-enabled, which means they can be dynamically loaded and unloaded from the HP-UX kernel without manually rebuilding the kernel or rebooting the system.
- Networking and Mass Storage Drivers
 - Required Networking Drivers
 - `10GigEthr-00`: Updated to support UDP traffic over the destination port-based multi-queues and to display vital product data (vpd) by using the `nwmgr` command. DLKM-enabled.
 - `GigEther-00`: DLKM-enabled and defect fixes.
 - `GigEther01`: DLKM-enabled.
 - `IEther-00` and Gigabit Ethernet: AD337A and AD338A PCI-Express is now supported; `iether` is DLKM-enabled.
 - `100BT (btlan)`: DLKM-enabled.
 - Ultra160 SCSI (`c8xx`): Driver is DLKM-enabled, but not all modules in patch are DLKM compliant.
 - Optional Networking Drivers
 - InfiniBand Clustering System: Supports additional PCIe cards; DLKM-enabled.
 - Required Mass Storage Drivers
 - CommonIO bundle: Support for additional FC HBAs; delivers SAS-COMMON, which contains utilities for managing specific SAS HBAs; delivers FC-COMMON, which contains utilities for managing specific FC HBAs.
 - `FibrChan1-00`: DLKM-enabled.
 - `FibrChan1-01`: DLKM-enabled. Defect fixes.
 - `RAID-01`: DLKM-enabled.
 - `scsiU320-00`: DLKM-enabled.
 - `SerialSCSI-00`: DLKM-enabled.
 - `USB-00`: Updated to version C.01.05.02 to incorporate defect fixes.
- Utility Pricing Solutions
 - `iCAP` (Instant Capacity): `GiCAP` disaster recovery, changes to `TiCAP` transfer and consumption; changes to `icapstatus` output; defect fixes.

September 2007 Release Notes, Chapter 5: "General System Administration"

- **New:** Feature Enablement Patch Bundle (FEATURE11i): Contains required patches for new or updated software products.
- **New:** Quality Pack Patch Bundles: Stable, defect-fix patch bundles for the OS and applications. This first release will deliver the Base Quality Pack bundle only. The Applications Quality Pack bundle will be delivered in later releases as patches qualify.
- **New:** Dynamic Root Disk (DRD): An HP-UX system administration toolset used to clone an HP-UX system image to an inactive disk for software maintenance and recovery. System administrators use DRD to manage system images on HP PA-RISC and Itanium®-based systems.
- Enterprise Cluster Master Toolkit: Updated to version B.04.01; support for HP-UX Apache on HP-UX Tomcat for CVM/CFS 5.0; support for HP CIFS/900 on CVM/CFS 5.0; support for CVM/CFS 5.0; enhanced Oracle toolkit; support for Serviceguard A.11.18.
- Event Monitoring Service: Updated to incorporate defect fixes.
- High Availability Monitors: Updated to incorporate defect fixes.
- HP OpenView GlancePlus Pak: Support for Integrity VM (HPVM) 2.0; configurable logging intervals and flush intervals; gpm renamed to xglance.
- HP-UX IPQoS: HP-UX IPQoS for earlier HP-UX releases (HP-UX 11i v1 and v2) is incompatible with HP-UX 11i v3 and so is removed by ObsIPQoS. However, a new, HP-UX v3-compatible version of HP-UX IPQoS is now available on the Application Release (AR) media for September 2007, as well as on Software Depot at <http://hp.com/go/softwaredepot>.
- LVM and MirrorDisk/UX: Parallel re-sync; parallel opens; alternate link behavior; defect fixes.
- EMS and STM: Supports Dynamic nPartitions, additional systems, and additional cards; monitors generates new events.
- System Fault Management: New WBEM providers; enhancements to the SFMIndication Provider; new Event Subscription Administration.
- HP Serviceguard: New package-creation process and enhanced support for package dependencies and multi-node packages; additional support for cluster parameters, APA and VLAN, Integrity VM (HPVM), and more.
- HP Serviceguard Extension for RAC: Support for VxVM 4.1, Cluster Interconnect Monitoring, SGeRAC Toolkit, Veritas CVM/CFS 4.1, and Oracle 9i & 10g R2 RAC.
- Ignite-UX: Supports new hardware for 11i v3, plus other changes.
- Update-UX and SW-GETTOOLS: Updated to incorporate defect fixes.
- Software Utilities:
 - Software Distributor: Updated to incorporate defect fixes.
 - Software Package Builder: Updated to incorporate defect fixes.
- HP Partitioning and VSE:
 - **New:** Dynamic nPartitions: cell online activation.
 - **New:** Dynamic nPartitions: cell online de-activation.
 - nPartition Configuration Commands: New parolrad command for Dynamic nPartitions operations.
 - nPartition Provider: Interpretation of Dynamic nPartitions capability bit is changed.
 - Partition Manager (parmgr): Support for Dynamic nPartitions.
 - Virtual Partitions (vPars): Support for PA systems running sx2000 chipset, pre-enablement for SCSI tape boot and recovery for Integrity systems. Purchased separately.
 - **New:** HP Application Discovery: Application Discovery agent (AppDiscAgent) is default-installed on the OE media. The agent securely supplies data to Application Discovery server at intervals that can be set by a system administrator.

- HP Global Workload Manager: Includes conditional policies related to Serviceguard events, usage of TiCAP resources based on policy level, support for Hyper-Threading, and further integration with other VSE products.
- HP Process Resource Manager: Provides an interface within HP SIM (System Insight Manager).
- PRMKernelSW (formerly known as PRM Libraries): Changes in fileset.
- PRMLibraries: Changes in product and fileset encapsulation. Now contains the PRM API.
- HP Integrity Virtual Machines Provider (VMProvider): Supports the new features of VM A.03.00.
- HP Integrity VM Guest Support Libraries (VMGuestLib): Supports the new features of VM A.03.00.
- Utilization Provider: Updated to version A.01.06.02.xx to incorporate defect fixes.
- System Management GUIs
 - HP System Management Homepage (SMH): Defect fixes.
 - HP Systems Insight Manager (SIM): Supports VSE 3.0 products.
 - Distributed Systems Administration Utilities (DSAU): Usability enhancements.
 - Network Interfaces Configuration and Network Services Configuration: Support for IPv6; support for specifying additional modules to be pushed amongst IPv6, IPv4, and DLPI; more information for tunnels.
 - Disks and File Systems: Support for Volume Group creation for Serviceguard clusters and automatic distribution of LVM changes to all cluster nodes.
 - HP-UX Accounts for Users and Groups: Supports managing POSIX users and groups from LDAP database.
 - HP-UX Kernel Configuration: Defect fixes.
 - HP-UX Peripheral Devices Manager: Defect fixes.
 - **New:** Printer Management tool: A new Web-based printer management tool available on the HP System Management Homepage (HP SMH).
- WBEM Services and Providers:
 - HP WBEM Services for HP-UX: Defect fixes.
 - HP-UX WBEM Fibre Channel Provider: Supports Consolidated Status Provider and Indication Provider features.
 - **New:** HP-UX WBEM IOTree Indication Provider: Supports Indication Provider for hot-swappable PCI slots.
 - **New:** The HP-UX KC Provider: Supports `kcmodule` provider and `kctunables` provider. Both work in the WBEM environment.
 - HP-UX WBEM LAN Provider for Ethernet Interfaces (WBEMP-LAN-00): New provider, LAN Consolidated Status Provider, delivered in this release.
 - HP-UX WBEM Online Operations Service Provider (OLOS): Supports cell online activation and deactivation.
 - **New:** HP-UX WBEM RAIDSA Provider: Used by client applications to determine information about Smart Array HBAs present on the system.
 - **New:** HP-UX WBEM SAS Provider: Used by client applications to determine information about SAS HBAs present on the system. With this component you can retrieve details about the various attributes of SAS HBAs.
 - HP-UX WBEM SCSI Provider: Supports Consolidated Status Provider feature and defect fixes.

September 2007 Release Notes, Chapter 6: “Disk and File Management”

- HP CIFS Server: Updated to 3.0g version A.02.03.02 to incorporate defect fixes and enhancements. No longer maintains the LDAP management scripts, `smbldap-tools`.

September 2007 Release Notes, Chapter 7: “Internet and Networking”

- **New:** HP-UX Mobile IPv4: Provides mobility support for mobile devices to migrate from their home network to other networks, either within the same administrative domain or to other administrative domains on the Internet.
- Internet Services
 - **New:** Multimedia Streaming Protocols: Enables you to stream audio and video files. Delivered on the OEs as an optional feature.
- LDAP-UX Integration: Updated to version B.04.15 with dynamic group support, PAM_AUTHZ, TLS support, schema extension utility, and more.
- Red Hat Directory Server: Updated to version B.07.10.30 to incorporate defect fixes.
- Web Browsers
 - **New:** Firefox and Firefox Source: Web browser sets a new standard for internet browsing by providing an easier and more personal way to use the Internet.
 - **New:** GTK and GTK Source: Open-source windowing toolkit used by Firefox and Thunderbird.
 - **New:** Thunderbird and Thunderbird Source: Email application provides convenient, customizable, rich-featured email access.
- Web Servers:
 - **New:** HP-UX NSA HTTP: Updated to version B.11.31.01.02; enables NSA (Network Server Accelerator).
 - HP-UX Web Server Suite: Updated versions of products in the HP-UX Web Server Suite.
 - HP-UX Apache-based Web Server: Includes additional modules, including scripting, content management, and security.
 - HP-UX Tomcat-based Servlet Engine: Implements Java Servlet 2.4 and Java Server Pages 2.0 specifications.
 - HP-UX Webmin-based Admin: Defect fixes.
 - HP-UX XML Web Server Tools: Upgraded to version 2.03; Xerces upgraded to version 2.8.0.

September 2007 Release Notes, Chapter 8: “Security”

- HP-UX Auditing and Security Attributes Configuration: Supports new GUI as part of the security attributes tool in HP SMH (System Management Homepage).
- HP-UX Bastille and Install Time Security: Bastille updated to version B.3.0.26. Now works with Software Assistant (SWA).
- HP-UX Host Intrusion Detection System: Updated to version 4.1. Includes alert volume reduction feature, generation of customized and consolidated alert reports, and a tuning tool that reduces the time and effort to deploy and maintain Surveillance Schedules.
- HP-UX IPFilter: Changes in versioning.
- HP-UX Secure Shell: Updated to incorporate defect fixes.
- **New:** HP-UX Software Assistant (SWA): includes Security Patch Check (SPC) and is the HP-recommended utility to use to maintain currency with HP-published security bulletins for HP-UX software.
- OpenSSL: Updated to version A.00.09.08d.002.

September 2007 Release Notes, Chapter 9: “Commands and System Calls”

- `ioscan` Command: The `-l` option of `ioscan` has been deprecated and will be obsoleted in a future HP-UX release.

September 2007 Release Notes, Chapter 10: “Libraries and Programming”

- HP MPI: User's guide updated from the 10th edition to the 11th edition.
- HP-UX Java Development Kit and HP-UX Java Runtime Environment for the Java® 2 Platform Standard Edition (JDK/JRE): Updated to versions Java 1.4.2.13 and Java 5.0.8 to incorporate defect fixes.
- Perl: Updated to version 5.8.8 build 817.1 to incorporate defect fixes.

September 2007 Release Notes, Chapter 11: "Internationalization"

- There are no changes in September 2007 for the products or features that are normally documented in this chapter.

September 2007 Release Notes, Chapter 12: "Other Functionality"

- There are no changes in September 2007 for the products or features that are normally documented in this chapter.

What is new in the initial (February 2007) HP-UX 11i v3 release

The following summaries pertain to the initial (February 2007) HP-UX 11i v3 release. For further information, see the indicated chapters in the *HP-UX 11i Version 3 Release Notes* (February 2007), available in its most current version at

<http://docs.hp.com/en/oshpux11iv3.html>.

This section provides two overviews of what is new, has changed, and has been deprecated or obsoleted since two previous releases: the HP-UX 11i v1 September 2005 release and the HP-UX 11i v2 June 2006 release. Each overview is located as indicated below:

- “What is New for Customers Migrating from HP-UX 11i v1 September 2005”
- “What is New for Customers Migrating from HP-UX 11i v2 June 2006”



NOTE: Revisions to the initial (February 2007) *HP-UX 11i Version 3 Release Notes* are contained in the *HP-UX 11i v3 Release Notes Errata*, Edition 3, MPN 5992-5827, located at <http://docs.hp.com/en/oshpux11iv3.html> (navigate to **Release Notes**).

The following are not exhaustive lists, so HP strongly recommends that you consult the *HP-UX 11i Version 3 Release Notes* (February 2007) for information that is not included here.

What is New for Customers Migrating from HP-UX 11i v1 September 2005

In the following summaries, you can obtain a general picture of how the initial (February 2007) release of HP-UX 11i v3 differs from the September 2005 release of HP-UX 11i v1. For further details, see the indicated chapters in the *HP-UX 11i Version 3 Release Notes*, available in its most current version at <http://docs.hp.com/en/oshpux11iv3.html>.

In addition, you may want to review the list “What is New for Customers Migrating from HP-UX 11i v2 June 2006” (page 74) for a general picture of how the initial (February 2007) release of HP-UX 11i v3 differs from the June 2006 release of HP-UX 11i v2.

Initial (February 2007) Release Notes, Chapter 4: “Hardware-Specific Information”

- Enhancements to IO Forwarding: The *IO forwarding* interrupt comes under the purview of Detect & Strobe and is enhanced.
- **New:** estape Tape and eschgr Autochanger Drivers: New with HP-UX 11i v3. `ssrfc` driver no longer available.
- Graphics: HP-UX 11i v3 is not supported on workstations, and the PEX graphics API is not supported on HP-UX 11i v3.
- HP-UX 11i v3 Driver Development Kit (DDK): Enhanced for HP-UX 11i v3. Provides documentation, sample code, build environment and development tools for 3rd-party developers, ISVs and IHVs to develop and test drivers on HP-UX 11i v3 PA-RISC and Itanium®-based platforms.
- Enterprise Virtual Array (EVA): There is an issue with LUN WWIDs and HP-UX 11i v3.
- HP StorageWorks Secure Path: Obsolete.
- I/O Subsystem: Several new I/O commands help manage the I/O subsystem, and existing commands have new options and functionality to support the next generation mass storage stack.
- **New:** The Next Generation Mass Storage Stack manages I/O devices, such as SCSI logical units (LUNs). In this release, the mass storage stack delivers functionality designed to enhance server scalability, adaptability, and performance while retaining backward compatibility. New features include agile addressing, native multi-pathing, and increased parallelization.

- Networking and Mass Storage Drivers
 - Gigabit Ethernet: The `igelan`, `gelan` and `btlan` products are enhanced with new features, including online deletion (OLD) and module packaging.
 - `HyprFabrc-00`: Supports only Peripheral Component Interconnect (PCI) HF2 cards. HF1 Cards will not be supported.
 - **New: InfiniBand**: Now provides support for Network Interfaces and Network Services Configuration.
 - `PCIMUX-00`: The `PCIMUX-00` bundle delivers the `pci-mux1` driver, which supports the AD278A and AD279A PCI MUX adapters.
 - `TermIO-00`: The `TermIO-00` driver bundle delivers the `pci_mux0` driver, which supports the A6748A and A6749A PCI MUX adapters.
 - `FibrChanl-00` HP PCI Tachyon TL/TS/XL2 Fibre Channel Driver for HP-UX 11i v3: Supports new Mass Storage Stack, Agile addressing, Soft Zoning, PCI Online deletion, PCI error detection and recovery.
 - `FibrChanl-01` Fibre Channel Mass Storage Driver for HP-UX 11i v3: Supports new mass storage stack, Agile addressing, Soft Zoning, PCI Online deletion, and PCI error detection and recovery.
 - HP PCI Ultra160 SCSI (`c8xx`): Supports new mass storage stack, PCI Online Deletion (OLD), PCI error detection and recovery, HBA Device Special Files (DSF). Termination of support for Ultra2 HBAs.
 - `USB-00`: The USB stack and drivers delivered in `USB-00` replace the legacy USB stack delivered in drivers `hcd`, `hub`, `hid`, and `usbd`, with additional functionality.
- **New: PCI Error Recovery**: Provides the ability to detect, isolate, and automatically recover from a PCI error, avoiding a system crash.
- **New: PCI Card Online Deletion (OLD)**: The PCI OL* feature has been enhanced to allow HP-UX 11i v3 administrators to delete PCI cards and their associated drivers online without requiring a system reboot.
- Utility Pricing Solutions
 - HP Instant Capacity: Updated to version B.11.31.08.01 to include modifications to the installation procedure; support for Global Instant Capacity (GiCAP) and hyperthreading; changes to GiCAP grouping rules and `icapstatus` command output; and more.
 - HP Pay per use: Updated to version B.11.31.08.01.00 with support for hyperthreading features included in HP-UX 11i v3. Includes error fixes.
- Xserver: Radeon 7500 is supported on `rp34x0` and `rp44x0` servers in HP-UX 11i v3.

Initial (February 2007) Release Notes, Chapter 5: "General System Administration"

- `asyncdsk` Driver Kernel Tunable `max_async_ports`: `max_async_ports` is now a dynamic tunable; default value changed to 4096 and maximum value is 4194304.
- **New: Concurrent Dump**: You can now configure your machine to perform a distributed parallel dump, thereby improving the dump throughput and reducing dump time.
- Daylight Savings Time (DST). Changes for US DST rules.
- **New: Detect and Strobe**: Core-kernel functionality used to limit the amount of time spent in servicing interrupts to a user-defined maximum. Note: Detect and Strobe was previously delivered as patch for HP-UX 11i v1.
- **New: Disks and File Systems (`fsweb`)**: Provides a web-based graphical user interface (GUI) and text user interface (TUI) for File System and Disks system administration tasks.
- **New: Distributed Systems Administration Utilities**: Provides tools that simplify managing groups of systems and Serviceguard clusters.
- **New: Enhanced User Core File Naming**: New command, `coreadm`, introduced to uniquely name application core files created by abnormally terminating user processes.

- Enterprise Cluster Master Toolkit: Includes scripts for Oracle, enhancements to the Oracle Toolkit, support for VERITAS Cluster File System (CFS) in a Serviceguard A.11.17 environment, support for Serviceguard 11.17.01 (non-CFS) for Tomcat, Apache, Oracle 10g, and more.
- **New:** Event Manager: A comprehensive mechanism for posting, distributing, storing, and reviewing event information. Composed of a kernel component, user libraries (libevm.so) and a set of commands.
- Event Monitoring Service: Now enhanced to send WBEM indications, which can be viewed from the EVWEB tool.
- **New:** High Resolution Timer Support: Enhances select timer-related system calls and APIs to provide a resolution finer than the default 10 millisecond resolution.
- HP OpenView GlancePlus Pak: Updated to version C.04.55 with support for large process IDs; enhancement to record the Logical Volume (LV) metrics for VERITAS Volume Manager, versions VxVM 4.1 and VxVM 5.0; new metrics for monitoring the UFC; and other changes.
- HP Partitioning and Virtual Server Environment
 - **New:** Dynamic LCPU: Provides the ability to enable and disable Logical Processors (LCPU) dynamically at the processor set boundary. Supported only on systems with the Hyper-Threading feature available and enabled.
 - HP Global Workload Manager: Updated to version A.02.50.00.x with support for Linux managed nodes, support for Windows virtual machine guests, nested partitions, and many other changes.
 - HP Process Resource Manager: Updated with features including ability to manage shared memory, integration with HP Integrity Virtual Machines, integration with HP System Management Homepage, ability to map UNIX groups to PRM groups, and several other features.
 - HP-UX 11i v3 Patch Bundles and Software Pack: The initial release of HP-UX 11i v3 will not include the standard Quality Pack (QPK) and Hardware Enablement (HWE) patch bundles or the Software Pack that delivers optional new core enhancements. The delivery of these patch bundles and the Software Pack is planned for the first update release of HP-UX 11i v3.
 - HP-UX Virtual Partitions: Updated to version A.05.01 with online memory migration, mixing A.04.02 and A.05.01 virtual partitions in the same vPars environment, and hyperthreading. Purchased separately.
 - Integrity VM Note: The host for Integrity VM is not supported on 11i v3. However, the virtual machines of the host can run 11i v3.
 - HP-UX Workload Manager: Updated to version A.03.02.02. Changes include Process Resource Manager no longer included in bundle; supports HP Integrity Virtual Machines; communications now secure by default; supports finer granularity for minimum allocations to FSS groups; supports a maximum of 256 FSS groups; and several other changes.
 - HP-UX Workload Manager Toolkits: Updated to version A.01.10.01. Provides the new HP-UX WLM SAP Toolkit, which identifies SAP processes based on user-defined criteria and uses WLM's process maps feature to place the SAP processes in specific workload groups. PPUTK obsoleted; SASTK and DMTK deprecated.
 - Partition Manager: Updated to v2.0 (version B.31.02.03.01) with the ability to enable and disable Hyper-Threading for nPartitions whose cells have processors that are Hyper-Threading capable.
 - nPartition Provider: Updated to version B.31.01.07.01 with support for WBEM Services version 2.5 and support for systems based on the HP sx2000 chipset.

- **New:** Utilization Provider: Lightweight daemon (`utild`) that records system-utilization data on a 5-minute interval; data recorded includes CPU, memory, disk, and network utilization; also includes a WBEM provider for access to the data.
- vPar Provider: WBEM provider displays information about virtual partitions. Read-only; clients cannot modify virtual partition configurations with it.
- HP Serviceguard: Updated to version A.11.17.01 with support for persistent DSF naming and dynamic multipathing, large PID, identification of networking interfaces (NICs) that are part of the Serviceguard cluster configuration, and other features. VERITAS Cluster File System (CFS) and Cluster Volume Manager (CVM) not supported in initial release of HP-UX 11i v3. RS232 serial line as cluster heartbeat is obsolete.
- HP Serviceguard Network File System (NFS) Toolkit: Updated to version A.11.31.02 with new control script template and a defect fix. Can work with Serviceguard A.11.17.01, but does not support some Serviceguard A.11.17.01 and NFS HP-UX 11i v3 features. Customers who need VERITAS Cluster File System (CFS) should not upgrade to HP-UX 11i v3 until CFS is available on that platform.
- HP System Management Homepage: Updated to version A.2.2.5 to incorporate defect fixes. In addition, many more system management tools are integrated in HP SMH for HP-UX 11i v3 then HP-UX 11i v1 September 2005.
- HP Systems Insight Manager: Updated to “HP SIM 5.0 with Update 2 - HP-UX” with support for HP BladeSystem c-Class blade and enclosure, and onboard administrator; HP BladeSystem Integrated Manager 2.1 with updated functionality; minimum system memory configuration to run HP SIM on HP-UX 11i v3 is now 3GB, and defect fixes.
- HP WBEM Services for HP-UX: Updated to version A.02.05 with association providers, internationalization support for CIM operations, CIM schema upgrade, and other major changes.
- HP-UX Accounts for Users and Groups: New TUI in place of the legacy SAM interface; new Web-based GUI; improved performance with the new TUI interface; supports long username and groups.
- HP-UX Kernel Configuration: New TUI in place of the legacy SAM interface; New Web-based GUI; Error Management Technology support; critical defect fixes.
- **New:** HP-UX Large NPROC: The HP-UX 11i v3 system can support more processes running concurrently than previous releases, changing from 30,000 to 60,000.
- **New:** HP-UX Large PID: The range of Process Identifiers (PID) the kernel can generate in a stand-alone HP-UX system has been expanded from 0 ~ 30,000 to 0 ~ $2^{30}-1$ (1,073,741,823).
- HP-UX Peripheral Devices Manager: Enhanced to support the Agile Hardware Path Addressing and Persistent Device Special Files; enhanced to allow for Online deletion of OLRAD cards; now reads the detailed CRA report from the log file in which the report is logged after the change in the CRA behavior; and more.
- HP-UX System V IPC Message Queues: Enhanced with dynamic tuning capabilities. Tunables `msgmax`, `msgssz`, `msgmap`, `msgseg` are obsolete. Added new dynamic tunable `msgmbs`; indicates maximum kernel memory to be used for messages waiting to be received. Tunables `msgmni`, `msgtql` are made dynamic.
- **New:** HP-UX WBEM Fibre Channel Provider: Client applications can use this provider to get information about HP-UX Fibre Channel HBAs on the system.
- **New:** HP-UX WBEM File System Provider: Makes available file system information; instruments the `HPUX_HFS`, `HP_LOFS`, `HP_CDFS`, `HP_VxFS`, `HP_NFS`, `HP_MountPoint` and `HPUX_Mount` classes.
- **New:** HP-UX WBEM IOTree Provider: Client applications can use HP-UX WBEM IOTree provider to get information about HP-UX IOTree host-bus adapters (HBAs) on the system.
- **New:** HP-UX WBEM LAN Provider for Ethernet Interfaces (`WBEMP-LAN-00`): Is a CIM Provider for Ethernet-based LAN technologies on HP-UX. Client applications can use this

provider to determine all Ethernet LAN links available on the system (registered and known to HP-UX DLPI) and collect information about them.

- **New:** HP-UX WBEM Online Operations Service Provider: Not currently supported; intended to support features in future releases of HP-UX 11i v3.
- **New:** HP-UX WBEM SCSI Provider: Client Applications can use this provider to get information about HP-UX SCSI host-bus adapters (HBAs) on the system.
- Ignite-UX: Updated to version C.7.0.x with multipath-awareness, new approach for addressing I/O, automatic management of the system boot path for multiple path configurations, user-selectable format for recovery archives and golden archives, and other changes.
- **New:** Kernel Tunable Values Reset From Boot Prompt: HP-UX 11i v3 release provides a new feature in which kernel tunable values can be reset from the boot prompt.
- **New:** Livedump: Provides the ability to take a crashdump on a live system without a forced shutdown or panic of that system. Implemented for Itanium®-based platforms only.
- **New:** Long Username / Groupname: Current limit enhanced from 8 to 255 bytes. By default 8 is still the limit. With an enabler this limit can be enhanced to 255. Once enabled, cannot be disabled in the future. Not supported for trusted systems.
- **New:** Node and Host Name Expansion: Provides the ability to set node and host names up to 255 bytes.
- Obsolescence Bundle: Used during an update when obsolete software on the system needs to be removed; automatically selected for updates. Will remove several obsolete or incompatible products and/or drivers.
- Online Diagnostics product: Introduced for the map command, is a new option, page, which displays a paginated output of the system map.
- SCSI Kernel Tunables: *scsi_maxphys*, *scsi_max_qdepth* and *default_disk_ir* kernel tunables are obsolete.
- Software Distributor: Updated to version 11.31 with support for HP-UX 11i v3-unique features including large pid, long usernames and group names; and improved support for high level software deployment tools such as Software Manager, *update-ux*, and future tools. Includes defect fixes.
- Software Package Builder: Added new policy files that include the expansion of the acceptable category tags, the addition of the *is_oe* attribute, and changes to the architecture and *os_release* attribute rules.
- System Administration Manager (SAM): Deprecated. The *smh* command is recommended, but *sam* command will continue to be available. Some functional areas previously available are obsoleted.
- System Administration Manager (SAM) Auditing and Security Functional Area: System Security Policies subarea of SAM is replaced with the HP--UX Security Attributes Configuration tool; Audited NIS+ Users subarea is obsolete.
- System Administration Manager (SAM) Printers and Plotters Functional Area: Launch point in X/ObAM-based GUI mode is now via the HP System Management Homepage.
- System Administration Management Tool Changes: SAM and HP System Management Homepage: System Administration Manager (SAM) is deprecated in HP-UX 11i v3. HP System Management Homepage (HP SMH) is the system administration tool for managing HP-UX 11i. HP SMH provides Web-based systems management functionality, at-a-glance monitoring of system component health, and consolidated log viewing. HP SMH also provides Terminal User Interfaces (TUIs).
- **New:** System Fault Management: Collection of tools used to monitor the health of HP servers and receive information about hardware such as memory, CPU, power supplies, and cooling devices. Operates in the WBEM environment.
- Update-UX and SW-GETTOOLS: The *update-ux* command now uses Software Manager, a new application that provides features including support for preview; interactive TUI;

better support for multiple media, including more accurate disk space analysis, dependency selection across media; and improved logging capabilities.

- Virtual Memory Kernel Tunables: The *eqmem_limit* (only on PA-RISC systems) has been added. Several tunables have been removed.

Initial (February 2007) Release Notes, Chapter 6: “Disk and File Management”

- HFS (also known as UFS) File System Type: Now deprecated. Will be removed from the OS in a future release, to be determined.
- HFS file system and backup commands: To work on file sizes larger than 2TB.
- HP CIFS Client: Updated to version A.02.02.01 with support for MS Distributed File System (DFS) and DLKM feature and other changes.
- HP CIFS Server: Updated to 3.0f version A.02.03: Redesign of Winbind code; File Locking Interoperation Functionality; support for long user and group names; support for TDB Memory Map; and other changes.
- HP-UX File Systems Architecture Enhancements: Numerous enhancements include VFS stacking capabilities; *fsdaemon* user level daemon; large file systems and large files support; improved file systems *syncer*; performance improvement of *aio_reap(2)*; support of larger files and long link names in backup utility; and several other enhancements.
- Logical Volume Manager and MirrorDisk/UX: Delivers significant scalability and availability enhancements. Supports the next generation mass storage stack, and is integrated with the mass storage stack’s load balancing and dynamic LUN expansion features; enhanced to support larger logical volumes, temporary suspension of volume groups, striping with mirroring, and dynamic LUN expansion; enables online modification of a volume group, as well as a new script to simplify the replacement of a failing disk.
- Open Network Computing (ONC)
 - AutoFS/Automounter: Updated with support for LDAP name service to store AutoFS maps; the ability to browse the list of potential mount points in an indirect AutoFS map without mounting the filesystems; the ability to configure AutoFS through the */etc/default/autofs* file; and other features.
 - Cache File System (CacheFS): New features include long file name support, *cachefspack*, and support for largefiles and large file system.
 - Library RPC: Library routines support several new datatypes, add support for IPv6, and more.
 - Network File System (NFS) Services: Provides numerous enhancements, including *pcnfsd* daemon, which is multithreaded and supports shadow password and Secure RPC; new user mode daemon generates and validates API security tokens, and maps the GSSAPI principal names to the local user and group IDs; additional security mechanisms, such as Secure NFS that supports Kerberos through GSSAPI; NFS access using a firewall; and many other features.
 - Network Information Service (NIS): Provides several new features including support for shadow mode; support for enabling DNS forwarding mode; support for long *uname*, *hostname*, and *username*; and other features.
 - NIS+: Obsolete.
 - PCNFSD: *pcnfsd* daemon is multithreaded. Support for shadow password and secure RPC; *wtmp* entries can hold usernames up to the PCNFSD protocol limitation of 32 characters and client hostnames up to the PCNFSD protocol limitation of 64; support for printer names up to the PCNFSD protocol limitation of 64 characters.
- **New:** Unified File Cache: Integrates the page cache and buffer cache to provide coherency for file access. Serves as a key enabler for VxFS 4.1 and ONC+2.3. Improves source compatibility with Solaris, Tru64, and Linux applications that depend on coherency of page and buffer cache. Potential performance improvement of applications that depend on coherency of page and buffer cache.

- VERITAS File System (VxFS): Features in version 4.1 include support for 1024 ACLs; support for large filesystem (up to 32 TB) and large file size (up to 16 TB); VxFS filesystem as a DLKM; multi-device filesystems; and other features. Cluster File System (CFS) is not supported in the initial release of HP-UX 11i v3.
- VERITAS Volume Manager (VxVM): Features in version 4.1 include support for Volume Sets and VxFS MDS; Cross-Platform Data Sharing; Device Discovery Layer Phase 2; Serial Split Brain; and other features. Cluster Volume Manager (CVM), a part of VxVM that is enabled by a separate license, is not being provided with the current 4.1 HP-UX 11i v3 release.

Initial (February 2007) Release Notes, Chapter 7: “Internet and Networking”

- **New:** ARPA Transport: Many enhancements to ARPA Transport include Security Containment, sendfile/UFC, UNIX 2003 Conformance, large hostname support, and Tru64 Application migration to HP-UX/Itanium®-based.
- Browsers: Mozilla is updated with defect fixes. Includes improved Asian font support on HP-UX and the Japanese Language Pack.
- **New:** HP Data Link Provider Interface (DLPI): Enhancements include *NOSYNC STREAMS* synchronization level for improved performance and scalability for high speed links, online deletion (OLD) of I/O card instances, and dynamic loading and unloading of LAN drivers without reboot.
- HP-UX PPPv6: Incorporates defect fixes.
- HP-UX VLAN: New features include support for HP-UX VLANs over APA aggregates and LAN-monitor failover groups, SMH-Network Interface Configuration support for Web-based VLAN configuration, and `nwmgr` support for HP-UX VLAN.
- HP-UX Web Server Suite
 - HP-UX Apache-based Web Server: Updated to version 2.0.58.00 as primarily a bug fix release.
 - HP-UX Tomcat-based Servlet Engine: Upgraded to 5.5.9.04. Implements the Servlet 2.4 and JavaServer Pages 2.0 specifications. Designed to run on JDK 1.5 and later versions.
 - HP-UX Webmin-based Admin: Upgraded to 1.070.08 as primarily a defect fix release.
- Internet Services: You can now deselect individual Internet Services during installation or remove filesets later.
- BIND: BIND 9.3 includes many new features, including transition support for IPv4 and IPv6. With HP-UX 11i v3, `NAMED` and `NAMED_ARGS` variables are moved to `/etc/rc.config.d/namesvrs`.
- DHCPv4 (bootpd): New option `sa` configures the `tftp` server, providing control of the `siaddr` field of the `dhcp` packet. New configuration option for the `subnet selection` option in the `/etc/dhcptab` file allows `bootpd` to assign a network address even if `bootpd` is not part of that network. Support for PXE clients is added.
- DHCPv6: Now available in the core operating system.
- `inetd` Command: Two new command line options, `-p` (limit number of processes invoked by `inetd`) and `-a` (enable user level auditing of processes). Support for large hostnames and large PIDs.
- `libc`: Numerous changes in APIs.
- Mailx, Elm, and Talk: `elm(1M)` and `mailx(1M)` are long-user-name compliant.
- R-commands: long username is supported.
- **New:** Sendmail: Version 8.13.3 has numerous new features.
- **New:** TFTP: `tftpd™` (server) and `tftp™` (client) now support IPv6 addresses. New command line options specify upper and lower port range limits for data transfer.
- WU-FTPD: Version 2.6.1 supports long usernames. Adds several new features and is backward compatible with WU-FTPD 2.4.

- LAN Administration Commands: `lanadmin` now supports an iPoIB interface, 64-bit MIB, and native and non-native drivers developed by independent hardware vendors; `lanscan` and `linkloop` now support iPoIB interfaces.
- LDAP-UX Integration Product: This release includes the new LDAP-UX version B.04.00.10.
- **New:** Mobile IPv6: Uses a fixed IP address for extended periods to allow mobile nodes to change network access points while remaining accessible with no disruption of network continuity. Supports IPv6 addresses.
- **New:** Network Interface Management Command Line Interface: The `nwmgr` command is used to manage LAN-based and IB-based network interfaces; a single tool for performing all network interface-related tasks.
- **New:** Network Interfaces Configuration and Network Services Configuration: These tools in the HP System Management Homepage replace the Networking and Communications functions of the System Administration Manager (SAM), which are no longer available.
- **New:** Red Hat Directory Server for HP-UX: Provides an industry-standard centralized directory service to build your intranet or extranet on. Your Red Hat servers and other directory-enabled applications use the directory service as a common, network-accessible location for storing shared data, such as user and group identification, server identification, and access control information.
- STREAMS: `NOSYNC` feature allows multiple instances of a `put` procedure for a queue and the service routine for that queue to run concurrently. All references to the global variable `uniprocessor` have been removed.
- NetTL - Network Tracing and Logging: The `nettl` command is enhanced with formatting support for iPoIB the header, command-line option to configure trace buffer value, pre-capture trace values, and new options to manage trace filters.

Initial (February 2007) Release Notes, Chapter 8: "Security"

- **New:** HP-UX 11i Security Containment: Provides compartments, which isolate unrelated resources on a system to prevent catastrophic system damage if one compartment is penetrated. When configured in a compartment, an application (processes, binaries, data files and communication channels used) has restricted access to resources outside its compartment. Also provides fine-grained privileges, which allow you to grant privileges to processes needed for the task and, optionally, only for the time needed to complete the task.
- HP-UX Auditing System: Enhanced in several ways, including: auditing subsystem is now working without converting the system to trusted mode; standard mode audit user selection information is stored in a per-user configuration user database; `userdbset` command specifies which users are to be audited in standard mode; and several other enhancements.
- **New:** HP-UX Bastille: Although Bastille has been available on the Web (and on the HP-UX 11i v2 OEs) for some time, it is now available, at version B.3.0.20, on the HP-UX 11i v3 OEs for the first time for customers migrating from HP-UX 11i v1 and includes several enhancements.
- HP-UX Host Intrusion Detection System: Updated to release 4.0 with features including reducing alert volume by aggregation; reducing alert volume by monitoring only critical files; configuring critical users; supporting specification of usernames and user IDs; and measuring the event rate.
- HP-UX IPFilter: Updated to version A.03.05.13 with defect fixes and enhancements including filtering on X.25 interfaces, filtering on 10GigE interfaces; IPFilter not plumbed into the networking stack by default; no reboot required to enable IPFilter.
- **New:** HP-UX IPsec: Previously only available on the AR media. Now delivered on the HP-UX 11i v3 Operating Environments. Provides an infrastructure to allow secure communications (authentication, integrity, confidentiality) over IP networks between systems and devices that implement the IPsec protocol suite.

- HP-UX Secure Shell: Updated to version A.04.40.005 with many new features including high performance enabled SSH/SCP patch; configuration directives in the server; auth selection patch; increase in the default size of RSA and DSA keys; delayed compression; and many other features, as well as defect fixes.
- HP-UX Security Attributes Configuration tool (*secweb*): Updated to support long user name.
- **New:** HP-UX Standard Mode Security Extensions: Enhances the security of systems running in standard mode by providing security features that were previously available only on systems that had been converted to trusted mode.
- Install-Time Security: Adds a security step to the install/update process that allows you to run the Bastille security lockdown engine during system installation with one of four configurations ranging from default security to “DMZ.”
- Kerberos Client: Updated to version 1.3.5.03 with new features including support for powerful cryptographic algorithms like 3DES, RC4, and AES; support for IPv6; support for TCP; and defect fixes.
- OpenSSL: Updated to version A.00.09.08d.001 with support (in default version) for several hardware ENGINES (see section for specifics); support for elliptic curve cryptography; and EVP, the library of which provides a high-level interface to cryptographic functions. Other provided versions include other features.
- PAM Kerberos: Enhanced to issue a warning if *rc_host_0* is owned by anyone other than root when a user tries to *rlogin* into a system; will also issue a warning if the keytable entry is not found for the host service principal on the client but present at the KDC.
- **New:** Security Patch Check: Analyzes the currency of a system with respect to security bulletins. Recommends actions for security vulnerabilities that have not been fixed by patches, updates, or logged manual actions currently applied to the system.

Initial (February 2007) Release Notes, Chapter 9: “Commands and System Calls”

- */etc/skel/.profile* shell script: *.* (current path) in *\$PATH* is deprecated
- 32-bit *pstat* System Call (Deprecated): When compiling a 32-bit application that uses the *pstat* () system call, the compiler option *-D_PSTAT64* must now be specified. This causes *pstat* () to use 64-bit fields rather than 32-bit fields. The application still remains a 32-bit application.
- *at*, *cron*, and *batch* Commands: New features include support for queueing multiple jobs at the same time, support for queueing of more than 100 jobs, and ability to schedule jobs up to the *njob* limit specified for every queue in *queuedefs(4)*.
- *core* Format Implementation Change: The true version string has replaced the *ut_sname* struct in the *CORE_KERNEL* segment. A workaround has been provided for applications which reversed-engineered the *core* file format and depend on *ut_sname* being in it. This new *core* file format is the default format.
- *cs* Command Line Interpreter: The non-interactive invocation of *cs* will not source the *~/ .history* file by default.
- File Systems Backup and Recovery Commands *fbackup*, *frecover*, and *ftio*: Deprecated; will be obsolete in a future HP-UX release. You should prepare by migrating to the favorable replacement *pax*. Support will be continued for archive retrieval.
- **New:** *gcore* Command: creates a core image of each specified process.
- *getgroups* (), *setgroups* (): no longer limited by the *NGROUPS_MAX*.
- *getty* Command: Enhanced to configure the default setting for special control characters (erase, kill, etc.) by the user.
- HP-UX Kernel Configuration Commands: HP-UX 11i v1 kernel configuration commands has been removed in favor of new commands for HP-UX 11i v3. In addition, there are changes to the location of kernels and related files on disk; to the manner in which a kernel configuration is chosen at boot time; and to the manner in which the system automatically maintains a backup kernel configuration.

- `iostat` : Enhanced to report activity for each active lunpath to the LUNs. Also, the new option `-L` has been added, which lists active lunpath statistics.
- Long `hostname`, `uname`, and `setuname` Commands: The limits of these commands can now be expanded to 255 bytes.
- **New:** Long Username Support by HFS `ff`, VxFS 4.1 `ff`, `repquota`, `quotacheck`: Enhanced to support the username up to 255 bytes.
- `lp`, `lpadmin`, `lpfence`, `lpmove`, and `lpsched` Commands: Printers can now be added/removed/modified without bringing down the `lp` scheduler; line printer spooler enhanced to support printer/class names up to 250 characters from the previous limit of 14 characters; support also extended to remote destination names.
- `mmap()` System Call: Enhanced to support mapping file with read-only permission with `PROT_EXEC` and implicit `mmap()` with `MAP_FIXED`.
- `pax` Command: Enhanced to conform to the UNIX 2003 Standard. You will now be able to use `pax` to archive files having a size greater than or equal to 8GB; long user name/group name; large UID/GID greater than 2097151; long pathname or link name.
- PFS Commands: Obsolete.
- `pipcs` Command: Enhanced to provide details regarding processes using the various POSIX Message Queues, as well as creation time and last modification time of the POSIX Message Queues.
- `ps` Command: Enhanced to display maximum of 1020 characters in the `COMMAND` field.
- **New:** `pselect()` System Call: Added to meet the UNIX 2003 Standard. Provides additional parameter options to users of the `select()` system call. Timeout granularity may be specified in seconds and nanoseconds. A new signal mask parameter is also available to be used for the duration of system call.
- `psrset` Command: Enhanced to manage the Real Time Extension processor set; enhanced to support one more PSET attribute type called LCPU.
- `pstat_getstatic()` System Call: Information returned by `pstat_getstatic()` may now change between reboots due to manually or automatically generated administrative changes in the associated kernel tunables, online addition/deletion of resources, or other events. Likelihood of it changing is infrequent.
- **New:** Ptools Process Management Tools: New set of process management tools that support easy process tracking and debugging. Consists of the following commands: `pmap`, `pfiles`, `pgrep`, `pkill`, `ptree`.
- `ptrace()` System Call: Obsolete in HP-UX 11i v3.
- `rc` Shell Script: When a system needs reboot for some reason, messages in the file `/etc/rc.bootmsg` will be displayed before the system is rebooted.
- `sar` Command: Enhanced to report activity for each HBA and Tape device.
- `setboot` Command: Enhanced to provide support for setting the High Availability (HA) Alternate boot path; supports the setting of a firmware test for the next boot on the Itanium®-based platform; modified to take a persistent DSF or a lunpath hardware path as valid input to set the bootpath for next boot; enhanced to enable or disable hyperthreading environment for the next boot on a Dual-Core Intel® Itanium® 2 platform.
- `sigblock(2)`, `sigsetmask(2)`, `sigstack(2)`, `sigvector(2)`, and `bsd_signal(3C)`: Manpages are obsolete.
- `spray` Command: Provides two new options: `-d`, which specifies how many microseconds to pause between sending each packet, and `-t`, which specifies class of transports.
- **New:** `swapctl()` System Call: Allows you to configure primary swap to take effect on the next boot. Previously this could only be done via the commands `lvlnboot` and `vxvmbboot`. `swapon()` system call is deprecated.
- `swapon` and `swapinfo` Commands: `swapon` command enhanced to support setting/unsetting of primary swap device for next boot; `swapinfo` command supports new `-s` option to display settings of primary swap for next boot.

- `sysdef` Command: Deprecated. Reports incorrect values for some tunable parameters such as `msgmap`, `sema`, and `shmem`.
- `syslogd` Command: Enhanced to continue logging to log files even after the size of the log file grows beyond 2GB; enhanced to log multibyte message strings correctly.
- `usermod` has been modified to selectively prevent the movement of home directories with `-m` option.
- UNIX 2003 Compliance: All commands are modified/enhanced to conform to UNIX 2003 Standards. The UNIX 2003 changes which do not affect HP-UX compatibility are available by default. Otherwise, in order to get UNIX 2003 behavior, the variable `UNIX_STD` has to be defined in the environment.

Initial (February 2007) Release Notes, Chapter 10: "Libraries and Programming"

- Bundled C Compiler: Updated to version A.06.12 on Itanium®-based servers and B.11.11.16 on PA-RISC. Highly compatible with previous versions; diagnostic messages have changed; more erroneous and suspicious source constructs are diagnosed.
- aC++ Run Time Library: Includes the `-AA-D_HP_NONSTD_FAST_IOSTREAM` performance improvement macro, C++ Standard Library TC1 compliance change, and USA 2007 Daylight Savings Time legislation support.
- Dynamic Loader (`dld.so`): Since patch PHSS_32864, September 2005, `dld.so` has enabled large kernel page size, support for loading unaligned shared libraries and executables, and other changes.
- FirstBoot: As part of Transition links (a.k.a. Upgrade), HP used to create a symbolic link `/etc/set_parms -> /sbin/set_parms`. Transition links are obsoleted in HP-UX 11i v3 and `set_parms` is available to the user as `/sbin/set_parms`. So HP-UX 11i v3 will not support the symbolic link `/etc/set_parms`.
- HP MLIB: Updated to version 9.5 with the addition of two new libraries, VECLIBSC8 and LAPACKSC8, which are 64-bit address libraries with 64-bit integer values that use calling conventions similar to those found in Cray's SCILIB math library.
- HP MPI: Updated to version 2.2 with several new features, including C++ bindings, new `mpirun` command line launch options, MPI-2 supported ROMIO, and other new features.
- HP-UX C Library (`libc`)
 - HP-UX C library (`libc`) - UNIX 2003 Standard Compliance: `libc` library enhanced to comply with UNIX 2003 standards. A number of APIs have been added, while some APIs have been modified.
 - HP-UX C library (`libc`) - Other Changes: New features include support for large PID, large `uname` and `hostname`, Tru64 API migration, `malloc(3C)` thread local cache enhancements, long `username` and `groupname`.
 - `libc.1` Library: Deprecated. Is a HP-UX 10.20 compatibility "C" library available in HP-UX 11i. No immediate impact in HP-UX 11i v3. When the `libc.1` library is obsoleted, all programs linking to this library will not work. Hence you are encouraged to start migrating your programs from `libc.1` to `libc.2` library.
 - Networking `libc` APIs: Networking APIs `getnameinfo()` and `getaddrinfo()` now look into the repositories specified with the `hosts` directive of the `/etc/nsswitch.conf` file, as well as those specified in the `inodes` directive, to resolve an IPv4 address. Includes additional changes.
- HP-UX Color-Curses: `libcur_color` Library and Commands: Obsolete. Were declared deprecated in HP-UX 10.30 and are not available in HP-UX 11i v3 PA-RISC.
- Java 2 Platform
 - Java JDK/JRE for HP-UX: HP-UX 11i v3 does not include Java 1.3 and Java 3D (J3D 1.4). SDK/RTE version 5.0 has been updated to incorporate defect fixes.
 - Java Out-of-Box: Updated to incorporate defect fixes.

- **New:** libIO Library: `libIO.so` (for Itanium®-based systems) or `libIO.sl` (for PA-RISC systems) is a shared library, which provides APIs for accessing the HP-UX I/O subsystem information. The library will reduce the dependency on other HP-UX commands for I/O information.
- libpthread Library: Added new API, `pthread_setschedprio()`, to set scheduling priority of target thread.
- Link Editor (`ld`): Additional options and other changes since patch PHSS_32864, September 2005.
- **New:** Mercury Library (`libhg`): Provides high performance interfaces between the user programs and the kernel making it possible to transfer key pieces of information back and forth at high speeds.
- Software Transition Kit (STK): Designed to help transition HP-UX applications from earlier versions of HP-UX to the latest version of HP-UX. Will not be available for HP-UX 11i v3.
- Threads Renice facility: Two new `pthread` APIs to change *nice* value of a thread in a multi-threaded process.
- UNIX 2003 Standard Profile Conformance: New functions and compiler conformance as defined in Single UNIX Specification version 3. The Precision Architecture (PA) systems will have most of the UNIX 2003 features available for applications. Since the C99 compiler will not be available on PA, full UNIX 2003 branding is not supported. Itanium®-based systems will fully conform and will be branded to UNIX 2003.

Initial (February 2007) Release Notes, Chapter 11: “Internationalization”

- Unicode 5.0: Now supported. Unicode 5.0 is an extension to the previously supported Unicode 3.0 character set standard.
- **New:** JISX0213 Standard: Now supported.
- **New:** KS X 1001 Standard: Now supported.
- **New:** Big5-2003 and CNS11643 Standards: Now supported.
- **New:** HKSCS-2004 (Hong Kong Supplementary Character Set): Now supported.
- **New:** Locales - Baltic/Russia/Ukraine/Latin America: Now supported.
- **New:** Locale Versioning: `localedef/libc` UNIX 2003-related I18N changes. New locale version “`locales.3`” has been generated for all system supported locale binaries. This has been provided to protect older PA-RISC-based archived applications from unexpected systems behavior in order to fully support the UNIX 2003 standard.
- UNIX 2003 Support: The `localedef`, `locale` and `iconv` commands and the associated C library APIs, locale databases and `iconv` converters have been updated to align with the UNIX 2003 standard.
- Alternate Width Properties for Unicode Codesets: Now supported for Asian locales.
- **New:** Messaging Commands: `mkcatdefs`, `dspmsg`, and `dspcat` . Added to HP-UX for compatibility with Tru64 UNIX.
- **New:** Iconv Codeset Converter Config File Changes: `system.config.iconv`. New `system.config.iconv` file provided to separate the HP-UX core OS `iconv` mapping table information from the layered third-party and user-specific `iconv` mapping table information.
- Japanese Mainframe Character Set: `iconv` now supports an extended area of Japanese mainframe character sets.
- **New:** Internationalized PostScript Printing Support: `psfontpf`: New PostScript printer filter `psfontpf` enables printing of non-English international characters in text files and web pages.
- Asian Printing: Asian `lp` model files and filters have been enhanced to support important Asian national standards and ISO 10646.

- TrueType Fonts for European Codesets: Provides additional TrueType fonts support to cover the glyph patterns for ASCII, Latin-1 Supplement, Latin Extended-A, Latin-Extended-B, Greek, Cyrillic, and currency symbols.
- Asian TrueType Fonts: Enhanced to support the latest national standards and ISO10646. New typefaces are provided for Japanese, Simplified Chinese, and Traditional Chinese fonts.
- Asian Bitmap Fonts: Enhanced to support the latest national standards and ISO 10646.
- Fallback Font Support: For text-based GUI applications, in the event there are no glyphs, the application will display “?” or “:” characters.
- Asian Functionality (Obsoleted and Deprecated): Several legacy functions are obsolete and have been removed. Also, certain Asian printer lp models, utility/library routines, and dot bitmap fonts have been deprecated.

Initial (February 2007) Release Notes, Chapter 12: “Other Functionality”

- Common Desktop Environment: Updated to version 2.1. Now includes native Itanium®-based 32-bit and 64-bit X/Motif libraries; delivers 64-bit PA-RISC and Itanium®-based libraries for the first time in HP-UX 11i v3; supports Node and Host Name Expansion feature and expanded username feature; and includes many other changes.
- Distributed Computing Environment (DCE) Client and Integrated Login: Default permissions of 3 files have changed; several new filesets are available on PA-RISC and Itanium®-based systems; several products are not available with DCE Client; Integrated Login has 2 new filesets.

What is New for Customers Migrating from HP-UX 11i v2 June 2006

In the following summaries, you can obtain a general picture of how the initial (February 2007) release of HP-UX 11i v3 differs from the June 2006 release of HP-UX 11i v2. For further details, see the indicated chapters in the *HP-UX 11i Version 3 Release Notes*, available in its most current version at <http://docs.hp.com/en/oshpux11iv3.html>.

The following are not exhaustive lists, so HP strongly recommends that you consult the *HP-UX 11i Version 3 Release Notes* (February 2007) for information that is not included here.

In addition, you may want to review the list “What is New for Customers Migrating from HP-UX 11i v1 September 2005” (page 62) for a general picture of how the initial (February 2007) release of HP-UX 11i v3 differs from the September 2005 release of HP-UX 11i v1.

Initial (February 2007) Release Notes, Chapter 4: “Hardware-Specific Information”

- Enhancements to IO Forwarding: The *IO forwarding* interrupt comes under the purview of Detect & Strobe and is enhanced.
- **New:** estape Tape and eschgr Autochanger Drivers: New with HP-UX 11i v3. *ssrfc* driver no longer available.
- HP-UX 11i v3 Driver Development Kit (DDK): Enhanced for HP-UX 11i v3. Provides documentation, sample code, build environment and development tools for 3rd-party developers, ISVs and IHVs to develop and test drivers on HP-UX 11i v3 PA-RISC and Itanium®-based platforms.
- Enterprise Virtual Array (EVA): There is an issue with LUN WWIDs and HP-UX 11i v3.
- HP StorageWorks Secure Path: Obsolete.
- I/O Subsystem: Several new I/O commands help manage the I/O subsystem, and existing commands have new options and functionality to support the next generation mass storage stack.
- **New:** The Next Generation Mass Storage Stack manages I/O devices, such as SCSI logical units (LUNs). In this release, the mass storage stack delivers functionality designed to enhance server scalability, adaptability, and performance while retaining backward compatibility. New features include agile addressing, native multi-pathing, and increased parallelization.

- Networking and Mass Storage Drivers
 - Gigabit Ethernet: The `igelan`, `gelan` and `btlan` products are enhanced with new features, including online deletion (OLD) and module packaging.
 - `HyprFabrc-00`: Supports only Peripheral Component Interconnect (PCI) HF2 cards. HF1 Cards will not be supported.
 - **New:** InfiniBand: An industry-standard high-speed, packet-based interconnect for node-to-node communications, provides higher speed and lower network latency and uses less CPU than other industry standard protocols.
 - `PCIMUX-00`: The `PCIMUX-00` bundle delivers the `pci-mux1` driver, which supports the AD278A and AD279A PCI MUX adapters.
 - `TermIO-00`: The `TermIO-00` driver bundle delivers the `pci_mux0` driver, which supports the A6748A and A6749A PCI MUX adapters.
 - `FibrChanl-00` HP PCI Tachyon TL/TS/XL2 Fibre Channel Driver for HP-UX 11i v3: Supports new Mass Storage Stack, Agile addressing, Soft Zoning, PCI Online deletion, PCI error detection and recovery.
 - `FibrChanl-01` Fibre Channel Mass Storage Driver for HP-UX 11i v3: Supports new mass storage stack, Agile addressing, Soft Zoning, PCI Online deletion, and PCI error detection and recovery.
 - HP PCI Ultra160 SCSI (`c8xx`): Supports new mass storage stack, PCI Online Deletion (OLD), PCI error detection and recovery, HBA Device Special Files (DSF). Termination of support for Ultra2 HBAs.
 - `USB-00`: Includes various quality improvements from previous releases, a dynamically managed device file system enabled by default, multi-layered USB mass storage encryption support, and device tracking.
- **New:** PCI Error Recovery: Provides the ability to detect, isolate, and automatically recover from a PCI error, avoiding a system crash.
- **New:** PCI Card Online Deletion (OLD): The PCI OL* feature has been enhanced to allow HP-UX 11i v3 administrators to delete PCI cards and their associated drivers online without requiring a system reboot.
- Utility Pricing Solutions
 - HP Instant Capacity: Updated to version B.11.31.08.01 to include modifications to the installation procedure; support for Global Instant Capacity (GiCAP) and hyperthreading; changes to GiCAP grouping rules and `icapstatus` command output; and more.
 - HP Pay per use: Updated to version B.11.31.08.01.00 with support for hyperthreading features included in HP-UX 11i v3.
- Xserver: The Xserver's configuration tool is available via the HP SMH interface.

Initial (February 2007) Release Notes, Chapter 5: "General System Administration"

- `asyncdsk` Driver Kernel Tunable `max_async_ports`: `max_async_ports` is now a dynamic tunable; default value changed to 4096 and maximum value is 4194304.
- **New:** Concurrent Dump: You can now configure your machine to perform a distributed parallel dump, thereby improving the dump throughput and reducing dump time.
- Daylight Savings Time (DST). Changes for US DST rules.
- Detect and Strobe: Disabled when any system configuration altering activity is in progress. Functionality enabled by default (value set at 80%).
- Disks and File Systems (`fsweb`): Provides a web-based graphical user interface (GUI) and text user interface (TUI) for File System and Disks system administration tasks.
- **New:** Distributed Systems Administration Utilities: Includes an interface expansion, providing long username and long hostnames.
- **New:** Enhanced User Core File Naming: New command, `coreadm`, introduced to uniquely name application core files created by abnormally terminating user processes.

- Enterprise Cluster Master Toolkit: Includes support for VERITAS Cluster File System (CFS) in a Serviceguard A.11.17 environment, support for Serviceguard 11.17.01 (non-CFS) for CIFS, Tomcat, Apache, Oracle 10g, and more.
- **New:** Event Manager: A comprehensive mechanism for posting, distributing, storing, and reviewing event information. Composed of a kernel component, user libraries (`libevm.so`) and a set of commands.
- Event Monitoring Service: Now enhanced to send WBEM indications, which can be viewed from the EVWEB tool.
- **New:** High Resolution Timer Support: Enhances select timer-related system calls and APIs to provide a resolution finer than the default 10 millisecond resolution.
- HP OpenView GlancePlus Pak: Updated to version C.04.55 with support for large process IDs; enhancement to record the Logical Volume (LV) metrics for Veritas Volume Manager, versions VxVM 4.1 and VxVM 5.0; new metrics for monitoring the UFC; and other changes.
- HP Partitioning and Virtual Server Environment
 - **New:** Dynamic LCPUs: Provides the ability to enable and disable Logical Processors (LCPUs) dynamically at the processor set boundary. Supported only on systems with the Hyper-Threading feature available and enabled.
 - HP Global Workload Manager: Updated to version A.02.50.00.x with support for Linux managed nodes, support for Windows virtual machine guests, nested partitions, and many other changes.
 - HP Process Resource Manager: Updated with features including integration with HP System Management Homepage, ability to map UNIX groups to PRM groups, ability to cap PRM group CPU consumption on a per-group basis. support for Hyper-Threading in PSET PRM groups, and other features.
 - HP-UX 11i v3 Patch Bundles and Software Pack: The initial release of HP-UX 11i v3 will not include the standard Quality Pack (QPK), Hardware Enablement (HWE) and FEATURE11i patch bundles or the Software Pack that delivers optional new core enhancements. The delivery of these patch bundles and the Software Pack is planned for the first update release of HP-UX 11i v3.
 - HP-UX Virtual Partitions: Updated to version A.05.01 with online memory migration, mixing A.04.02 and A.05.01 virtual partitions in the same vPars environment, and hyperthreading. Purchased separately.
 - Integrity Virtual Machines (VM) Note: The host for Integrity VM is not supported on 11i v3. However, the virtual machines of the host can run 11i v3.
 - HP-UX Workload Manager: Updated to version A.03.02.02. Changes include ability to map UNIX groups to workload groups; extended regular expressions in alternate names for application records; enhancements to `wlminfo` output; and other changes.
 - HP-UX Workload Manager Toolkits: Updated to version A.01.10.01. Product label changed from T1302AA to `WLMToolkits`. PPUTK obsoleted; SASTK and DMTK deprecated.
 - Partition Manager: Updated to v2.0 (version B.31.02.03.01) with the ability to enable and disable Hyper-Threading for nPartitions whose cells have processors that are Hyper-Threading capable.
 - nPartition Provider: Updated to version B.31.01.07.01 with support for WBEM Services version 2.5.
 - **New:** Utilization Provider: Lightweight daemon (`utild`) that records system-utilization data on a 5-minute interval; data recorded includes CPU, memory, disk, and network utilization; also includes a WBEM provider for access to the data.
 - vPar Provider: WBEM provider displays information about virtual partitions. Read-only; clients cannot modify virtual partition configurations with it.
- HP Serviceguard: Updated to version A.11.17.01 with support for persistent DSF naming and dynamic multipathing, large PID, identification of networking interfaces (NICs) that

are part of the Serviceguard cluster configuration, and other features. VERITAS Cluster File System (CFS) and Cluster Volume Manager (CVM) not supported in initial release of HP-UX 11i v3. RS232 serial line as cluster heartbeat is obsolete.

- HP Serviceguard Network File System (NFS) Toolkit: Updated to version A.11.31.02 with new control script template and a defect fix. Can work with Serviceguard A.11.17.01, but does not support some Serviceguard A.11.17.01 and NFS HP-UX 11i v3 features. Users who need VERITAS Cluster File System (CFS) should not upgrade to HP-UX 11i v3 until CFS is available on that platform.
- HP System Management Homepage: Updated to version A.2.2.5 to incorporate defect fixes. In addition, is the addition of the new Web-based solutions for Networking and Communications (*ncweb*), and Serviceguard complex management (*sgmgr*) being introduced for HP-UX 11i v3.
- HP Systems Insight Manager: Updated to “HP SIM 5.0 with Update 2 - HP-UX” with support for HP BladeSystem c-Class blade and enclosure, and onboard administrator; HP BladeSystem Integrated Manager 2.1 with updated functionality; minimum system memory configuration to run HP SIM on HP-UX 11i v3 is now 3GB, and defect fixes.
- HP WBEM Services for HP-UX: Updated to version A.02.05 with association providers, internationalization support for CIM operations, CIM schema upgrade, and other major changes.
- HP-UX Accounts for Users and Groups: New TUI in place of the legacy SAM interface; long user names and group names; NIS + Shadow mode can co-exist.
- HP-UX Kernel Configuration: Command preview support in TUI; TUI supports form-based inputs; supports Error Management Technology; includes critical defect fixes.
- **New:** HP-UX Large NPROC: The HP-UX 11i v3 system can support more processes running concurrently than previous releases, changing from 30,000 to 60,000.
- **New:** HP-UX Large PID: The range of Process Identifiers (PID) the kernel can generate in a stand-alone HP-UX system has been expanded from 0 ~ 30,000 to 0 ~ 2³⁰-1 (1,073,741,823).
- HP-UX Peripheral Devices Manager: Enhanced to support the Agile Hardware Path Addressing and Persistent Device Special Files; enhanced to allow for Online deletion of OLRAD cards; now reads the detailed CRA report from the log file in which the report is logged after the change in the CRA behavior; and more.
- HP-UX System V IPC Message Queues: Enhanced with dynamic tuning capabilities. Tunables *msgmax*, *msgssz*, *msgmap*, *msgseg* are obsolete. Added new dynamic tunable *msgmbs*; indicates maximum kernel memory to be used for messages waiting to be received. Tunables *msgmni*, *msgtql* are made dynamic.
- HP-UX WBEM Fibre Channel Provider: Updated to version 11.31.01. All functionalities for association classes are now implemented.
- **New:** HP-UX WBEM File System Provider: Makes available file system information; instruments the *HPUX_HFS*, *HP_LOFS*, *HP_CDFS*, *HP_VxFS*, *HP_NFS*, *HP_MountPoint* and *HPUX_Mount* classes.
- HP-UX WBEM IOTree Provider: Now displays information about all slots on HP-UX 11i v3 system.
- **New:** HP-UX WBEM Online Operations Service Provider: Not currently supported; intended to support features in future releases of HP-UX 11i v3.
- HP-UX WBEM SCSI Provider: Updated to version 11.31.01, but no new feature changes.
- Ignite-UX: Updated to version C.7.0.x with multipath-awareness, new approach for addressing I/O, automatic management of the system boot path for multiple path configurations, user-selectable format for recovery archives and golden archives, and other changes.
- **New:** Kernel Tunable Values Reset From Boot Prompt: HP-UX 11i v3 release provides a new feature in which kernel tunable values can be reset from the boot prompt.

- **New:** Livedump: Provides the ability to take a crashdump on a live system without a forced shutdown or panic of that system. Implemented for Itanium®-based platforms only.
- **New:** Long Username / Groupname: Current limit enhanced from 8 to 255 bytes. By default 8 is still the limit. With an enabler this limit can be enhanced to 255. Once enabled, cannot be disabled in the future. Not supported for trusted systems.
- **New:** Node and Host Name Expansion: Provides the ability to set node and host names up to 255 bytes.
- **Obsolescence Bundle:** Used during an update when obsolete software on the system needs to be removed; automatically selected for updates. Will remove several obsolete or incompatible products and/or drivers.
- **Online Diagnostics product:** Includes several enhancements and features, including support for the Interface Expansion Program (IEP) for large username, groupname, PIDs, and nproc; support of additional features of HP-UX Virtual Partitions (vPars), such as support for notification of events due to dynamic CPU migration; support for agile view of devices, for reporting extended hardware path of devices, for reporting recovered Machine Check Aborts; and other features and changes.
- **SCSI Kernel Tunables:** *scsi_maxphys*, *scsi_max_qdepth* and *default_disk_ir* kernel tunables are obsolete.
- **Software Distributor:** Updated to version 11.31 with support for HP-UX 11i v3-unique features including large pid, long usernames and group names; and improved support for high level software deployment tools such as Software Manager, *update-ux*, and future tools. Includes defect fixes.
- **Software Package Builder:** Added new policy files that include the expansion of the acceptable category tags, the addition of the *is_oe* attribute, and changes to the architecture and *os_release* attribute rules.
- **System Administration Manager (SAM):** Deprecated. The *smh* command is recommended, but *sam* command will continue to be available. Some functional areas previously available are obsoleted.
- **System Administration Manager (SAM) Auditing and Security Functional Area:** System Security Policies subarea of SAM is replaced with the HP-UX Security Attributes Configuration tool; Audited NIS+ Users subarea is obsolete.
- **System Administration Manager (SAM) Printers and Plotters Functional Area:** Launch point in X/ObAM-based GUI mode is now via the HP System Management Homepage.
- **System Administration Management Tool Changes:** SAM and HP System Management Homepage: System Administration Manager (SAM) is deprecated in HP-UX 11i v3. HP System Management Homepage (HP SMH) is the system administration tool for managing HP-UX 11i. HP SMH provides web-based systems management functionality, at-a-glance monitoring of system component health, and consolidated log viewing. HP SMH also provides Terminal User Interfaces (TUIs).
- **System Fault Management:** Features include Event Manager-Common Information Model Provider and Error Management Technology. SFMIndicationProvider and Log Viewer not available; other changes included.
- **Update-UX and SW-GETTOOLS:** The *update-ux* command now uses Software Manager, a new application that provides features including support for preview; interactive TUI; better support for multiple media, including more accurate disk space analysis, dependency selection across media; and improved logging capabilities.
- **Virtual Memory Kernel Tunable *physical_io_buffers*:** Now obsolete. Was used in HP-UX 11i v1.6 and v2 to size a shared buffer pool for physical I/O operations in the kernel. As of HP-UX 11i v3 and later, the kernel automatically manages the pool size.
- **Virtual Memory Kernel Tunables:** The *eqmem_limit* (only on PA-RISC systems) has been added. Several tunables has been removed. See section for details.

Initial (February 2007) Release Notes, Chapter 6: "Disk and File Management"

- HFS (also known as UFS) File System Type: Now deprecated. Will be removed from the OS in a future release, to be determined.
- HFS file system and backup commands: To work on file sizes larger than 2TB.
- HP CIFS Client: Updated to version A.02.02.01 with support for MS Distributed File System (DFS) and DLKM feature and other changes.
- HP CIFS Server: Updated to 3.0f version A.02.03: Redesign of Winbind code; File Locking Interoperation Functionality; support for long user and group names; support for TDB Memory Map.
- HP-UX File Systems Architecture Enhancements: Numerous enhancements include VFS stacking capabilities; `fsdaemon` user level daemon; large file systems and large files support; improved file systems syncer; performance improvement of `aio_reap(2)`; support of larger files and long link names in backup utility; and several other enhancements.
- Logical Volume Manager and MirrorDisk/UX: Delivers significant scalability and availability enhancements. Supports the next generation mass storage stack, and is integrated with the mass storage stack's load balancing and dynamic LUN expansion features; enhanced to support larger logical volumes, temporary suspension of volume groups, striping with mirroring, and dynamic LUN expansion; enables online modification of a volume group, as well as a new script to simplify the replacement of a failing disk.
- Open Network Computing (ONC)
 - AutoFS/Automounter: Updated with the ability to configure AutoFS through the `/etc/default/autofs` file; a new startup/shutdown script for product (no longer controlled by the NFS client startup/shutdown script); support for NFSv4, SecureNFS, and IPv6.
 - Cache File System (CacheFS): New features include long file name support, `cachefspack`, and support for largefiles and large file system.
 - Library RPC: Library routines support several new datatypes, add support for IPv6, and more.
 - Network File System (NFS) Services: Provides numerous enhancements, including `pcnfsd` daemon, which is multithreaded and supports shadow password and Secure RPC; new user mode daemon generates and validates API security tokens, and maps the GSSAPI principal names to the local user and group IDs; additional security mechanisms, such as Secure NFS that supports Kerberos through GSSAPI; NFS access using a firewall; and many other features.
 - Network Information Service (NIS): Provides several new features including support for shadow mode; support for enabling DNS forwarding mode; support for long `uname`, `hostname`, and `username`; and other features.
 - NIS+: Obsoleted.
 - PCNFSD: `pcnfsd` daemon is multithreaded. Support for shadow password and secure RPC; support for printer names up to the PCNFSD protocol limitation of 64 characters.
- **New:** Unified File Cache: Integrates the page cache and buffer cache to provide coherency for file access. Serves as a key enabler for VxFS 4.1 and ONC+2.3. Improves source compatibility with Solaris, Tru64, and Linux applications that depend on coherency of page and buffer cache. Potential performance improvement of applications that depend on coherency of page and buffer cache.
- VERITAS File System (VxFS): Features in version 4.1 include VxFS filesystem as a DLKM; multi-device filesystems; checkpoint enhancements; portable data enhancements; and other features. Cluster File System (CFS) is not supported in the initial release of HP-UX 11i v3.
- VERITAS Volume Manager (VxVM): Features in version 4.1 include support for Volume Sets and VxFS MDS; Cross-Platform Data Sharing; Device Discovery Layer Phase 2; Serial Split Brain; and other features. Cluster Volume Manager (CVM), a part of VxVM that is enabled by a separate license, is not being provided with the current 4.1 HP-UX 11i v3 release.

Initial (February 2007) Release Notes, Chapter 7: "Internet and Networking"

- ARPA Transport: Many enhancements to ARPA Transport include Security Containment, sendfile/UFC, UNIX 2003 Conformance, large hostname support, and Tru64 Application migration to HP-UX/Itanium ®-based.
- Browsers: Mozilla is updated with defect fixes. Includes improved Asian font support on HP-UX and the Japanese Language Pack.
- HP Data Link Provider Interface (DLPI): Enhancements include *NOSYNC STREAMS* synchronization level for improved performance and scalability for high speed links, online deletion (OLD) of I/O card instances, and dynamic loading and unloading of LAN drivers without reboot.
- HP-UX PPPv6: Incorporates defect fixes.
- HP-UX VLAN: New features include support for HP-UX VLANs over APA aggregates and LAN-monitor failover groups, SMH-Network Interface Configuration support for Web-based VLAN configuration, and *nwmgr* support for HP-UX VLANs.
- HP-UX Web Server Suite
 - HP-UX Apache-based Web Server: Updated to version 2.0.58.00 as primarily a bug fix release.
 - HP-UX Webmin-based Admin: Upgraded to 1.070.08 as primarily a defect fix release.
- Internet Services: You can now deselect individual Internet Services during installation or remove filesets later.
- BIND: BIND 9.3 includes many new features, including transition support for IPv4 and IPv6. With HP-UX 11i v3, *NAMED* and *NAMED_ARGS* variables are moved to `/etc/rc.config.d/namesvrs`.
- DHCPv4 (bootpd): New option *sa* configures the *tftp* server, providing control of the *siaddr* field of the *dhcp* packet. New configuration option for the *subnet selection* option in the `/etc/dhcptab` file allows bootpd to assign a network address even if bootpd is not part of that network. Support for PXE clients is added.
- DHCPv6: Now available in the core operating system.
- *inetd*(1): Two new command line options, *-p* (limit number of processes invoked by *inetd*) and *-a* (enable user level auditing of processes). Support for large hostnames and large PIDs.
- *libc*: Numerous changes in APIs.
- Mailx, Elm, and Talk: *elm*(1M) and *mailx*(1M) are long-user-name compliant.
- R-commands: long username is supported.
- Sendmail: Version 8.13.3 has numerous new features.
- TFTP: *tftpd*[™] (server) and *tftp*[™] (client) now support IPv6 addresses. New command line options specify upper and lower port range limits for data transfer.
- WU-FTPD: Version 2.6.1 supports long usernames. This release introduces a new feature, *ascii count* in the *ftpaccess*(4) file by which *ftpf* can be made to reset the timeout alarm of the data connection.
- LAN Administration Commands: *lanadmin* now supports an IPoIB interface, 64-bit MIB, and native and non-native drivers developed by independent hardware vendors; *lanscan* and *linkloop* now support IPoIB interfaces.
- LDAP-UX Integration Product: This release includes the new LDAP-UX version B.04.00.10.
- **New:** Network Interface Management Command Line Interface: The *nwmgr* command is used to manage LAN-based and IB-based network interfaces; a single tool for performing all network interface-related tasks.
- **New:** Network Interfaces Configuration and Network Services Configuration: These tools in the HP System Management Homepage replace the Networking and Communications functions of the System Administration Manager (SAM), which are no longer available.

- Red Hat Directory Server for HP-UX: Updated to version B.07.10.20 to incorporate defect fixes.
- STREAMS: *NOSYNC* feature allows multiple instances of a put procedure for a queue and the service routine for that queue to run concurrently. All references to the global variable `uniprocessor` have been removed.
- NetTL - Network Tracing and Logging: The `nettl` command is enhanced with formatting support for IPoIB header, new command-line option to configure trace buffer timer value, support for pre-capture trace filters, and new command-line options to manage trace filters.

Initial (February 2007) Release Notes, Chapter 8: "Security"

- HP-UX 11i Security Containment: Fine-grained privileges and compartments are now part of the core.
- HP-UX Auditing System: Enhanced in several ways, including: Standard Mode Auditing now part of core products; multi-threaded kernel audit daemon is now dedicated in logging the data into configurable number of files for better performance; collected audit data are more comprehensive; and several other enhancements.
- HP-UX Bastille: With version B.3.0.20, new enhancements, capabilities, features, and benefits (including `bastille_drift` analysis) represent additional items that Bastille will be able to lock down, additional usability improvements, and a new ability for Bastille to check a given system against a security baseline or report on the security-configuration state of a system.
- HP-UX IPFilter: Updated to version A.03.05.13 with defect fixes and enhancements including filtering on X.25 interfaces, filtering on 10GigE interfaces; IPFilter not plumbed into the networking stack by default; no reboot required to enable IPFilter.
- **New:** HP-UX IPsec: Previously only available on the AR media. Now delivered on the HP-UX 11i v3 Operating Environments. Provides an infrastructure to allow secure communications (authentication, integrity, confidentiality) over IP networks between systems and devices that implement the IPsec protocol suite.
- HP-UX Secure Shell: Updated to version A.04.40.005 with new features including an `sftp` only solution in a `chroot` environment; TCP wrappers support for IPv6; Standard Mode Security Extensions (SMSE) enhanced to provide the "Audit all users and events" feature; and other features, as well as defect fixes.
- HP-UX Security Attributes Configuration tool (`secweb`): Updated to support long user name.
- **New:** HP-UX Standard Mode Security Extensions: Now part of the core OS; provides a new command and new library functions. Shadow passwords are now also supported with NIS.
- Install-Time Security: Updated to version 1.0.4 with new questions/configuration, diagnostic daemon configure to local-only use (not network), and `syslog` local-only.
- Kerberos Client: Updated to version 1.3.5.03 with new features including support for powerful cryptographic algorithms like 3DES, RC4, and AES; support for IPv6; support for TCP; and defect fixes.
- OpenSSL: Updated to version A.00.09.08b.09.07j with support (in default version) for several hardware ENGINES (see section for specifics); support for elliptic curve cryptography; and EVP, the library of which provides a high-level interface to cryptographic functions. Other provided versions include other features.
- PAM Kerberos: Enhanced to issue a warning if `rc_host_0` is owned by anyone other than root when a user tries to rlogin into a system; will also issue a warning if the keytable entry is not found for the host service principal on the client but present at the KDC.
- Security Patch Check: Updated to incorporate defect fixes.

Initial (February 2007) Release Notes, Chapter 9: "Commands and System Calls"

- `/etc/skel/.profile` shell script: `.` (current path) in `$PATH` is deprecated.
- 32-bit `pstat` System Call (Deprecated): When compiling a 32-bit application that uses the `pstat` () system call, the compiler option `-D_PSTAT64` must now be specified. This causes

`pstat` () to use 64-bit fields rather than 32-bit fields. The application still remains a 32-bit application.

- `at`, `cron`, and `batch` Commands: New features include support for queueing multiple jobs at the same time, support for queueing of more than 100 jobs, and ability to schedule jobs up to the `njob` limit specified for every queue in `queuedefs(4)`.
- `core` Format Implementation Change: The true version string has replaced the `ut_sname` struct in the `CORE_KERNEL` segment. A workaround has been provided for applications which reversed-engineered the `core` file format and depend on `ut_sname` being in it. This new `core` file format is now the default format.
- `csch` Command Line Interpreter: The non-interactive invocation of `csch` will not source the `~/.history` file by default.
- File Systems Backup and Recovery Commands `fbackup`, `frecover`, and `ftio`: Deprecated; will be obsolete in a future HP-UX release. You should prepare by migrating to the favorable replacement `pax`. Support will be continued for archive retrieval.
- **New:** `gcore` Command: creates a core image of each specified process.
- `getgroups` (), `setgroups` (): no longer limited by the `NGROUPS_MAX`.
- `getty` Command: Enhanced to configure the default setting for special control characters (erase, kill, etc.) by the user.
- HP-UX Kernel Configuration Commands: Includes several significant changes including revision of error, warning, and note messages for clarity; new options for `kconfig`, `kcmodule`, and `kctune` for control of automatic configuration backups; 2 new options for `kctune` command; `kctune` now allows some tunable values to be specified in terms of the percentage of some system resource; changes have been made to the kernel configuration commands to improve resiliency and performance; tunable parameter values may now be overridden on the boot loader command line; and several other changes, including some obsolescences.
- `iostat` Command: Enhanced to report activity for each active lunpath to the LUNs. Also, the new option `-L` has been added, which lists active lunpath statistics.
- `Long hostname`, `uname`, and `setuname`: The limits of these commands can now be expanded to 255 bytes.
- **New:** `Long Username Support by HFS ff`, `VxFS 4.1 ff`, `repquota`, `quotacheck`: Enhanced to support the username up to 255 bytes.
- `lp`, `lpadmin`, `lpfence`, `lpmove`, and `lpsched` Commands: Printers can now be added/removed/modified without bringing down the `lp` scheduler; line printer spooler enhanced to support printer/class names up to 250 characters from the previous limit of 14 characters; support also extended to remote destination names.
- `mmap` () System Call: Enhanced to support mapping file with read only permission with `PROT_EXEC` and implicit `mmap` with `MAP_FIXED`.
- `pax` Command: Enhanced to conform to the UNIX 2003 Standard. You will now be able to use `pax` to archive files having a size greater than or equal to 8GB; long user name/group name; large UID/GID greater than 2097151; long pathname or link name.
- PFS Commands: Obsolete.
- `pipcs` Command: Enhanced to provide details regarding processes using the various POSIX Message Queues, as well as creation time and last modification time of the POSIX Message Queues.
- `ps` Command: Enhanced to display maximum of 1020 characters in the `COMMAND` field.
- **New:** `pselect` () System Call: Added to meet the UNIX 2003 Standard. Provides additional parameter options to users of the `select` () system call. Timeout granularity may be specified in seconds and nanoseconds. A new signal mask parameter is also available to be used for the duration of system call.
- `psrset` Command: Enhanced to support one more PSET attribute type called `LCPU`.

- `pstat_getstatic()` System Call: Information returned by `pstat_getstatic()` may now change between reboots due to manually or automatically generated administrative changes in the associated kernel tunables, online addition/deletion of resources, or other events. Likelihood of it changing is infrequent.
- **New:** Ptools Process Management Tools: New set of process management tools that support easy process tracking and debugging. Consists of the following commands: `pmap`, `pfiles`, `pgrep`, `pkill`, `ptree`.
- `ptrace()` System Call: Obsolete in HP-UX 11i v3.
- `sar` Command: Enhanced to report activity for each HBA and Tape device.
- `setboot` Command: modified to take a persistent DSF or a lunpath hardware path as valid input to set the bootpath for next boot; enhanced to enable or disable hyperthreading environment for the next boot on a Dual-Core Intel® Itanium® 2 platform.
- `sigblock(2)`, `sigsetmask(2)`, `sigstack(2)`, `sigvector(2)`, `bsd_signal(3C)`: Manpages are obsolete.
- `spray` Command: Provides two new options: `-d`, which specifies how many microseconds to pause between sending each packet, and `-t`, which specifies class of transports.
- **New:** `swapctl()` System Call: Allows you to configure primary swap to take effect on the next boot. Previously this could only be done via the commands `lvlnboot` and `vxvmbboot`. `swapon()` system call is deprecated.
- `swapon` and `swapinfo` Commands: `swapon` command enhanced to support setting/unsetting of primary swap device for next boot; `swapinfo` command supports new `-s` option to display settings of the primary swap for next boot.
- `sysdef` Command: Deprecated. Reports incorrect values for some tunable parameters such as `msgmap`, `sema`, and `shmem`.
- `syslogd` Command: Enhanced to log multibyte message strings correctly.
- `usermod` has been modified to selectively prevent the movement of home directories with `-m` option.
- UNIX 2003 Compliance: All commands are modified/enhanced to conform to UNIX 2003 Standards. The UNIX 2003 changes which do not affect HP-UX compatibility are available by default. Otherwise, in order to get UNIX 2003 behavior, the variable `UNIX_STD` has to be defined in the environment.

Initial (February 2007) Release Notes, Chapter 10: “Libraries and Programming”

- Bundled C Compiler: Updated to version A.06.12 on Integrity Servers and B.11.11.16 on PA-RISC. Highly compatible with previous versions; diagnostic messages have changed; more erroneous and suspicious source constructs are diagnosed.
- aC++ Run Time Library: Includes the `-AA -D_HP_NONSTD_FAST_IOSTREAM` performance improvement macro, C++ Standard Library TC1 compliance change, and USA 2007 Daylight Savings Time legislation support.
- FirstBoot: As part of Transition links (a.k.a. Upgrade), HP used to create a symbolic link `/etc/set_parms -> /sbin/set_parms`. Transition links are obsoleted in HP-UX 11i v3 and `set_parms` is available to the user as `/sbin/set_parms`. So HP-UX 11i v3 will not support the symbolic link `/etc/set_parms`.
- HP MLIB: Updated to version 9.5 with the addition of two new libraries, `VECLIBSC8` and `LAPACKSC8`, which are 64-bit address libraries with 64-bit integer values that use calling conventions similar to those found in Cray’s `SCILIB` math library.
- HP-UX C Library (`libc`)
 - HP-UX C library (`libc`) - UNIX 2003 Standard Compliance: `libc` library enhanced to comply with UNIX 2003 standards. A number of APIs have been added, while some APIs have been modified.
 - HP-UX C library (`libc`) - Other Changes: New features include Tru64 API migration, `malloc(3C)` thread local cache enhancements, long username and groupname.

- *libc(1)* Library: Deprecated. Is a HP-UX 10.20 compatibility “C” library available in HP-UX 11i. No immediate impact in HP-UX 11i v3. When the *libc(1)* library is obsoleted, all programs linking to this library will not work. Hence you are encouraged to start migrating your programs from *libc(1)* to *libc(2)* library.
- Networking *libc* APIs: The return value of the *gai_strerror(3N)* API has changed from `char` to `const char`. Includes other changes as well.
- HP-UX Color-Curses: *libcur_colr* Library and Commands: Obsolete. Were declared deprecated in HP-UX 10.30 and are not available in HP-UX 11i v3 PA-RISC.
- Java 2 Platform
 - Java JDK/JRE for HP-UX: HP-UX 11i v3 does not include Java 1.3 and Java 3D (J3D 1.4). SDK/RTE version 5.0 has been updated to incorporate defect fixes.
 - Java Out-of-Box: Updated to incorporate defect fixes.
- **New:** *libIO* Library: *libIO.so* (for Itanium®-based systems) or *libIO.sl* (for PA-RISC systems) is a shared library, which provides APIs for accessing the HP-UX I/O subsystem information. The library will reduce the dependency on other HP-UX commands for I/O information.
- *libpthread* Library: Added new API, *pthread_setschedprio()*, to set scheduling priority of target thread.
- Link Editor (*ld*): Additional linker options introduced since patch PHSS_34440, June 2006, and other changes.
- Mercury Library (*libhg*): Provides high performance interfaces between the user programs and the kernel making it possible to transfer key pieces of information back and forth at high speeds.
- Software Transition Kit (STK): Designed to help transition HP-UX applications from earlier versions of HP-UX to the latest version of HP-UX. Will not be available for HP-UX 11i v3.
- Threads Renice facility: Two new *pthread* APIs to change *nice* value of a thread in a multi-threaded process.
- UNIX 2003 Standard Profile Conformance: New functions and compiler conformance as defined in Single UNIX Specification version 3. The Precision Architecture (PA) systems have most of the UNIX 2003 features available for applications. Since the C99 compiler will not be available on PA, full UNIX 2003 branding is not supported. Itanium®-based systems fully conform and are branded to UNIX 2003.
- Unwind Library (*libunwind*): Updated to version 1.48. Performance of the unwind express APIs has been improved substantially; *U_STACK_TRACE(3X)* and *_UNW_STACK_TRACE(3X)* APIs have been enhanced; new APIs have been added to the unwind express portion of the library.

Initial (February 2007) Release Notes, Chapter 11: “Internationalization”

- Unicode 5.0: Now supported. Unicode 5.0 is an extension to the previously supported Unicode 3.0 character set standard.
- **New:** JISX0213 Standard: Now supported.
- **New:** KS X 1001 Standard: Now supported.
- **New:** Big5-2003 and CNS11643 Standards: Now supported.
- **New:** HKSCS-2004 (Hong Kong Supplementary Character Set): Now supported.
- **New:** Locales - Baltic/Russia/Ukraine/Latin America: Now supported.
- **New:** Locale Versioning: *localedef/libc* UNIX 2003-related I18N changes. New locale version “*locales.3*” has been generated for all system supported locale binaries. This has been provided to protect older PA-RISC-based archived applications from unexpected systems behavior in order to fully support the UNIX 2003 standard.

- UNIX 2003 Support: The `localedef`, `locale` and `iconv` commands and the associated C library APIs, locale databases and `iconv` converters have been updated to align with the UNIX 2003 standard.
- Alternate Width Properties for Unicode Codesets: Now supported for Asian locales.
- **New:** Messaging Commands: `mkcatdefs`, `dspmsg`, and `dspcat` . Added to HP-UX for compatibility with Tru64 UNIX.
- **New:** Iconv Codeset Converter Config File Changes: `system.config.iconv`. New `system.config.iconv` file provided to separate the HP-UX core OS `iconv` mapping table information from the layered third-party and user-specific `iconv` mapping table information.
- Japanese Mainframe Character Set: `iconv` now supports an extended area of Japanese mainframe character sets.
- **New:** Internationalized PostScript Printing Support: `psfontpf`: New PostScript printer filter `psfontpf` enables printing of non-English international characters in text files and web pages.
- Asian Printing: Asian `lpmodel` files and filters have been enhanced to support important Asian national standards and ISO 10646.
- TrueType Fonts for European Codesets: Provides additional TrueType fonts support to cover the glyph patterns for ASCII, Latin-1 Supplement, Latin Extended-A, Latin-Extended-B, Greek, Cyrillic, and currency symbols.
- Asian TrueType Fonts: Enhanced to support the latest national standards and ISO10646. New typefaces are provided for Japanese, Simplified Chinese, and Traditional Chinese fonts.
- Asian Bitmap Fonts: Enhanced to support the latest national standards and ISO 10646.
- Fallback Font Support: For text-based GUI applications, in the event there are no glyphs, the application will display “?” or “:” characters.
- Asian Functionality (Obsoleted): Several legacy functions are obsolete and have been removed. Also, certain Asian printer `lp` models, utility/library routines, and dot bitmap fonts have been deprecated.

Initial (February 2007) Release Notes, Chapter 12: “Other Functionality”

- Common Desktop Environment: Updated to version 2.1. now includes native Itanium®-based 32-bit CDE binaries, 32-bit Xclients, and other features; delivers 64-bit PA-RISC and Itanium®-based libraries for the first time in HP-UX 11i v3; supports Node and Host Name Expansion feature and expanded username feature; and includes several other changes.
- Distributed Computing Environment (DCE) Client and Integrated Login: Several filesets have been removed; several products are not available with DCE Client; Integrated Login has introduced a new library.



NOTE: Revisions to the initial (February 2007) *HP-UX 11i v3 Release Notes* are contained in the *HP-UX 11i v3 Release Notes Errata*, Edition 3, MPN 5992-5827, located at <http://docs.hp.com/en/oshpux11iv3.html> (navigate to **Release Notes**).

4 Hardware-specific information

This chapter provides information regarding supported systems and networking and mass storage drivers, as well as other information about software that is hardware related.

CommonIO

The CommonIO bundle packages multiple products and is always installed. Currently, it delivers items that are required by certain drivers.

Summary of Change

The CommonIO bundle has been updated with quality improvements.

Impact

There are no impacts.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information on specific changes in this release, see the *HP CommonIO B.11.31.0909 Release Notes*. For further information on supported cards, see the *SAS Host Bus Adapters Support Matrix* and the *HP Fibre Channel Host Bus Adapter Support Matrix*. These documents are available at <http://docs.hp.com/en/netcom.html#CommonIO>.

Obsolescence

Not applicable.

Hardware Enablement Bundle for HP-UX 11i v3

Hardware Enablement Patch Bundle for HP-UX 11i v3 provides patches required for new systems and for add-on hardware supported on HP-UX 11i v3, including I/O adapters and devices.

Summary of Change

The HWEEnable11i bundle provides support for new PCI-Express I/O adapters in HP Integrity Servers, and HP-UX support for HP servers using PA8900 processors or latest Intel Itanium processors. Minimal HP-UX support requires other HWE components from this OE Update release that includes diagnostics, I/O driver bundles, along with the Ignite-UX product. HP recommends a full update to the desired OE option from the latest 11i OE Update release for full HP-UX support with the updated versions of the manageability and configuration tools.

This HWEEnable11i bundle includes new HP-UX 11i v3 (11.31) patches for support of new tape devices using the LTO5 format. New patches were also added for future graphics adapters, along with PCIe Error Recovery, and improved support for USB devices.

Impact

HP updates this patch bundle with required patches for new hardware. This bundle is delivered on each updated release of the 11i v3 OE media. In addition to delivery on the HP-UX 11i v3 OE media, the `HWEenable11i` patch bundle is also available from the ITRC website: <http://itrc.hp.com>.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The "bundle readme" document can be found on the OE media under the `/DOCS/PATCH` directory, or at <http://itrc.hp.com>.

For further information, refer to <http://itrc.hp.com>. Select link for **maintenance and support for hp products**. Then, select link for **standard patch bundles**.

Also refer to the latest editions of the following documents, available at <http://www.docs.hp.com/hpux/os/11iV3>:

- *HP-UX 11i v3 Installation and Update Guide* (under **Installing and Updating**)
- *Read Before Installing or Updating to HP-UX 11i v3* (under **Installing and Updating**)
- *Patch Management User Guide for HP-UX 11.x Systems* (under **Patch Management**)
- *HP-UX 11i v3 Release Notes* (under **Release Notes**)

Obsolescence

Not applicable.

Networking and mass storage drivers

HP-UX 11i v3 includes drivers for networking and mass storage adapter cards. The drivers are described in the following sections:

- "Required Networking Drivers" (page 88)
- "Optional Networking Drivers" (page 91)
- "Required Mass Storage Drivers" (page 92)
- "Recommended Mass Storage Drivers" (page 95)



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

Required Networking Drivers

The drivers in the following subsections are required, meaning they are automatically installed during HP-UX installation.

10GigEthr-01

The `10GigEthr-01` bundle contains the `icxgbe` driver, which supports the AD386A PCIe 10 Gigabit Ethernet Card.

Summary of Change

The 10GigEthr-01 driver bundle has been updated with quality improvements.

Impact

There are no impacts.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information on specific changes in this release, see the *10GigEthr-01 (icxgbe) B.11.31.0909 Ethernet Driver Release Notes*. This document is available at <http://docs.hp.com/en/netcom.html#10%20Gigabit%20Ethernet>.

Obsolescence

Not applicable.

10GigEthr-02

The 10GigEthr-02 bundle provides the iexgbe driver and pre-enables support for future products.

Summary of Change

The 10GigEthr-02 driver bundle supports future products. As a result, there are no changes that affect customer systems.

Impact

There are no impacts.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information on specific changes in this release, see the *10GigEthr-02 B.11.31.0909 Gigabit Ethernet Driver Release Notes*. For further information on supported cards, see the *Ethernet System-Driver Matrix*. These documents are available at <http://docs.hp.com/en/netcom.html#10%20Gigabit%20Ethernet>.

Obsolescence

Not applicable.

GigEther-01

Gigabit Ethernet networking driver bundle GigEther-01 supplies the driver igelan.

Summary of Change

This release delivers a set of defect fixes. For details, see the product *Release Notes* at <http://docs.hp.com/en/netcom.html#1000Base-T%20and%201000Base-SX%20%28Gigabit%20Ethernet%29>

Impact

To see what's changed from one release to the next, see the GigEther-01 driver's release history. It is located at

<http://docs.hp.com/en/netcom.html#1000Base-T%20and%201000Base-SX%20%28Gigabit%20Ethernet%29>

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

To see what's changed from one release to the next, see the GigEther-01 driver's release history. It is located at

<http://docs.hp.com/en/netcom.html#1000Base-T%20and%201000Base-SX%20%28Gigabit%20Ethernet%29>

Also at the above site is a list of systems that use the currently supported Gigabit Ethernet drivers. The list is located in the *HP-UX Ethernet Driver Support Matrix, Edition 2 (for Releases of Sept 2004 and Later)*.

For the online manual page, see *nwmgr_igelan(1M)*.

Obsolescence

Not applicable.

IEther-00

The IEther-00 bundle delivers the driver *iether*, which supports the following gigabit ethernet adapters: A7011A, A7012A, AB545A, AD331A, AD332A, AD337A, AD338A, AD339A, NC360m, NC364m. The *iether* driver also supports the gigabit ethernet component of the following combination cards: AB290A, AD193A, AD194A, AD221A, AD222A, AD393A.

Summary of Change

The IEther-00 bundle has been updated with quality improvements.

Impact

There is no impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information on specific changes in this release, see the *IEther-00 (iether) B.11.31.0909 Gigabit Ethernet Driver Release Notes*. For further information on supported cards, see the *Ethernet System-Driver Matrix*. These documents are available at

<http://docs.hp.com/en/netcom.html#1000Base-T%20and%201000Base-SX%20%28Gigabit%20Ethernet%29>

Obsolescence

Not applicable.

Optional Networking Drivers

The drivers in the following subsections are optional, meaning they are not automatically installed, but can be selected during installation.



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

IB4X-00 Driver for InfiniBand

The IB4X-00 product is the driver for the fabric clustering system for InfiniBand.

Summary of Change

With this release, the IB4X-00 product supports the Reliable Datagram Sockets (RDS) protocol for Oracle RAC environments. The RDS protocol is supported only on AH304A and 448262-B21.

Impact

You can deploy Oracle RAC with RDS/Infiniband on HP-UX 11i v3.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The following documents can be found at

<http://docs.hp.com/en/netcom.html#Fabric%20Clustering%20System%20for%20InfiniBand>:

- *IB4X-00 Driver for InfiniBand Release Notes*
- *HP Fabric Clustering System for InfiniBand Support Matrix*
- *HP Fabric Clustering System HP-UX Administrator's Guide*

Obsolescence

Not applicable.

PCIMUX-00

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

For more information about platform support for AD278A and AD279A adapters, see the *Support Matrix* document at <http://www.docs.hp.com/en/netcom.html#Multiplexers>.

Summary of Change

PCIMUX-00 has been updated to version B.11.31.0909 to incorporate defect fixes. For more information, see the product release notes at <http://www.docs.hp.com/en/netcom.html#Multiplexers>.

Impact

There is no impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The following documents are available at <http://www.docs.hp.com/en/netcom.html#Multiplexers>:

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

The following manpage is available: *pmux_stty(1)*.

Obsolescence

Not applicable.

Required Mass Storage Drivers

The mass storage drivers in the following subsection are required, which means they are automatically installed during HP-UX installation.



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

RAID-01

The RAID-01 bundle delivers the driver `ciss` for the A7143A, A9890A, A9891A, P400, P700m, and P800 Smart Array controllers.

Summary of Change

The RAID-01 bundle has been updated with quality improvements.

Impact

There are no impacts.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information on specific changes in this release, see the *RAID-01 (ciss) B.11.31.0909 Mass Storage Driver Release Notes*. For further information on supported cards, see the *HP Smart Array RAID Controllers Support Matrix*. These documents are available at <http://docs.hp.com/en/netcom.html#Smart%20Array%20%28RAID%29>.

Obsolescence

Not applicable.

scsiU320-00

The `scsiU320-00` bundle delivers the `mpt` driver, which supports the A7173A and AB290A U320 SCSI host bus adapters.

Summary of Change

The `scsiU320-00` bundle has been updated with quality improvements.

Impact

There are no impacts.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information on specific changes in this release, see the *scsiU320-00 (mpt) B.11.31.0909 Mass Storage Driver Release Notes*. For further information on supported cards, see the *HP Ultra320 SCSI Host Bus Adapter Support Matrix*. These documents are available at <http://docs.hp.com/en/netcom.html#SCSI%20Host%20Bus%20Adapters>.

Obsolescence

Not applicable.

SerialSCSI-00

The `SerialSCSI-00` bundle delivers the driver `sasd` for the factory-integrated internal SAS controller on certain servers, and for the AH303A PCIe SC44Ge Host Bus Adapter. The `CommonIO` bundle is also required to support these controllers.

Summary of Change

The `SerialSCSI-00` driver bundle has been updated with quality improvements.

Impact

There are no impacts.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information on specific changes in this release, see the *SerialSCSI-00 (sasd) B.11.31.0909 Mass Storage Driver Release Notes*. For further information on supported cards, see the *SAS Host Bus Adapters Support Matrix*. These documents are available at <http://docs.hp.com/en/netcom.html#SAS%20Host%20Bus%20Adapters>.

Obsolescence

Not applicable.

USB-00

The USB-00 D.11.31.0909 product enforces the dependencies to the patches that deliver the needed functionality.

Summary of Change

USB-00 D.11.31.0909 enables the enhanced legacy USB driver stack, with quality improvements, and added functionality which includes support for USB 2.0 high speed devices and DVD write capability.

Impact

USB-00 D.11.31.0903 (and later versions) provide the new USB 2.0 support. The selection of this bundle will automatically select the required patches from the OE media. See the following web document for more information:

<http://docs.hp.com/en/14722/UpdatetoUSBDriverSupportonHPUX11iv3.pdf>

Compatibility

The driver names and the `ioscan` output are different for USB devices using the newer USB 2.0 drivers. Any scripts that rely on the older versions of USB-00 (C.11.31 and earlier versions) will have to change. To maintain the current behavior (and known problems) of the older USB-00 driver, the USB-00 D.11.31 version and PHKL_37815 (or superseding USB patches) should not be installed.

Performance

Starting with PHKL_37815 (USB patch), the performance of USB 2.0 devices will be substantially better because they will be accessed using USB 2.0 capable drivers and not at USB 1.1 speeds.

Documentation

The white paper is available at <http://docs.hp.com/en/14722/UpdatetoUSBDriverSupportonHPUX11iv3.pdf>

Obsolescence

USB-00 will be discontinued in HP-UX 11i v4. Meanwhile, USB-00 version D provides a transition vehicle to the new driver delivered as part of the core.

Recommended Mass Storage Drivers

The drivers in the following subsections are recommended, meaning they are installed by default and should be installed because they may fulfill required software dependencies, if any exist. You can manually deselect them before you install or update the system.



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

FibrChanl-00

The HP PCI Tachyon TL/XL2 driver (td) is part of the FibrChanl-00 bundle. The HP PCI Tachyon TL/XL2 Fibre Channel driver manages the following single-port Host Bus Adapters (HBAs):

- A6795A PCI Tachyon XL2 Fibre Channel Adapter
- A5158A PCI Tachlite Fibre Channel Adapter

Summary of Change

FibrChanl-00 has been updated to version B.11.31.0909 to incorporate defect fixes. For details, see the product release notes (<http://docs.hp.com/en/netcom.html>).

Impact

There is no impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The most current documentation for this product can be found at <http://docs.hp.com/en/netcom.html>.

Obsolescence

Not applicable.

FibrChanl-01

The FibrChanl-01 bundle delivers the driver fcd, for use with Fibre Channel HBAs.

Summary of Change

The FibrChanl-01 bundle has been updated with quality improvements.

Impact

There is no impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information on specific changes in this release, see the *FibrChanl-01 (fcd) Fiber Channel Mass Storage Driver for HP-UX 11i v3 Release Notes*. For further information on supported cards, see the *HP Fibre Channel (fcd and fclp) Host Bus Adapter Support Matrix*. These documents are available at <http://docs.hp.com/en/netcom.html#Fibre%20Channel>.

Obsolescence

Not applicable.

FibrChanl-02

The FibrChanl-02 bundle delivers the driver `fc1p`, for use with Fibre Channel HBAs.

Summary of Change

The FibrChanl-02 bundle has been updated with quality improvements.

Impact

There is no impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information on specific changes in this release, see the *FibrChanl-02 (fclp) Fibre Channel Mass Storage Driver for HP-UX 11i v3 Release Notes*. For further information on supported cards, see the *HP Fibre Channel (fcd and fclp) Host Bus Adapter Support Matrix*. These documents are available at <http://docs.hp.com/en/netcom.html#Fibre%20Channel>.

Obsolescence

Not applicable.

SATADVD-00

The SATADVD-00 bundle pre-enables support for future products.

Summary of Change

SATADVD-00 has been newly added to the OEs as a recommended (default-installed) product.

Impact

The SATADVD-00 driver bundle supports future products. As a result, there are no changes that affect customer systems.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

There is no documentation other than these *Release Notes*.

Obsolescence

Not applicable.

Mass Storage Stack

The mass storage stack manages I/O devices, such as SCSI logical units (LUNs). In HP-UX 11i v3, it delivers functionality designed to enhance server scalability, adaptability, and performance.

Summary of Change

The mass storage stack has been enhanced to do intelligent congestion control in a HP Serviceguard (SG) cluster environment. This functionality requires Serviceguard patch PHSS_39614, available at the IT Resource Center (<http://itrc.hp.com>).

Defect fixes are also included in this release.

Impact

These defect fixes and enhancements improve server manageability, ease-of-use, and IO performance.

Compatibility

n/a

Performance

It minimizes SAN congestion events and hence avoids reduction in IO throughput.

Documentation

For an overview of the Next Generation Mass Storage Stack, please see the white paper entitled "The Next Generation Mass Storage Stack," available at <http://docs.hp.com/en/netsys.html#Storage%20Area%20Management>.

For task-oriented information about managing mass storage, see *HP-UX System Administrator's Guide: Storage Management* at the same website.

For details on new or modified commands, please check their associated man pages. In particular, the *scsimgr(1M)* manpage covers the changes to *scsimgr*.

For details on defect fixes, see the patch documentation for the following patches:

- PHKL_39624 11.31 esctl cumulative patch
- PHKL_39625 11.31 esdisk cumulative patch
- PHCO_39626 11.31 scsimgr cumulative patch

Obsolescence

No new obsolescence issues beyond those issued for the February 2007 release of HP-UX 11i v3

Supported systems

For a list of HP 9000 and HP Integrity systems that this release of HP-UX 11i v3 fully supports, refer to HP Server Support Matrix at the following website:

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



NOTE: HP-UX 11i v3 is not supported on workstations. HP recommends that PA-RISC workstation users use HP-UX 11i v1, and Itanium®-based workstation users use HP-UX 11i v2. Further information about HP workstations can be found at the following website:

<http://hp.com/go/workstations>.

Additional information regarding HP servers can be found at the following websites:

- HP BladeSystem: <http://www.hp.com/go/blades>
- HP 9000 Server Family: <http://www.hp.com/go/hp9000>
- HP Integrity Server Family: <http://www.hp.com/go/integrity>

Additional hardware documentation can be found at the following website:

- Enterprise Servers, Workstations, and Systems Hardware:
<http://www.docs.hp.com/en/hw.html>

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 v3, refer to the documents at <http://docs.hp.com/en/hw.html#System%20Firmware>.
- The system firmware files, installation instructions, and release notes with detailed firmware version information can be obtained by selecting **Download Drivers and Software** at <http://www.hp.com/go/bizsupport>. This provides a searchable database for various products or you can follow the product links to select the latest firmware download for your specific server product. Be sure to read the Release Notes for the firmware to ensure a successful update. In general, HP recommends that you update to the latest firmware available before installing or updating to HP-UX 11i v3.
- Use Subscriber's Choice for the latest firmware updates.

HP recommends that you sign-up for Subscriber's Choice so you can automatically receive email notices for the latest firmware updates. Make sure you register all your products to receive the appropriate firmware update notices. At the ITRC website (<http://itrc.hp.com>), click **More maintenance and support options**, then **Subscribe to proactive notifications and security bulletins**.

- Use the Business Support Center Website.

You can also go to the Business Support Center website at <http://www.hp.com/go/bizsupport> for the latest HP-UX 11i firmware updates. The IT Resource Center (ITRC) website at <http://itrc.hp.com> also provides a link to the Business Support Center.

Supported and unsupported HP-UX I/O cards

Current information about supported and unsupported HP-UX I/O cards can be found in the HP-UX Supported I/O Cards Matrix, which is located on the **I/O Cards and Networking Software** Web page at <http://www.docs.hp.com/en/netcom.html> (navigate to **IO Cards**).

Additional details about the support of individual cards can also be found in the set of Support Matrixes available on the **I/O Cards and Networking Software** Web page at <http://www.docs.hp.com/en/netcom.html>. At the top of the page, click the link for the card technology you are interested in, then scroll down to the “Support Matrixes” heading. If a support matrix for your card technology is unavailable, check the card’s user guide or release notes.

Utility Pricing Solutions

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



NOTE: PPU is unchanged for the September 2009 update release.

HP Instant Capacity

The HP Instant Capacity (iCAP) version B.11.31.09.02.00 software (product number B9073BA) provides the ability to instantly increase or decrease processing capacity on specified HP Enterprise servers.

Summary of Change

iCAP version B.11.31.09.02.00 includes the following new features and changes:

- Enhances the performance of GiCAP by efficiently using locally available TiCAP
- Group Manager can now accept members with longer passwords (up to 80 characters)
- More efficient OE upgrade process

For further information, see the *HP Instant Capacity (iCAP) Release Notes* at <http://www.docs.hp.com/en/netsys.html#Utility%20Pricing%20Solutions>.

Impact

Members with longer passwords (80 characters) can be added to the Group Manager system.

Compatibility

There are no known compatibility issues.

Performance

Efficient use of locally available TiCAP has enhanced GiCAP performance in the following manner:

- Speeds up initial activation of the cores
- Reduces the overhead of contacting the Group Manager in case TiCAP is available locally

Documentation

- Manpages:
 - *icap(5)*
 - *icapmanage(1M)*
 - *icapmodify(1M)*
 - *icapnotify(1M)*

- `icapstatus(1M)`
- `icapd(1M)`
- Documents:
For details on the HP Instant Capacity software product, see the *Instant Capacity User's Guide* and *Release Notes* located at <http://www.docs.hp.com/en/netsys.html#Utility%20Pricing%20Solutions>.

Obsolescence

Not applicable.

iCAP Manager

The iCAP Manager product (`iCAPMgr`) version 4.1 Update 1 (A.04.01.01.x) provides functionality to monitor and configure Instant Capacity for a single system. This product runs under HP System Management Homepage. A multi-system version of this software is also included as part of the HP Virtual Server Environment for Integrity.

Summary of Change

Version 4.1 Update 1 includes fixes for defects found in displaying complex names in certain cases.

Impact

Complex names containing special characters are now displayed correctly. The use of Serviceguard clusters no longer inhibits the display of complex names.

After installing the `iCAPMgr` bundle, run the `/opt/icod/bin/icapsmhconfig -a` to configure the `iCAPMgr` product for System Management Homepage.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Manpage: `/opt/icod/man/man1m.Z/icapsmhconfig.1m`

Obsolescence

Not applicable.

5 General system administration

This chapter presents information of particular interest to system administrators.

Dynamic Root Disk

Dynamic Root Disk (DRD) is an HP-UX system administration toolset that provides customers with the ability to clone an HP-UX system image to an inactive disk, then:

- perform system maintenance on the clone while their HP-UX 11i system is online
- update from an older version of HP-UX 11i v3 to HP-UX 11i v3 Update 4 (March 2009) or later
- quickly re-boot during off hours once the desired changes have been made
- utilize the clone for system recovery if needed
- rehost the clone on another system for testing or provisioning purposes (on VMs or blades utilizing Virtual Connect; LVM only)

The bundle name is `DynRootDisk`. The product name is DRD. Administrators can use DRD to reduce downtime for system maintenance by creating an inactive clone of the booted system, then applying patches and products to the clone. The modified clone can then be booted at a convenient time. DRD supports both HP Logical Volume Manager (LVM) and Veritas (VxVM) root volumes except where specifically noted above, and runs on both HP-UX 11i v2 and v3.

Summary of Change

This version of Dynamic Root Disk includes enhancements to improve performance and provide a more robust experience.

The version number will have a base of B.11.31.A.3.4 followed by one more number based on the last build.

Impact

You will not notice any new functionality or features.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The HP-UX Dynamic Root Disk website at <http://www.hp.com/go/drd> provides a product overview, download links, documentation links, and installation instructions.

Obsolescence

Not applicable.

EMSWeb

The EMSWeb tool (bundle `EventMonitorGUI`) enables you to manage requests to monitor resources on the system. Using the EMSWeb tool you can do the following:

- Create new requests to monitor resources
- Create new requests by copying existing requests

- View requests to monitor resources
- Modify requests
- Remove requests

Summary of Change

This release of EMSWeb includes internal defect fixes.

Impact

This release of EMSWeb has no known customer impact.

Compatibility

There is no known compatibility issue.

Performance

There is no known performance issue.

Documentation

Help is integrated with the EMSWeb tool.

Obsolescence

Not applicable.

Feature Enablement Patch Bundle (Feature 11 i)

The FEATURE11 i bundle consists of required patches that meet dependencies for new or updated software products. This patch bundle gets updated with new patches as-needed for support of software products.

Summary of Change

For the September 2009 release, the FEATURE11 i bundle is updated for HP-UX 11i v3 with patches that enhance or provide new core features (including performance improvements) and enable support for improved boot time, ISO Image mounting support for HP-UX 11i v3 (11.31), performance improvements in scheduling, Locality-Optimized Resource Allocation (LORA) for out-of-box improved performance, management enhancements, Internationalization improvements, and many other enhancements.

Japanese manpage patches added to FEATURE11i bundle Starting with the September 2009 HP-UX 11i v3 OE Update, the FEATURE11i bundle will deliver available Japanese manpage patches.

The Japanese manpages are automatically selected during a cold- install or update with HP-UX 11i v3 OE Update media. However, you can de-select the HPUXMan-Jpn bundle during a cold-install or update for those systems that don't use Japanese manpages. (The Japanese manpage patches are only selected for those systems that will install or have installed the HPUXMan-Jpn bundle.)

The HP-UX 11i v3 FEATURE11 i patch bundles include patches with new enhancements that may require updated English manpages. Starting with the September 2009 OE Update, the FEATURE11 i bundle will deliver the available Japanese manpage patches that depend on related FEATURE11 i English manpage patches.

Japanese manpage patches are initially posted to the ITRC website (<http://itrc.hp.com>) after the translation is completed for English manpage patches from the previous HP-UX OE Update media releases. Each Japanese patch is dependent on the associated patch with the updated

English manpage. The patch text file for each Japanese manpage patch will list the associated patch ID in the Defect Description field.

Note that updated Japanese manpages can be delivered several months after the posting of patches with updated English manpages. For the latest Japanese manpage patches, please consult the ITRC website.

Impact

The patches in this bundle have undergone more testing and have received greater exposure than most patches downloaded individually from the HP Patch Hub. All dependencies for patches in this bundle have been resolved.

Compatibility

No compatibility issues are introduced with the patches in the FEATURE11i bundle.

Performance

The patches include recommended and optional performance improvements.

Documentation

The "bundle readme" document can be found on the OE media under the /DOCS/PATCH directory, or on the IT Resource Center website (<http://itrc.hp.com>).

For further information, refer to the following website:

IT Resource Center (<http://itrc.hp.com>): Select link for **maintenance and support for hp products**. Then, select link for **standard patch bundles**.

Also refer to the latest editions of the following documents, available at <http://www.docs.hp.com/hpux/os/11iV3>:

- *HP-UX 11i v3 Installation and Update Guide* (under **Installing and Updating**)
- *Read Before Installing or Updating to HP-UX 11i v3* (under **Installing and Updating**)
- *Patch Management User Guide for HP-UX 11.x Systems* (under **Patch Management**)
- *HP-UX 11i v3 Release Notes* (under **Release Notes**)

Obsolescence

Not applicable.

HP Partitioning and Virtual Server Environment

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

The HP-UX Operating Environments (OEs) include WBEM providers and agent software that enable your systems to operate in the VSE. The VSE Management Software is now included in the Virtual Server and Data Center OEs. For details about what is included with this software, see <http://hp.com/go/vse>.

Accelerated Virtual I/O (AVIO)

The Integrity VM V4.1 release supports Accelerated Virtual I/O (AVIO) device drivers that significantly improve Integrity VM I/O performance.

The Accelerated Virtual I/O solution is composed of four products: GuestAvioLan, HostAvioLan, GuestAVIOStor, and HostAVIOStor. The September 2009 version of these products is B.11.31.0909 and are supported on Integrity VM V4.0 and V4.1

The configuration process for the AVIO devices is basically the same as the existing VIO devices with some minor differences. The device name used in the `hpvmcreate`/`hpvmmodify` commands for the AVIO devices are `aviolan` (or `avio_lan`) for AVIO LAN devices and `aviostor` (or `avio_stor`) for AVIO Storage devices.

Integrity VM V4.1 supports the HP-UX 11iv3 operating system as a VM host, and is available in the VSE-OE and DC-OE. All Integrity platforms are supported as of September 2009.

Summary of Change

AVIO LAN and AVIO Storage have been updated to incorporate defect fixes. For further information, see the *HP Integrity Virtual Machines Release Notes, Version V4.1* (<http://docs.hp.com/en/vse.html#HP%20Integrity%20Virtual%20Machines>).

Impact

The AVIO LAN and Storage products provide significant performance improvements over the existing VIO products.

Compatibility

The AVIO products can coexist with the existing VIO products. In order to select the new AVIO products as your guest driver, use `aviolan` (or `avio_lan`) and `aviostor` (or `avio_stor`)

Performance

The Integrity VM AVIO devices provide significant performance improvements (up to 60% decrease in Service Demand and up to 2X increase in throughput) over the existing (fully emulated) Virtual I/O (VIO) devices.

Documentation

AVIO-specific information is included in the following areas. (The documents are available at <http://docs.hp.com/en/vse.html#HP%20Integrity%20Virtual%20Machines>.)

Manpages (`hpvmnet`, `hpvmcreate`, `hpvmmodify`, `hpvmresources`, `hpvmstatus`, and `hpvmmigrate`)

Release Notes (*HP Integrity Virtual Machines Release Notes, Version V4.1*)

Users Guide (*HP Integrity Virtual Machines Installation, Configuration, and Administration: Version V4.1*)

White Paper (“HP Integrity VM Accelerated Virtual I/O Overview”)

Obsolescence

Not applicable.

Application Discovery agent

Application Discovery (`amgr`)

Application Discovery, version A.04.01.01.xx, provides system administrators and operators with a convenient graphical user interface for browsing an inventory of applications and processes running within a computing network. Screens show the data by host and by application, and you can monitor resource usage at the level of individual processes within an application. In addition, Application Discovery provides automatic detection of several types of application events, and it provides a template editor so that you can expand the scope of discovery to include third-party and custom applications. Application Discovery is integrated with HP Virtual Server Environment (VSE) software components—Virtualization Manager, gWLM, and HP Capacity Advisor—to allow workloads to be defined based on discovered applications.

Summary of Change

Version A.04.01.01.xx of Application Discovery is available from HP Software Depot (<http://hp.com/go/softwaredepot>) as part of HP VSE Management software. The Application Discovery agent (AppDiscAgent) is available with the software and on the OE media.

AppDiscAgent A.04.01.01.xx

Defect fixes have been incorporated into this release.

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

Install AppDiscAgent on each managed system where you have applications and installed software that you want to inventory and monitor. The agent securely supplies data to Application Discovery server at intervals that can be set by a system administrator.

Impact

You will obtain more reliable behavior and data from Application Discovery agent.

Compatibility

Using AppDiscAgent A.04.01.01.xx with Application Discovery Server 4.0 is supported. However, manual certificate exchange is required to secure connection between the new agent and the 4.0 server. See the *HP Application Discovery 4.1 User's Guide* (<http://www.hp.com/go/insightdynamics/docs>) for information on certificate exchange in this situation.

Using AppDiscAgent A.04.01.01.xx with 3.x or older versions of Application Discovery server is not supported.

AppDiscAgent A.04.01.01.xx requires the presence of Web-Based Enterprise Management (WBEM) services, Secure Shell (SSH), and OpenSSL for correct operation and secure data transmission. Consult the *VSE Management Software 4.1 Installation and Update Guide* for details (online at <http://www.hp.com/go/insightdynamics/docs>).

Performance

Application Discovery requires a "warm-up period," during which the agent collects the initial set of data for a managed node. The degree to which "warm-up" affects memory usage by Application Discovery server on the central management system depends on the number of managed nodes that are inventoried at the same time.

Documentation

- Access the online help through the context-sensitive help button [?] in the Application Discovery user interface. A subset of this content is available in the "HP Application Discovery 4.1 User's Guide", which is available online at <http://www.hp.com/go/insightdynamics/docs>.
- The following manpages are included for installation with the product:
 - *agent_config*(1M) for controlling Application Discovery certificates from the managed node.
 - *amgr_remote_config*(1M) for configuring Application Discovery certificates from the CMS.
 - *amgrd*(1M) for controlling or modifying the operation of Application Discovery agent.
- English and Japanese versions of the manpages and other documentation are included at this time.

Obsolescence

Not applicable.

HP Virtual Server Environment (VSE)

HP VSE Management Software 4.1 Update 1 for HP-UX (A.04.01.01) integrates with HP Systems Insight Manager to provide intelligent control of your virtualized environment from one location. HP VSE tool components assist in planning and automating system and application management tasks and allow you to optimize server utilization in real time by creating virtual servers that can automatically grow and shrink based on business priorities and service-level objectives. You can also consolidate multiple applications on a single server and manage clusters as one entity without compromising performance.

This product includes many of the same components that are included with HP Insight Dynamics - VSE suite for ProLiant.

Summary of Change

The VSE Management Software (VSEMgr) components are delivered as Optional products in the operating environments VSE-OE and DC-OE.

The following VSE Management Software components were updated for this release (A.04.01.01):

- **HP Application Discovery** inventories applications that are running and/or installed on servers in a network, and allows you to centrally monitor application activity. In combination with HP Virtualization Manager, Application Discovery allows you to group running processes into applications that can be added to a workload for more comprehensive resource management. This release provides defect fixes.
- **HP Global Workload Manager (gWLM)** allows you to centrally define resource-sharing policies that you can use across multiple HP servers to increase system utilization and facilitate controlled sharing of system resources. This release provides defect fixes.
- **Instant Capacity (iCAP) Manager** is a Web-based interface that can be used to monitor and manage your Instant Capacity environment. This software product provides the ability to increase or decrease processing capacity instantly on specified HP enterprise servers. This release provides defect fixes.

Prior to installing the VSEMgr package, please review the following documents available at <http://www.hp.com/go/insightdynamics/docs> (select the tab labeled "HP Virtual Server Environment for Integrity"):

- *HP VSE Management Software 4.1 Update 1 Release Notes for HP-UX*
- *HP Insight Dynamics - VSE and HP VSE Management Software Version 4.1 Support Matrix*
- *HP VSE Management Software Version 4.1 Installation and Update Guide for HP-UX*
- *HP Insight Dynamics - VSE and HP VSE Management Software 4.1 Getting Started Guide*

Impact

You are not required to upgrade to VSE Management Software version A.04.01.01.

Compatibility

There are no known compatibility issues.

Performance

The VSE Management Software (VSEMgr) should be installed on a server that is reserved for use as a central management server (CMS). Running additional unrelated applications on this server can significantly affect the performance of HP Systems Insight Manager and the VSE Management Software.

Documentation

Manuals for current and older versions of the VSE Management Software can be found at <http://www.hp.com/go/insightdynamics/docs> (select the tab labeled "HP Virtual Server Environment for Integrity.").

This release also includes Japanese localization of VSE software and VSE Management documentation and online help translations.

Obsolescence

Not applicable.

HP-UX nPartition Configuration Commands

The HP-UX nPartition Configuration Commands is a set of system administration commands to create/modify/remove partitions, control power to cells and I/O chassis, flash/turn off attention LEDs for cells, cabinets and I/O chassis, and display information about a hardware partitionable complex and recommended nPartition configuration .

The command line interface for nPartition configuration consists of the following commands:

- *cplxmodify*(1M)
- *fruled*(1)
- *frupower*(1M)
- *parconfig*(1M)
- *parcreate*(1M)
- *parmodify*(1M)
- *parremove*(1M)
- *parstatus*(1)
- *parunlock*(1M)
- *parolrad*(1M)

Summary of Change

This product is supported on the latest HP Integrity systems.

Introduces two new commands (*pardefault* and *pardbmgr*) on the latest Integrity Superdome systems.

Impact

There is no impact.

Compatibility

There is no known compatibility issue.

Performance

The nPartition configuration commands are not performance sensitive. Overall response time depends on WBEM stack elements and network bandwidth.

Documentation

For additional information, see:

- The following manpages:
 - *cplxmodify*(1M)
 - *fruled*(1)
 - *frupower*(1M)

- *parconfig*(1M)
- *parcreate*(1M)
- *parmodify*(1M)
- *parremove*(1M)
- *parstatus*(1)
- *parunlock*(1M)
- *parolrad*(1M)
- *nPartition Administrator's Guide*, available at <http://www.docs.hp.com> or <http://www.hp.com/go/bizsupport>.

Obsolescence

Not applicable.

nPartition Provider

The nPartition Provider is an 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 is supported on the latest HP Integrity systems.

Impact

There is no impact.

Compatibility

There is no known compatibility issue.

Performance

There is no known performance issue.

Documentation

For further information, see the nPartition Provider product datasheet, available at </opt/nparprovider/doc/nParProviderDataSheet.html>

Obsolescence

Not applicable.

Utilization Provider

The Utilization Provider version A.01.08.02.01 is a lightweight daemon (*utild*) that records system-utilization data on a 5-minute interval. System-utilization data includes CPU, memory, disk, and network. This product also includes a WBEM provider for access to the utilization data.

Summary of Change

The Utilization Provider for HP-UX 11i v3 has been updated to version A.01.08.02.01 to support VSE Management Software and HP Insight Dynamics - VSE version 4.1 Update 1.

Impact

When Utilization Provider is installed, it launches the `utild` daemon, which consumes minimal CPU, memory, and disk resources. Up to 30 days of utilization data are kept in data files in `/var/adm/utild`. The total disk space used by these files should not exceed 20MB in the default `utild` installation.

HP Insight Dynamics - VSE and the Virtual Server Environment (VSE) Management Software, running on an HP Systems Insight Manager Central Management Server, requires the Utilization Provider to be running on all managed systems. If the Utilization Provider is removed, the system cannot be managed by HP Virtualization Manager, Capacity Advisor, or Global Workload Manager.

Compatibility

This version of the Utilization Provider depends on HP WBEM Services for HP-UX version A.02.00.11 or later. Patch `PHKL_33752` is required on Dual Core Intel Itanium processor systems being monitored with Capacity Advisor.

Performance

The `utild` process wakes up every 5 minutes, and discovers and records the four metrics (CPU, memory, disk, and network). This discovery has minimal impact on system performance.

Documentation

The `utild` daemon is described in the `utild(1M)` manpage. WBEM schema (MOF files) are installed in `/opt/utild/mof`

For information about new features and capabilities of the VSE Management Software Version 4.1 Update 1, as well as known issues and recommendations, see the *HP VSE Management Software 4.1 Update 1 Release Notes for HP-UX* (<http://www.hp.com/go/insightdynamics/docs>).

Obsolescence

Not applicable.

vPar Provider

The HP-UX vPar Provider is a HP WBEM Services for HP-UX provider 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 for HP-UX product. This release of vPar Provider is supported on all HP server systems that support HP-UX Virtual Partitions (vPars).

Summary of Change

The HP-UX vPar Provider is now supported on HP Integrity Superdome systems, and defects are fixed in the current release.

Impact

There is no impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The `/opt/vparprovider/doc` directory contains the data sheet.

Obsolescence

Not applicable.

HP Serviceguard NFS Toolkit

HP Serviceguard Network File Server (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 and 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 has been enhanced to provide Modular Package support.

Impact

Refer to the *Serviceguard NFS Toolkit Release Notes* for details.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The following documents are available at <http://www.docs.hp.com/en/ha.html#Highly%20Available%20NFS>:

- *Serviceguard NFS Toolkit Administrator's Guide*
- *Serviceguard NFS Toolkit Release Notes*
- "Serviceguard NFS Toolkit Support for Cluster File System" white paper

Obsolescence

Not applicable.

HP System Management Homepage

HP System Management Homepage (HP SMH) is a web-based interface that consolidates and simplifies single system management for HP servers on HP-UX, Linux, Windows, and OpenVMS operating systems.

Summary of Change

This release of HP-UX SMH (version 3.0.2) supports the following:

- IPv6
- Internet Explorer version 8
- Long-length (up to 255 characters) passwords in shadow password mode

This release also includes defect fixes.

For more information about HP SMH changes in this release, see the *HP System Management Homepage Release Notes* (<http://www.docs.hp.com/en/netsys.html#System%20Administration>).

Impact

You can now use IPv6 addresses in addition to IPv4 addresses in HP SMH.

You can now open HP SMH in the web browser Internet Explorer version 8.

You can now use long-length passwords of up to 255 characters in HP SMH in the shadow password mode.

Compatibility

There is no known compatibility issue.

Performance

There is no known performance issue.

Documentation

The following HP System Management Homepage manpages are included with the product:

- *hpsmh*(1M)
- *smhstartconfig*(1M)
- *smhassist*(1M)

HP System Management Homepage help is included with the product.

The following documents are available at <http://www.docs.hp.com/en/netsys.html#System%20Administration>:

- *HP System Management Homepage Installation Guide*
- *HP System Management Homepage Release Notes*
- “Simplifying single-system management on HP-UX 11i – HP System Management Homepage (HP SMH)” white paper

Obsolescence

Not applicable.

HP Systems Insight Manager

HP Systems Insight Manager (HP SIM) is the foundation for HP's unified server-storage management strategy. It is a multiple operating system, hardware level management product that supports HP ProLiant, Integrity and HP 9000 servers, HP StorageWorks MSA, EVA, XP arrays, and third-party arrays. Through a single management view of Microsoft® Windows®,

HP-UX 11i v1, HP-UX 11i v2, HP-UX 11i v3, and Red Hat, SuSE Linux. HP SIM provides the basic management features of system discovery and identification, single event view, inventory data collection, and reporting. The core HP SIM software uses Web Based Enterprise management (WBEM) to deliver 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 workload management, capacity management, virtual machine management, and partition management through the HP Integrity Essentials enable you to pick the value-added software required to deliver complete lifecycle management for your hardware assets.

Summary of Change

HP Systems Insight Manager 5.3 with Update 1 includes the following:

- New hardware support:
Ability to monitor and manage the leading HP ProLiant G6 servers
- Enhanced providers support:
Support for HP Insight Management WBEM Providers v2.3, as well as Integrity Linux providers

Impact

No impact other than those previously listed.

Compatibility

For information about operating systems, hardware, swap space, and software that is supported for HP SIM 5.3.1 see the release notes located at the HP Systems Insight Manager Information Library (<http://h18013.www1.hp.com/products/servers/management/hpsim/infolibrary.html>).

Performance

There are no known performance issues.

Documentation

All HP Systems Insight Manager documentation is available at <http://www.hp.com/go/hpsim/>:

- *HP Systems Insight Manager Installation and Configuration Guide for HP-UX*
- *HP Systems Insight Manager Release Notes*
- *HP Systems Insight Manager README*

These documents provide information about installing and getting started using HP Systems Insight Manager. These documents include an introduction to basic concepts, definitions, and functionality associated with HP Systems Insight Manager.

HP Systems Insight Manager Help System: The help system provides a complete set of documentation for using, maintaining, and troubleshooting HP Systems Insight Manager. A PDF of the help system is available at <http://www.hp.com/go/hpsim/>.

Additional information including general product information, white papers, and support information is available at <http://www.hp.com/go/hpsim/>.

Obsolescence

HP Systems Insight Manager replaces Servicecontrol Manager 3.0

HP-UX Accounts for Users and Groups (ugweb)

The Accounts for Users and Groups (ugweb) tool allows you to manage user and group accounts. The tool enables you to:

- Manage local user accounts
- Manage NIS user accounts
- Manage LDAP user accounts
- Manage group accounts
- Manage user templates and task customization
- View and modify security attributes of local users and NIS users, as the tool is tightly integrated with the HP-UX Security Attributes Configuration tool (*secweb*)

The Accounts for Users and Groups tool (*ugweb*) tool can be launched from the HP System Management Homepage (HP SMH), or from the HP Systems Insight Manager (HP SIM). The tool can also be launched using the *ugweb* command. The tool provides both a web-based Graphical User Interface (GUI) and Text User Interface (TUI).

Summary of Change

This release of Accounts for Users and Groups tool supports long passwords up to 255 characters when in shadow password mode.

Impact

You can now avail the benefits of the security of long length passwords by having passwords up to a length of 255 characters. The long-length password is applicable in shadow password mode only.

Compatibility

The known compatibility issues in the 11i v3 release are as follows:

- The */etc/sam/rmuser.excl* and */etc/sam/rmfiles.excl* files are not supported. These files were used earlier to add users and directories that must be excluded from removal using the HP SAM application.
- UID and passwords are passed as empty strings to task customization scripts.
- Currently, you cannot use the Accounts for Users and Groups (*ugweb*) tool to add/modify passwords of NIS users when the system is configured for alternate password files in NIS + Shadow mode. You can use appropriate commands to manipulate the passwords of NIS users.
- Templates created using the legacy SAM application will not work with the Accounts for Users and Groups tool.

Performance

There is no known performance issue.

Documentation

For additional information, see the following:

- Accounts for Users and Groups help
- *ugweb*(1M) manpage
- *smh*(1M) and *sam*(1M) manpages

Obsolescence

Not applicable.

HP-UX Disks and File Systems (fsweb)

The Disks & File Systems (*fsweb*; bundle name `FileSystems`) is an HP System Management Homepage (HP SMH) tool that can be used for file systems and disks system administration tasks. The tool provides both a web-based Graphical User Interface (GUI) and a Text User Interface (TUI). Disks & File Systems can be started from the HP SMH and HP Systems Insight Manager (HP SIM).

The Disks & File Systems tool supports management of logical volumes, volume groups, disks, file systems, and paging devices. The tool supports the following file systems: Cache File System (CFS), Compact Disc File System (CDFFS), Common Internet File System (CIFS), Hierarchical File System (HFS), Network File System (NFS), and Veritas File System (VxFS).

Summary of Change

The new features in this release of Disks and File Systems are in the area of volume groups. The new features include the following:

- Support for Volume Group (VG) version 2.1
- Migration of VG from version 1.0 to 2.x, and any migration within version 2.x (from 2.1 to 2.2; from 2.2 to 2.1)
- Dynamic LUN Expansion (DLE)
- Dynamic LUN Contraction (DLC)

This release also includes defect fixes.

Impact

You can now take advantage of the improvements being done in the higher versions of volume groups. You can migrate (with the data in place) an existing volume group of version 1.0 to any supported volume group version 2.x. You can also migrate an existing volume group of version 2.x to any supported version 2.y. You can migrate both activated (available) and de-activated volume groups. In the case of an active volume group, the volume group will be automatically de-activated before migrating.

You can now further optimize disk provisioning by preparing the LUN for dynamic contraction or expansion as the case may be. You can do this on both activated (available) and de-activated volume groups.

Compatibility

There is no known compatibility issue.

Performance

There is no known performance issue.

Documentation

For additional information, see the following:

- Disks and File Systems help
- *fsweb*(1M), *sam*(1M) and *smh*(1M) manpages

Obsolescence

Not applicable.

HP-UX Kernel Configuration (kcweb)

The HP-UX Kernel Configuration tool allows you to configure an HP-UX kernel and monitor consumption of kernel resources controlled by parameters. The Kernel Configuration tool provides web-based a Graphical User Interface (GUI) and a Text User Interface (TUI).

You can start the HP-UX Kernel Configuration (kcweb) tool from the HP System Management Homepage (HP SMH) and the HP Systems Insight Manager (HP SIM). You can also use the kcweb command to start Kernel Configuration.

Summary of Change

This release of Kernel Configuration includes defect fixes.

Impact

This release of Kernel Configuration has no known customer impact.

Compatibility

There is no known compatibility issue.

Performance

There is no known performance issue.

Documentation

For additional information, see the following:

- Kernel Configuration Help
- *kcweb*(1M) manpage
- *sam*(1M) and *smh*(1M) manpages

Also see the *kcalarm*(1M), *kcmond*(1M), *kconfig*(5), *kconfig*(1M), *kcmodule*(1M), *kctune*(1M), *kclog*(1M), *kcpath*(1M), *kcusage*(1M), and *system*(4) manpages.

Obsolescence

Not applicable.

HP-UX Peripheral Devices Manager (pdweb)

The HP-UX Peripheral Devices Manager tool (pdweb) enables system administrators to manage the OLRAD-capable PCI slots reported by `olrad` command and peripheral devices reported by `ioscan` command.

Peripheral Devices Manager can be used to add/replace/delete an OLRAD-capable card online, view the devices reported by `ioscan` command, and re-install the Device Special Files where possible.

The Peripheral Devices Manager tool provides web-based Graphical User Interface (GUI) and Text User Interface (TUI). You can start the HP-UX Peripheral Devices Manager (pdweb) tool from the HP System Management Homepage (HP SMH) and the HP Systems Insight Manager (HP SIM). You can also use the pdweb command to start Peripheral Devices Manager.

Summary of Change

This release of Peripheral Devices Manager offers the capability to enable and disable SAS (Serial Attached SCSI) adapters.

Impact

You can now enable and disable a SAS adapter using Peripheral Devices Manager in situations where hardware problems have been resolved.

Compatibility

There is no known compatibility issue.

Performance

There is no known performance issue.

Documentation

For additional information, see the following:

- Peripheral Devices Manager help
- *pdweb*(1M) manpage
- *smh*(1M) and *sam*(1M) manpages

Obsolescence

Not applicable.

HP-UX Software Assistant

HP-UX Software Assistant C.02.25 is a tool that consolidates and simplifies patch management and security bulletin management on HP-UX systems. SWA combines the versatility and power of the HP IT Resource Center Patch Assessment and Security Patch Check utilities, and is the HP-recommended utility to use to maintain currency with HP-published security bulletins for HP-UX software.

Summary of Change

The September 2009 release includes improvements in the integration with HP-SIM:

- Consolidated logging
- Support for 100 systems
- New options page

Impact

See the preceding "Summary of Change."

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Manpages:

- *swa*(1M)
- *swa-clean*(1M)
- *swa-get*(1M)

- *swa-report*(1M)
- *swa-step*(1M)

The HP-UX Software Assistant web pages can be found at <https://www.hp.com/go/swa>, where you can get an overview, receive installation instructions, and download SWA.

The *HP-UX Software Assistant Release Notes* and the *HP-UX Software Assistant System Administration Guide* are available at <http://www.docs.hp.com/en/oshpux11iv3.html#Software%20Assistant%20%28SWA%29>.

Obsolescence

Not applicable.

Ignite-UX

Ignite-UX version C.7.9 is an HP-UX administration toolset that allows you to:

- Manage the simultaneous installation of HP-UX 11i v1, v2, and v3 on multiple HP Integrity server blades and systems, and HP 9000 systems.
- Create custom installation configurations (golden images) for multiple installations on clients.
- Recover HP-UX clients both locally and remotely.
- Create recovery media.

Ignite-UX C.7.1 and later versions run on HP-UX 11i v1, v2, and v3 servers.

Summary of Change

Ignite-UX has been enhanced to allow NFS to replace TFTP when downloading files from the Ignite-UX server.

The **Guided Installation User Interface Option** has been removed from the **User Interface and Media Options** screen. Use the **Advanced Installation** as recommended.

Impact

There are no impacts other than those previously listed.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The Ignite-UX product website, <http://www.docs.hp.com/en/IUX/>, contains information, links to download the product, and documentation.

The following documents are available on the Ignite-UX Information Library web page - <http://www.docs.hp.com/en/IUX/infolib.html>:

- *Ignite-UX Administration Guide*
- *Ignite-UX Quick Start Guide*
- *Ignite-UX Custom Configuration Files*
- *Ignite-UX Reference*

Also available on the Ignite-UX Information Library web page are the Ignite product release notes, Ignite-UX Frequently Asked Questions, and white papers.

Ignite-UX manpages are documented in the *Ignite-UX Reference* and are available with the Ignite-UX product in `/opt/ignite/share/man`.

Obsolescence

Not applicable.

ISOIMAGE-ENH

The `ISOIMAGE-ENH` is a bundle that provides support for mounting and unmounting ISO Image file. Using this bundle, you will be able to mount, read and unmount the ISO Image file.

`ISOIMAGE-ENH` is a Software Pack product and is newly delivered in September 2009 as an optional product for all Operating Environments. For more information about Software Pack, see “Software Pack (optional HP-UX 11i v3 core enhancements)” (page 30).

Summary of Change

The `ISOIMAGE-ENH` will be provided in a EP&NCF model. The NCF is provided in a new DLKM module, namely `fspd`. The commands `mount(1M)`, `mount_cdfs(1M)`, `umount(1M)`, and the `mount_cdfs(1M)` manpage patch will be the EPs.

After the installation of the `ISOIMAGE-ENH` bundle, the module `fspd` needs to be loaded (DLKM module) to enable the NCF.

To load the module:

```
kcmodule fspd=loaded
```

To unload the module:

```
kcmodule fspd=unused
```

Impact

`ISOIMAGE-ENH` is required to mount, read and unmount the ISO Image file.

Compatibility

`ISOIMAGE-ENH` is supported on both PA and IPF architectures.

Performance

There are no known performance issues.

Documentation

For additional information, see the `mount_cdfs(1M)` manpage.

Obsolescence

Not applicable.

Logical Volume Manager

Logical Volume Manager (LVM) is the HP-UX default Volume Manager. It provides flexibility in configuring and managing mass storage resources. In HP-UX 11i v3, the LVM kernel and commands are delivered as an always-installed Independent Software Unit (ISU) bundled with the core HP-UX product.

Summary of Change

- `pvmove` enhancements

The `pvmove` command now supports a rebalance feature that tries to keep the ratio of free space to used space on the physical volumes equal (Version 2.0 or higher volume groups). You can use this command to do the following:

- For a single logical volume, a set of logical volumes, or all logical volumes belonging to the volume group, to balance the space occupied on a single volume, a set of volumes, or all physical volumes belonging to the volume group.
- To move all the allocated extents from a single physical volume or set of physical volumes of a volume group to the remaining physical volumes, keeping the space on the remaining physical volumes balanced.

- `vgmove`

The new `vgmove` command migrates data from an old set of physical volumes to a new set of physical volumes within a single volume group.

- Command enhancements for shared volume groups

The `lvcreate`, `lvremove`, `lvextend`, `lvreduce`, `lvchange`, `vgextend`, `vgreduce`, `pvmove`, `vgmove`, `vgmodify`, `lvsplit`, and `lvmerge` are supported on shared volume groups Version 2.1 or higher. The LVM daemon, `/usr/bin/lvmpud`, must be running on all nodes in the cluster.

- Forced deactivation

The `vgchange` command now has a new flag (`-f`) that enables you to force the deactivation of a volume group while an automatic kernel daemon resynchronization is in progress. This feature works in normal activation mode (standalone) and exclusive mode activation in HP Serviceguard clusters. This new feature is supported for Version 1.0 and Version 2.x volume groups.

Impact

The `pvmove` command enhancements enable you to better use the existing or new storage resources for space and to empty a single or set of physical volumes in a volume group.

The `vgmove` command enables you to migrate data to another set of physical volumes without stopping applications that access the data.

With LVM command shared volume support, you no longer need to deactivate the shared volume group on all but one node in order to change the volume group configuration.

With forced deactivation support, you will no longer receive an `EBUSY` error when you attempt to deactivate a volume group during resynchronization.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For details of these enhancements and defect fixes, see the HP-UX Logical Volume Manager and MirrorDisk/UX Release Notes, at <http://docs.hp.com/en/oshpux11iv3.html#LVM%20Volume%20Manager>

For more information about LVM, see HP-UX System Administration: Logical Volume Management, as well as LVM white papers available at the same website.

In addition, there are over thirty existing manpages for LVM and its commands. *lvm(7)* provides an overview and list of commands. New or significantly changed manpages include *lvchange(1M)*, *lvcreate(1M)*, *lvextend(1M)*, *lvmerge(1M)*, *lvreduce(1M)*, *lvremove(1M)*, *lvsplit(1M)*, *lvmpud(1M)*, *pvmove(1M)*, *vgcreate(1M)*, *vgextend(1M)*, *vgmodify(1M)*, *vgreduce(1M)*, and *vgmove(1M)*.

Obsolescence

No obsolescence changes since the HP-UX 11iv3 February 2007 release.

Network Interfaces Configuration and Network Services Configuration

Network Interfaces Configuration and Network Services Configuration (bundle name: *NetworkConf*) is used to configure network interfaces and network services on an HP-UX system. It has a web-based Graphical User Interface (GUI) and a Text User Interface (TUI). The two HP SMH tools that are available on installing this product are as follows:

- Network Interfaces Configuration tool for configuring APA, NIC, RDMA, VLAN, Tunnel, and X.25 interface
- Network Services Configuration tool for configuring various network services

Summary of Change

In this release, the following two additional attributes are included for modifying IP attributes in the NIC area:

- Add entry to */etc/hosts* file
- Hostname

Impact

You can now avail the benefits of the */etc/hosts* file by configuring the relevant hostname in the NIC IP Modify area.

Compatibility

There is no known compatibility issue.

Performance

There is no known performance issue.

Documentation

For additional information, see the following:

- Product help that is integrated with the tool
- *ncweb(1M)*, *smh(1M)*, and *sam(1M)* manpages

Obsolescence

Not applicable.

Online Diagnostics

Online Diagnostics includes the following:

EMS Hardware Monitors - The EMS Hardware Monitors enable you to monitor the operation of a wide variety of hardware products and be alerted of failure or any unusual activities.

STM - The Support Tools Manager (STM) provides a set of online support tools, enabling you to verify and troubleshoot system hardware, and to examine system logs.

Summary of Change

Starting from September 2009 release, OnlineDiag will not be supported on newer platforms. If invoked, STM and Hardware Monitoring Request Manager (monconfig) utilities will exit and no monitoring requests will be created.

September 2009 release onwards, System Fault Management (SysFaultMgmt) will be the default monitoring mode on both older and newer platforms. Switching between modes will not be available on newer machines.

Defect fixes have been incorporated.

Impact

OnlineDiag monitors will not run on newer platforms. This implies that switching to EMS mode will not be supported and STM will not be launched either. SysFaultMgmt is the only monitoring solution available on these platforms. However, on older platforms, there is no change in behavior.

Compatibility

The September 2009 OnlineDiag release has placed pre-requisites on EMS version A.04.20.31 or later and the ProviderSvcsBase (PSB) product.

Performance

There are no known performance issues.

Documentation

Web Sites:

Software Depot Web Page for HP-UX Diagnostics Products Collection mega bundle (<http://h20392.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=DiagProdCollection>)

Documents (available at <http://docs.hp.com/en/diag>)

- *Diagnostics Documentation Read This First*
- *Diagnostics Overview Guide*
- *Administrator's and User's Guide for OnlineDiag (EMS, STM)*
- *STM, EMS Table of Versions*
- *STM Patch Descriptions*
- *STM Release Notes*
- *EMS Release Notes*

Obsolescence

Starting with HP-UX 11i v3 March 2009 release, OnlineDiag (including STM) will be in support mode. Moving forward, no new enhancements will be made to OnlineDiag (including STM). Only Critical / Serious defects will be analyzed. For the most current information about OnlineDiag obsolescence, see the following documents at <http://www.docs.hp.com/en/diag.html#2%20Online%20Diagnostics>

- *EMS Release Notes for HP-UX 11i v3 September 2009 Release*
- *STM Release Notes for HP-UX 11i v3 September 2009 Release*

Printer Management (web-based)

The Printer Management (web-based) tool enables you to configure and manage printers on HP-UX systems. The tool is available from the HP System Management Homepage (HP SMH) and provides both a web-based graphical user interface (GUI) and a text user interface (TUI).

The Printer Management tool is an enhanced version of the Printers and Plotters functional area of the earlier System Administration Manager (SAM).

Summary of Change

This release of Printer Management includes internal defect fixes.

Impact

This release of Printer Management has no known customer impact.

Compatibility

There is no known compatibility issue.

Performance

There is no known performance issue.

Documentation

Help is integrated with the Printer Management software.

Obsolescence

The legacy version (X-Windows based and available through SAM) of the product is no longer supported.

PropPlus (SysMgmtPlus)

PropPlus (`SysMgmtPlus`, also known as “HP-UX SMH Supplemental Functionality”) is an enhancement plus package to the HP System Management Homepage.

SysMgmtPlus enhances the property pages of HP SMH by adding additional details and introducing dynamic capability to the web page

Summary of Change

A new command line tool, `cprop`, provides equivalent information of GUI.

A new "Health Test" feature is supported when `ProviderSvcsBase` is installed. For information on installing the Health Test feature, see the *ProviderSvcsBase Administrator Guide* at <http://www.docs.hp.com/en/diag.html#Diagnostics%20%28Support%20Tools%29%3A%20General>.

Impact

Allows you to view equivalent information from command line.

Allows you to perform “Health Test” from HP System Management Homepage (HP SMH) property page and command line when Health Test feature is installed.



NOTE: If `SysMgmtPlus` is installed independently after installing HP SMH, HP SMH must be restarted. (HP SMH will restart automatically after terminating, and it will terminate automatically if no SMH connections are present for a period of time [default 30 minutes]).

- To stop HP SMH, enter the following command at the HP-UX prompt:
`# /opt/hpsmh/sbin/hpsmh stop`
 - To start HP SMH, enter the following command at the HP-UX prompt:
`# /opt/hpsmh/sbin/hpsmh autostart`
Or just access SMH from the browser and it will automatically restart.
-

Compatibility

Install HP SMH 3.0 to view new property pages.

Performance

There are no known performance issues.

Documentation

- Websites:
Software Depot Web Page for HP-UX Diagnostics Products Collection mega bundle:
<http://h20392.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=DiagProdCollection>
- Documents (available at <http://docs.hp.com/en/diag>):
 - *SysMgmtPlus Release Notes*
 - *ProviderSvcsBase Administrator Guide*
- Other documents:
SysMgmtPlus Readme, located at
`/opt/hpsmh/data/htdocs/propplus/REL-NOTES.PROPPLUS`

Obsolescence

Not applicable.

ProviderSvcsBase

The product `ProviderSvcsBase` contains a new daemon called `oserrlogd`. This new logging daemon reads error log records from the HP-UX kernel via `diag2` driver, stores them in the circular log files, which can be read by user space processes. Upon storing the error records in log files, the daemon sends EVM notification to the clients (for example, hardware indication WBEM providers and so on) which are interested in reading the error logs. The clients should subscribe to these EVM notifications to receive the error logs.

The new daemon `oserrlogd` supports following two features:

- Reads and formulates MCA log files at `/var/tombstones` directory.
- Reads errors logged via `diag2` driver's `diag_log` interface.

The `oserrlogd` daemon is supported on HP Integrity Superdome based hardware platforms. On pre-Integrity Superdome platforms running HP-UX 11iv3 OS, both `diaglogd` and `oserrlogd` co-exist.

This product is currently supported on HP Integrity systems as well as some hardware platforms from partners based on the Intel Itanium processor family.

Summary of Change

The ProviderSvcsBase product provides an infrastructure for running health tests as a functionality support for WBEM Providers. It also enables the providers to update, retrieve, and archive events from postgres database.

Impact

There are no impacts other than those previously listed.

Compatibility

This product is supported only on all HP Integrity systems. On legacy Integrity systems running HP-UX 11i v3, both `dialogd` and `oserrlogd` co-exist from March 2009.

Performance

There are no known performance issues.

Documentation

Datasheet, Release Notes, and Admin Guide are available at the following location:

<http://docs.hp.com/en/netsys.html#HP%20WBEM%20Providers>

Obsolescence

Similar functionality that has been offered by `diaglogd` daemon, which is delivered as a part of the OnlineDiag bundle, will be obsoleted and replaced by the `oserrlogd` daemon. The `oserrlogd` daemon is delivered as part of the ProviderSvcsBase bundle.

Quality Pack Patch Bundles

The Quality Pack consists of two patch bundles: the Base Quality Pack bundle and the Applications Quality Pack bundle. The Base Quality Pack bundle includes all stable, defect-fix patches for the Core OS, graphics, and key networking drivers. The Applications Quality Pack bundle includes all stable, defect-fix patches for HP-UX Operating Environment (OE) applications.

Summary of Change

The Quality Pack bundles is released every 6 months for HP-UX 11i v3 (B.11.31) with a sizable increase in the number of defect fix patches included. A defect-repair patch is included in the Quality Pack only after it has successfully completed comprehensive internal testing as well as achieved 300 customer downloads.

Impact

The Quality Pack patch bundles are used by customers for the proactive update and maintenance of their HP-UX systems. You should review the readme file that comes with each release of the Quality Pack prior to installation.

Compatibility

There are no known compatibility issues.

Performance

The Quality Pack has the potential to improve system performance, depending on the new and updated patches contained in each release.

Documentation

The Quality Pack readme can be found on the OE media under the /DOCS/PATCH directory, or on the IT Resource Center website: <http://itrc.hp.com>.

For further information, refer to the IT Resource Center (<http://itrc.hp.com>): Select link for **maintenance and support for hp products**. Then, select link for **standard patch bundles**.

Also refer to the latest editions of the following documents, available at <http://www.docs.hp.com/hpux/os/11iV3>:

- *HP-UX 11i v3 Installation and Update Guide* (under **Installing and Updating**)
- *Read Before Installing or Updating to HP-UX 11i v3* (under **Installing and Updating**)
- *Patch Management User Guide for HP-UX 11.x Systems* (under **Patch Management**)
- *HP-UX 11i v3 Release Notes* (under **Release Notes**)

Obsolescence

Not applicable.

RC Enhancement (boot time improvement in HP-UX commands and rc scripts)

The product HP-UX RCEnhancement provides the RC Enhancement feature.

This feature enhances the performance of HP-UX commands and rc scripts. Upon installation, this feature may improve the system reboot time.

RCEnhancement is a Software Pack product and is newly delivered in September 2009 as an optional product for all Operating Environments. For more information about Software Pack, see “Software Pack (optional HP-UX 11i v3 core enhancements)” (page 30).

Summary of Change

The following products have been enhanced to support the RC Enhancement feature:

- PHCO_39690: HP-UX 11i v3 *reboot(1M)*, *shutdown(1M)* cumulative patch (delivered through the FEATURE11i bundle)
- DynRootDisk: Dynamic Root Disk version B.11.31.A.3.4.xx or later
- WBEMsvcs (Version A.02.09): HP WBEM Services for HP-UX

You may observe improved system reboot time by installing above products. Maximum boot time improvement may be observed by installing the entire list of products enhanced for RC Enhancement feature.

For information on the latest updates for RC Enhancement feature, refer the home page of RCEnhancement product at <http://software.hp.com>.

Impact

You may observe improved system reboot time.

Compatibility

There are no known compatibility issues.

Performance

Improved system reboot time may be observed by installing above products.

Documentation

Manpages:

- *reboot*(1M)
- *shutdown*(1M)
- *drd*(1M)

Obsolescence

Not applicable.

Software Distributor (SD)

Software Distributor (SD) is the standard tool suite for working with HP-UX software packages. SD is a group of software for packaging, installing, copying, listing, removing and verifying software.

Summary of Change

For September 2009, IPv6 support is enabled along with defect fixes.

Impact

You can use IPv6 addresses during operations and can continue to reliably perform software deployment operations.

Compatibility

SD remains compatible across all supported releases.

Performance

Performance is the same as in previous releases.

Documentation

SD customer website: <http://docs.hp.com/en/SD> (You may be redirected to a new location in the Business Support Center.)

For more information on Software Distributor features and usage, see the *Software Distributor Administration Guide for HP-UX 11i v1, 11i v2, and 11i v3*, available at: <http://docs.hp.com/en/SD/infolib.html#d0e122>.

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 GUI can be used to create, validate, and edit the product specification files and to create and validate depots. 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. SPB (CLI

or GUI) can also be used to detect possible installation errors of a software package on either the local host or one or more remote hosts.

Summary of Change

HP-UX Packaging Policy Rules related to requisites (corequisites and prerequisites) have been mandated and Software Package Builder has been enhanced to enforce these rules. If the package being validated by Software Package Builder tool does not adhere to the packaging policy, SPB will display new errors. You must handle and fix these errors for successful packaging of the applications/software.

Impact

Validated packages must adhere to the packaging policy.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

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

- The `spb` manpage, `spb(1M)`
- The SPB website at <http://www.docs.hp.com/en/SPB/>
- *The Software Package Builder User's Guide* at <http://www.docs.hp.com/en/SPB/>

Obsolescence

Not applicable.

System Fault Management

System Fault Management (SFM) is a collection of tools used to monitor the health of HP servers and receive information about hardware such as memory, CPU, power supplies, and cooling devices. SFM operates in the Web-Based Enterprise Management (WBEM) environment.

Summary of Change

Starting with the HP-UX 11i v3 September 2009 release, SFM introduces the following providers: BladeProvider, BladeStatusProvider, and EMDProvider.

The other SFM changes are as follows:

- Logviewer enhancement
RecordLog Provider interface to return instances of all log records that are available.
- Slview changes for E1 events
IPMI Event Viewer support for new IPMI event format.
- New Property pages
Enhancements have been made to the property pages in HP System Management Homepage (see `hpsmh(1M)`), and the following new pages have been added:
 - Complex-wide Info
 - Cell Board

- Partition Information
- Blade
- Health Test

The Health Test support is available when the feature is installed by ProviderSvcsBase. For information on installing Health Test feature, see the *ProviderSvcsBase Release Notes* (<http://www.docs.hp.com/en/diag.html#Diagnostics%20%28Support%20Tools%29%3A%20General>). It includes CPU Test and Memory Test features to describe the health test of CPU and memory.
- OnlineDiag equivalence features
 - Syslog functionality
 - Event.log
- Starting from September 2009 release, the below given components, on Itanium-based systems, will be available in ProviderSvcsBase.
 - SFMDB
 - Indication MOFs
- Defect fixes are made.

Impact

See preceding “Summary of Change.”

Compatibility

September 2009 SFM release has placed a pre-requisite on the following:

- `ProviderSvcsCore, r>=C.02.00.01`
- `WBEMServices.WBEM-CORE, r>=A.02.09`

Performance

There are no known performance issues.

Documentation

- Websites:

Software Depot Web Page for HP-UX Diagnostics Products Collection mega bundle (<http://h20392.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=DiagProdCollection>)
- Documents (available at <http://docs.hp.com/en/diag>)
 - *System Fault Management Administrator’s Guide*
 - *SFM Release Notes*
 - *SFM Frequently Asked Questions (FAQs)*
 - *SFM Provider Data Sheets*
 - *SFM Patch Descriptions*
 - *SFM Tables of Versions*
 - *SFM Event Descriptions*

Obsolescence

Not applicable.

Tune-N-Tools

Tune-N-Tools version B.11.31.0909 delivers different tools for tuning the performance of servers automatically.

Summary of Change

- Changes in the existing product "Server-Tunables":
Added another tunable *maxssiz* to the list of kernel parameters, which will be tuned by the *tuneserver(1M)* tool.
The *tuneserver(1M)* command will update the value of *maxdsiz* as 2GB-1.
- Delivery of a new product "Pre-Bind":
This product delivers the *prebind(1M)* tool.
To increase system availability, the *prebind(1M)* tool can be used to improve the startup time of frequently used shared executables .

Impact

- The *tuneserver(1M)* tool can be used to tune a set of kernel parameters automatically with their optimal values, when executed on version 3 of HP-UX 11i (such as the initial release of HP-UX 11i v3, the September 2009 update of HP-UX 11i v3, and so on).
- The *prebind(1M)* tool can be used to improve the startup time of frequently used shared executables to increase system availability.

Compatibility

The Server-Tunables product is applicable for both Itanium-based and PA-RISC machines. The Pre-Bind product is applicable for Itanium-based machines only.

Performance

The *tuneserver(1M)* tool improves the performance of servers when executed on HP-UX 11i v3.
The *prebind(1M)* tool can be used to improve the system availability whenever there is a change in the shared library corresponding to the commands listed in the *prebind(1M)* manpage or white paper.

Documentation

- Manpages:
 - Server-Tunables: *tuneserver(1M)*
 - Pre-Bind: *prebind(1M)*
- White paper (available at <http://www.docs.hp.com/en/oshpux11iv3.html#Performance%20Tuning>):
Server-Tunables: "Server Tuning on HP-UX"
- White paper (available at <http://docs.hp.com/en/dev.html#Developer%20Tools%20and%20Libraries>):
Pre-Bind: ""Improving Program Startup with fastbind"

Obsolescence

Not applicable

Update-UX and SW-GETTOOLS

The `update-ux` command updates the HP-UX operating system to a newer release. The SW-GETTOOLS product contains a set of tools used by `update-ux`. It is automatically installed by `update-ux` and removed on the next reboot.

Summary of Change

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

Impact

There is no impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For further information see the following:

- The `update-ux(1m)` manpage.
- The latest *HP-UX 11i v3 Installation and Update Guide*, available at <http://docs.hp.com/en/oshpux11iv3.html#Installing%20and%20Updating>

Obsolescence

Not applicable.

WBEM services and providers

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.

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

Summary of Change

HP WBEM Services for HP-UX version A.02.09 is a major update to the HP WBEM Services A.02.07 that is already released with HP-UX 11i v2 and 11i v3. This version is based on Open Pegasus 2.9 source base and CIM Schema 2.17.1.

Following are the new features available with HP WBEM Services A.02.09:

- The CIM Repository (`/var/opt/wbem/repository`) is now a database instead of a file-based repository. This change has been made to increase the robustness of the CIM repository.
- `wbemassist` - You can use this command-based troubleshooting utility to identify problems related to HP WBEM Services on managed nodes.

For more information about the product changes in this release, see the *HP WBEM Services Version A.02.09 Release Notes*, available at <http://www.docs.hp.com/en/netsys.html>.

For HP-UX 11i v1, HP WBEM Services version A.02.07.06 is available which includes defect fixes. For more information on HP WBEM Services version A.02.07.06, see the *HP WBEM Services Version A.02.07 Release Notes* available at <http://www.docs.hp.com/en/netsys.html>.

Impact

HP WBEM Services for HP-UX allows you to manage your HP-UX systems, providing integrated solutions that optimize your infrastructure for greater operational efficiency.

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 updated version.

Performance

There is no foreseen degradation in performance for this version of HP WBEM Services for HP-UX.

Documentation

- HP WBEM Services for HP-UX manpages are included with the product:
 - `cimmof(1)`
 - `cimprovider(1)`
 - `osinfo(1)`
 - `wbemexec(1)`
 - `cimauth(1M)`
 - `cimconfig(1M)`
 - `cimserver(1M)`
 - `ssltrustmgr(1M)`
 - `cimserverd(8)`
 - `cimreparchive(8)`
 - `cimsub(1)`
- The following documents are available at <http://www.docs.hp.com/en/netsys.html#HP%20WBEM%20Services::>:
 - *HP WBEM Services for HP-UX Release Notes*
 - *HP WBEM Services Software Developer's Kit Release Notes*

Obsolescence

HP WBEM Services version A.02.09 is not available on HP-UX 11i v1. From this release onwards, no new features or enhancements for HP WBEM Services will be made available on HP-UX 11i v1. Only defects that are critical in nature will be addressed. On HP-UX 11i v1, HP WBEM Services version A.02.07.06 is available. For more information on this version of HP WBEM Services, see the *HP WBEM Services Version A.02.07 Release Notes* available at <http://www.docs.hp.com/en/netsys.html>.

Direct Attached Storage Provider (DASProvider)

The Direct Attached Storage Provider (DAS Provider) contains indication and instance providers that deliver information about the direct attached storage devices on a HP-UX 11.31 server.

The instance provider wraps up the information provided by the STM tools (part of Online Diagnostics) and presents the information to the WBEM client. It also contains a disk consolidated status provider (DAS-CS Provider) which consolidates the status of the disks and presents the consolidated status of the directly attached disks.

This indication provider uses EMS events generated by Online Diagnostics monitors and wraps them up in WBEM format. It then delivers them to the cimserver.

The purpose of this product is to diagnose the hardware using the industry standard WBEM format. Currently, the following hardware can be diagnosed by the provider:

- DS2500 Storage Enclosure
- MSA 30, MSA 1000 and MSA 1500
- MSA 60 and MSA 70

This product requires SysMgmtPlus, version number A.01.00.05.01 (or later), to be installed on the HP-UX 11i v3 system.

Summary of Change

The following changes are implemented in the current release:

- The DAS provider requires ProviderSvcsBase product to be installed on HP Integrity systems to provide information to users.
- Defects are fixed.

Impact

You can diagnose disks using the industry-standard WBEM format.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For more information, see the product Release Notes and Datasheet at <http://docs.hp.com/en/netsys.html#HP%20WBEM%20Providers>

Obsolescence

Online Diagnostics is being obsoleted. The DAS Provider will replace EMS monitors and support WEBES (WBEM support).

HP-UX WBEM Fibre Channel Provider

The Fibre Channel (FC) Provider is an HP-UX WBEM provider. It enables WBEM client applications to retrieve information about Fibre Channel HBAs on the system. This component makes available various attributes related to HBA such as port properties, HBA parameters, and others.

This product requires:

- HP WBEM Services for HP-UX version number A.02.05 (or later) to be installed on HP-UX 11i v3 system.
- Prop Plus (SysMgmtPlus) version number A.01.00.05.01 to be installed on HP-UX 11i v3 system.

The following features are supported by the FC Provider:

- Supports Consolidated Status Provider (CSP) feature
This feature reports the overall health status of the FC-HBA subsystem in the managed node.
- Supports Indication Provider (FC-IP) feature
This feature generates indications whenever events of interest occur in the Fibre Channel subsystems.

Summary of Change

A defect is fixed in this release, and the provider version is changed to 11.31.0909.

Impact

There is no impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Complete information is in the Fibre Channel provider product data sheet, installed at the following location:

<http://www.docs.hp.com/en/netsys.html#HP%20WBEM%20Services>

For more information about the SMH application, see the following documents, available at <http://www.docs.hp.com/en/netsys.html#System%20Administration>:

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

Obsolescence

Not applicable

HP-UX WBEM Online Operations Service Provider

The Online Operations Service (OLOS) Provider, version B.01.04, is the HP-UX WBEM Services provider for online operations on partitionable systems running HP-UX 11i v3 (B.11.31).

The OLOS Provider includes support for cell online activation and cell online deactivation. This provider is delivered as the `olosProvider` product as part of the `ProviderDefault` bundle.

To disable the OLOS Provider, use the following command:

```
cimprovider -d -m HP_OLOSProviderModule
```

For details, see the `cimprovider(1)` manpage.

Summary of Change

HP-UX WBEM Online Operations Service Provider has been updated to incorporate defect fixes.

Impact

There is no impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

The OLOS Provider Release Notes document is available at the following location:

<http://www.docs.hp.com/en/netsys.html#HP%20WBEM%20Providers>

Manpage: *cimprovider(1)*

Obsolescence

Not applicable.

HP-UX WBEM RAIDSA Provider

HP-UX WBEM RAIDSA Provider is used by client applications to determine information about Smart Array HBAs present on the system. With this component you can retrieve details about various attributes of Smart Array HBA.

The product contains an indication provider (RAIDSA-IP) and a consolidated status provider (RAIDSA CSP).

The product requires Prop Plus (SysMgmtPlus), version number A.01.00.05.01 (or later), to be installed on HP-UX 11i v3 system.

The RAIDSA Provider is only used through a WBEM interface. It is not invoked directly by the user. It is a read-only provider.

Summary of Change

The RAIDSA provider requires ProviderSvcsBase product to be installed on Integrity systems to obtain Smart Array HBA attribute details.

Impact

There is no impact other than the new requirement.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Complete information on the RAIDSA provider is in the *RAIDSA Provider Data Sheet*, installed at `/opt/raidsaprovider/doc/RAIDSA_Inst_DataSheet.pdf`

The RAIDSA CSP datasheet is available at the following location:

<http://docs.hp.com/en/netsys.html#HP%20WBEM%20Providers>

Obsolescence

Not applicable.

HP-UX WBEM SAS Provider

HP-UX WBEM SAS Provider is used by client applications to determine information about SAS HBAs present on the system. With this component you can retrieve details about the various attributes of SAS HBAs.

This product contains an indication provider (SAS-IP) and consolidated status provider (SAS-CSP).

This product requires Prop Plus (SysMgmtPlus), version number A.01.00.05.01 (or later), to be installed on HP-UX 11i v3 system.

Summary of Change

A native indication provider is supported on the latest HP Integrity system.

Impact

See the preceding “Summary of Change.”

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Complete information of the SAS Provider is in the *SAS Provider Data Sheet*, installed at `/opt/sas/provider/doc/SAS_Inst_DataSheet.pdf`

Obsolescence

Not applicable.

HP-UX WBEMP-LAN Provider

WBEMP-LAN Provider is a CIM Provider for Ethernet-based LAN technologies on the HP-UX operating system. It consists of three providers:

- LAN Instance Provider
- LAN Indication Provider
- LAN Consolidated Status Provider

The Instance Provider provides information on LAN interfaces in the system. Client applications can use the LAN Instance Provider to determine all Ethernet LAN links available on the system (registered and known to HP-UX DLPI) and collect information about them.

The WBEMP-LAN Indication Provider delivers indications for events that occur on Ethernet interfaces. Client applications can receive indications based on events generated by Ethernet interfaces.

The LAN Consolidated Status Provider reports the consolidated health status of the Ethernet subsystem. Client applications can query the collection class and obtain the consolidated health status.



NOTE: Installation of DLPI patch PHNE_37799 is recommended. Installation of this patch will allow the LAN indication provider to run without impacting the results of Critical Resource Analysis (CRA). CRA is executed before doing PCI online card replacement through SAM, o1rad, or the PCI attention button.

Without installing the patch PHNE_37799, the exact state of the card installed on the system will not be displayed.

The patch PHNE_37799 is available on the ITRC website: <http://itrc.hp.com>.

The product requires SysMgmtPlus, version number A.01.00.05.01, to be installed on HP-UX 11i v3 system.

Summary of Change

The System Management Homepage (HP SMH) web page enables users to include or ignore status of a LAN card instance while generating consolidated status for the LAN cards.

Defects are fixed

Impact

You can obtain detailed Ethernet-based LAN card properties information from HP SMH.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For more information, see the following documents on your system:

- `/opt/lanprovider/doc/HPUX_LANProvider.pdf`
- `/opt/lanprovider/doc/HPUX_LANIndProvider.pdf`
- `/opt/lanprovider/doc/HPUX_LANCSPProvider.pdf`

Obsolescence

Not applicable.

6 Disk and file management

This chapter provides information on directory, file system, and disk management.

MemFS

MemFS is a memory-based filesystem that provides fast access to temporary files by storing them in main memory.

Summary of Change

Version number 2.0 includes the following:

- New mount options have been added to modify the permissions and ownership of root of the file system during mount. This will eliminate the need to modify the permissions/ownership of root after every mount.
- The following new options have been introduced:
 - `mode`: Permissions to be set for the root of the file system after mounting.
 - `user`: User ID or login name to be the owner of the root of the file system after mount.
 - `group`: The group ID or group name to be the owning group of the root of the file system after mount.

Impact

This update will provide a better “total customer experience” compared to MemFS 1.0, with some defect fixes and the new mount options allowing the root directory of mounted MemFS to be created with the specified permission and ownership. Administrators need not perform `chown/chroot` for the root of MemFS after mounting it.

Compatibility

There are no known compatibility issues.

Performance

Applications that access files created on a MemFS filesystem will be significantly faster than disk-based filesystems as long as there is enough memory and the files do not require to be persistent.

Documentation

For additional information, see the `mount_memfs` manpage, as well as the following documents:

- “MemFS 1.0 - A Memory-based File System on HP-UX ” white paper (<http://www.docs.hp.com/en/oshpux11iv3.html#White%20Papers>)
- *Memory File System (MemFS) 1.0 for HP-UX 11i v3 Administrator's Guide* (<http://www.docs.hp.com/en/oshpux11iv3.html#User%20Guides>)

Obsolescence

Not applicable.

ONCplus

Open Network Computing (ONC) is a technology that comprises core services that enable administrators to implement distributed applications in a heterogeneous distributed computing environment. It also includes tools to administer clients and servers. ONC consists of the following

components: Network File System (NFS), AutoFS, CacheFS, and Network Information Service (NIS).

Summary of Change

Prior to the HP-UX 11i v3 release, ONC was updated between Enterprise releases through HP-UX patches. As of the initial release of HP-UX 11i v3, a new product called ONCplus provides ONC defect fixes and new features. Separate patches are unnecessary. You can get new versions of ONCplus through the Operating Environments Update Releases (OEURs) or from the ONCplus website.

The version of ONCplus B.11.31.07.01 bundled in September 2009 release includes defect fixes and changes made in the previous version of ONCplus B.11.31.07.

Impact

ONCplus provides defect fixes and new features through new product versions to provide flexibility for HP-UX 11i v3 customers. All ONCplus versions, both past and current, are also available at <http://software.hp.com>.

Compatibility

There are no new compatibility issues with ONCplus B.11.31.07.01 compared with the previous version of ONCplus (B.11.31.06.01) released in an HP-UX 11i v3 Update Release.

Performance

There are no known performance issues.

Documentation

- Manpages:
 - *setoncento(1M)*
 - *nsswitch.conf(4)*
- Website:

Software Depot Web Page for ONCplus
<http://h20392.www2.hp.com/portal/swdepot/displayProductInfo.do?productNumber=ONCplus>
- White papers (available at <http://docs.hp.com/en/netcom.html#NFS%20Services>):
 - “Managing NFS and KRPC Kernel Configurations in HP-UX 11i v3”
 - “Introducing Network File System Version 4 on HP-UX 11i v3”
- Documents (available at <http://docs.hp.com/en/netcom.html#NFS%20Services>):
 - *NFS Services Administrator’s Guide*
 - *Network Information Service (NIS) Administrator’s Guide*
 - *ONCplus B.11.31.07.01 Release Notes*

Obsolescence

Not applicable.

VERITAS File System (VxFS)

The Veritas File System, or VxFS, is an extent-based, intent logging file system. VxFS is designed for use in UNIX environments that require high performance and availability, and deal with large volumes of data.

Summary of Change

For the September 2009 OEUR, VxFS 5.0 is delivered as a recommended (default-installed) product. VxFS 4.1 is delivered as a required (always-installed) product.

Impact

For detailed information regarding installation of VxFS, see the *HP-UX 11i v3 Installation and Update Guide, September 2009* (<http://www.docs.hp.com/en/oshpux11iv3.html#Installing%20and%20Updating>).

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For additional information, see the Veritas documentation, available at <http://www.docs.hp.com/en/oshpux11iv3.html#VERITAS%20Volume%20Manager%20and%20File%20System>

Obsolescence

Not applicable.

7 Internet and networking

This chapter describes new and changed Internet and networking functionality supported by the HP-UX 11i v3 release.

Browsers

The Firefox 2.0.0.19 browser sets a new standard for Internet browsing by providing an easier and more personal way to use the Internet.

The Thunderbird 2.0.0.19 e-mail application provides convenient, customizable, rich-featured e-mail access.

The open-source windowing toolkit Gnome 2.6 GTK+ libraries for HP-UX is used by the Firefox/Thunderbird browsers on both PA-RISC and Itanium-based platforms. You must install the windowing toolkit before installing Firefox/Thunderbird. It is not necessary to install the GTK+ 2.6.8 depot in order to run Mozilla

Products are:

- Firefox, FirefoxSrc 2.0.0.19
- Thunderbird, ThunderbirdSrc 2.0.0.19
- GTK, GTKSrc 2.6.8.00

Summary of Change

The Firefox version has been updated to 2.0.0.19; this version includes Firefox 2.0.0.19 changes from the Mozilla Foundation.

The Thunderbird version has been updated to 2.0.0.19; this version includes Thunderbird 2.0.0.19 changes from the Mozilla Foundation.

Impact

The Firefox 2.0.0.19 open source Web browser includes Firefox 2.0.0.19 changes from the Mozilla Foundation. This version fixed several security vulnerabilities reported by the Mozilla Foundation.

Thunderbird version 2.0.0.19 is a full-featured e-mail application that supports IMAP and POP mail protocols as well as HTML mail formatting. This version fixes several security vulnerabilities reported by the Mozilla Foundation.

Compatibility

Firefox and Thunderbird use the GTK open-source windowing toolkit on both PA-RISC and Itanium-based platforms. You must install the windowing toolkit before installing Firefox or Thunderbird.

GTK+ 2.6.8 release is intended to provide support only for Firefox and Thunderbird on HP-UX. This product is not supported outside Firefox/Thunderbird, and therefore it is not recommended for mission-critical or production environments.

Performance

There are no known performance issues.

Documentation

The HP-UX Java Website, including free software downloads, is located at <http://www.hp.com/go/Java>.

For more information on Firefox/Thunderbird on HP-UX 11i, visit <http://www.hp.com/go/firefox>.

Obsolescence

There are no obsolescence issues.

HP CIFS Server

HP CIFS Server provides file sharing, printer access and authentication services to CIFS clients. HP CIFS Server implements many Windows Server features on HP-UX. The Microsoft Common Internet File System (CIFS) protocol, sometimes called Server Message Block (SMB), is a Windows network protocol for remote file access. Because HP CIFS Server gives HP-UX access to the CIFS protocol, it enables HP-UX systems to interoperate with PC clients running Microsoft Windows NT, Windows XP, Windows 2000, Windows 2003, Windows 2008, and Windows Vista operating systems, as well as HP-UX systems running HP CIFS Client software.

Summary of Change

Starting with the HP CIFS Server A.02.04 release, HP CIFS Server supports Windows Server 2008 and Windows Vista operating systems. HP CIFS Server A.02.04 can join as a member server in the Active Directory Services (ADS) security mode to a Windows 2008 domain. In addition, Windows Vista clients can now access resources (shares) of the HP CIFS Server.

Defect fixes are included.

Impact

See the preceding “Summary of Change.”

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For more information, refer to the following documentation:

- The following Samba books, which are provided with the HP CIFS Server product and are accessible through the Samba Web Administration Tool (SWAT) home page, or can be accessed directly at `/opt/samba/docs/Samba-HOWTO-Collection.pdf` and `/opt/samba/swat/help` from an HP CIFS Server system:
 - Samba book, *The Official Samba-3 HOW TO and Reference Guide*
 - Samba book, *Samba-3 by Example*
- The following HP CIFS Server documents, which can be found at <http://docs.hp.com/en/netcom.html#CIFS%20%28Common%20Internet%20File%20System%29%20Server>:
 - *HP CIFS Server Administrator’s Guide*
 - *HP CIFS Server Release Notes*
 - HP CIFS Server White Papers

Obsolescence

Not applicable.

HP-UX Web Server Suite

The HP-UX Web Server Suite 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 HP-UX Web Server Suite is delivered as a recommended product on all OEs and includes the following components, each of which can be selected or deselected during installation:

- “HP-UX Apache-based Web Server” (page 143)
- “HP-UX Tomcat-based Servlet Engine” (page 144)
- HP-UX Webmin-based Admin (not updated for September 2009)
- HP-UX XML Web Server Tools (not updated for September 2009)

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 5.8.8 (available with the Operating Environment) to be installed.
- HP-UX Tomcat-based Servlet Engine requires Java 1.4 or later. You are not required to have the entire HP-UX Software Development Kit (SDK) for compiling JSPs; only JRE needs to be installed. HP-UX XML Web Server Tools require SDK for Java 1.3 or later.
- HP-UX Webmin-based Admin depends on Perl 5 or later.

Documentation

Bundled documentation (Release Notes, Admin Guides, User Guides, Migration Guides and FAQs) now install into `/opt/hpws/hp_docs`. These documents can be accessed through HP-UX Apache-based Web Server, HP-UX Tomcat-based Servlet Engine, and HP-UX Webmin-based Admin by browsing to http://yourserver.com/hp_docs on the appropriate port (i.e., for Webmin on port 10000, the URL should be: http://yourserver.com:10000/hp_docs).



NOTE: Shared documentation, such as Migration Guides and FAQs, are located at `/opt/hpws/hp_docs` and are included in the HP-UX Webmin-based Admin product.

The latest information can also be found on the product website: <http://www.hp.com/go/webserver>

HP-UX Apache-based Web Server

HP-UX Apache-based Web Server version 2.0.59.09 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 v.2.0.59.11 is primarily a security/bug fix release.

Impact

There is no impact.

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

For information on documentation, see “Documentation” (page 143).

Obsolescence

Not applicable.

HP-UX Tomcat-based Servlet Engine

The HP-UX Tomcat-based Servlet Engine provides you with Java-based extensions for dynamic content generation via Servlets and JavaServer Pages (JSPs).

Summary of Change

Tomcat version upgrade to 5.5.27.02: Tomcat version 5 implements the Servlet 2.4 and JavaServer Pages 2.0 specifications. Tomcat 5.5.x is designed to run on JDK 1.5 and later versions. For more details refer to the *HP-UX Web Server Release Notes* (see “Documentation” (page 143)).

Impact

See the preceding “Summary of Change.”

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For information on documentation, see “Documentation” (page 143).

Obsolescence

Not applicable.

8 Security

This chapter covers changes and enhancements to security services.

HP-UX Auditing and Security Attributes Configuration (secweb)

The HP-UX Auditing and Security Attributes Configuration is a tool for configuring and managing security attributes, and the auditing subsystem without having to convert the system to Trusted mode.

The software provides both web-based graphical user interface (GUI) and text user interface (TUI). You can start the tool from HP System Management Homepage (HP SMH) or HP Systems Insight Manager (HP SIM), or by using the `secweb` command.

Summary of Change

This release of Auditing and Security Attributes Configuration provides capability to modify and delete custom events that are set for auditing.

Impact

In addition to adding a custom event for auditing, you can now modify and delete a custom event that is set for auditing. While modifying a custom event you can include and exclude events and system calls.

Compatibility

There is no known compatibility issue.

Performance

There is no known performance issue.

Documentation

For additional information, see the following:

- Auditing and Security Attributes Configuration help
- `secweb(1M)` manpage
- `audit(5)` manpage
- `sam(1M)` and `smh(1M)` manpages

Obsolescence

The legacy version (X-Windows based and available through SAM) of the product is no longer supported.

HP-UX Auditing System Extensions

HP-UX Auditing System Extensions provides enhancements to the existing HP-UX auditing system, `audit(5)`. It aims at better facilitating customers' regulatory compliance efforts.

Summary of Change

In the September 2009 Operating Environments Update Release (OEUR), HP-UX Auditing System Extensions B.11.31.03 includes both the features and changes of versions B.11.31.03 and B.11.31.02. These include the following:

- Audit data prefiltering tools (`AudFilter` product), which now support prefiltering for all auditable events and support prefiltering based on compartment label
- Audit data reporting tools (`AudReport` product), which are now available to facilitate regulation compliance
- Fixes for known defects

Impact

The new and changed features of HP-UX Auditing System Extensions offer the following benefits to better facilitate regulatory compliance:

- Quality improvement of the collected audit data.
- Performance increase by reducing the I/O activities of logging events that are not required to be logged.
- Ability to fine tune the set of auditable events based on customer-specific needs.
- Cost reduction to manage the audit log data.
- Ability to extract interesting data from HP-UX raw audit data through a command and/or a set of open APIs.
- Ability to generate web-based audit reports from HP-UX raw audit data for regulation compliance purpose with reduced cost.

Compatibility

There are no known compatibility issues.

Performance

The product improves the auditing system's performance by reducing IO activities of logging events that are not required to be logged. The level of improvement may vary depending on the following factors:

- the number of auditable events being generated on the system at a time;
- portion of time device is busy serving IO requests;
- the number of events excluded from auditing due to filtering.

Documentation

- Manpages:
audfilterd(1M), audfilter(1M), filter.conf(4), auditdp(1M), audit_dpms_api(3), audit_dpms_spi(3), audit_dpms_filter(4), audit_dpms(5), audit_hpux_portable(5), audit_hpux_raw(5), and audit_hpux_xml(5)
- Release notes:
HP-UX Auditing System Extensions B.11.31.03 Release Notes (<http://docs.fc.hp.com/en/internet.html#Security%20Products%20and%20Features>)

Obsolescence

Not applicable.

HP-UX Host Intrusion Detection System

HP-UX HIDS Release 4.3 is a host-based HP-UX security product for HP computers running HP-UX 11i v2 and HP-UX 11i v3. HP-UX HIDS Release 4.3 enables security administrators to pro-actively 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 4.3 complements existing network-based security mechanisms, bolstering enterprise security.

Summary of Change

HP-UX HIDS version 4.3 includes only defect fixes. For more information about the defect fixes, see *HP-UX Host Intrusion Detection System Version 4.3 release notes* available at the following location:

<http://docs.hp.com/en/internet.html#HP-UX%20Host%20Intrusion%20Detection%20System>

Impact

There is no impact.

Compatibility

HP-UX HIDS version 4.3 software is backward compatible with version 4.2, version 4.1, version 4.0, and version 3.1. However, schedules created with 3.1 and 4.0 versions of HIDS must be migrated to HIDS version 4.3.

Schedules created with 4.1 or 4.2 version of HIDS do not need to be migrated. However, in order for a 4.1 schedule to contain the new 4.3 schedule global properties, the migrator tool must be run on the v4.1 schedule or the 4.3 GUI must be started to load and save the v4.1 schedule or the schedule text file must be directly edited to add the new global variables. For more information about migration, see “Migrating Schedules from Older Versions of HIDS” in *HP-UX Host Intrusion Detection System Version 4.3 release notes*.

Performance

There are no known performance issues.

Documentation

- Manpages (with product bits/depots):
 - *IDS_checkAdminCert*(1M)
 - *IDS_checkAgentCert*(1M)
 - *IDS_checkInstall*(1M)
 - *IDS_genAdminKeys*(1M)
 - *IDS_genAgentCerts*(1M)
 - *IDS_importAgentKeys*(1M)
 - *idsadmin*(1M)
 - *idsagent*(1M)
 - *idsgui*(1M)
 - *ids.cf*(4)
 - *idsschedule*(4)

Directory Path: /opt/ids/share/man

- Documents (<http://docs.hp.com/en/internet.html#HP-UX%20Host%20Intrusion%20Detection%20System>):
 - *HP-UX Host Intrusion Detection System Release 4.3 release notes*
 - *HP-UX Host Intrusion Detection System administrator's guide, Software Release 4.3*
- The *OpenView Operations Smart Plug-In for HP-UX Host IDS Administrators and Users Guide* is located at http://www.openview.hp.com/products/spi/prod_spi_0002.html.

To access this document, do the following:

1. Click on the **SPI for HP IDS/9000** link.
2. Agree to the Terms and Conditions.
3. Sign in through HP Passport.

Obsolescence

Support for Release 2.x of HP-UX HIDS was discontinued on March 31, 2007. HP recommends that all customers using HP-UX HIDS Release 2.x upgrade to Release 4.3. To learn more about discontinuance, see <http://www.hp.com/software/releases/releases-media2/discon/index.htm>.

HP-UX IPsec

HP-UX IPsec A.03.00 provides an infrastructure to allow secure communication (authentication, integrity, confidentiality) over IP networks between systems and devices that implement the IPsec protocol suite.

For information about the benefits of HP-UX IPsec, see the *HP-UX IPsec version A.03.00 Administrator's Guide* (<http://docs.hp.com/en/internet.html#IPsec>).

Summary of Change

The following is a high-level summary of the HP-UX IPsec changes for version A.03.00. For a complete description of the changes, see the *HP-UX IPsec A.03.00 Release Notes* (<http://docs.hp.com/en/internet.html#IPsec>).

HP-UX IPsec A.03.00 includes numerous enhancements to support IKE version 2 (IKEv2) and the IPsec v3 protocol specification. The changes in this release can be categorized into the following areas:

- IKE Policy changes
- Authentication Record changes
- Host and Tunnel Policy changes
- Certificate changes
- Support for RFC 4301 security processing for ICMP errors
- Profile File changes
- Mobile IPv6 support is obsolete
- Gateway Policies are obsolete

Impact

If you are using the A.02.01 or A.02.01.01 releases, you can use the `ipsec_migrate` utility to convert their IPsec configuration after A.03.00 is installed. If you are using releases prior to HP-UX IPsec A.02.0, you must update to version A.02.01 or A.02.01.01, then update to version A.03.00. For information about migrating to HP-UX IPsec A.02.01, refer to the *HP-UX IPsec A.02.01 Administrator's Guide*.

There is no migration path for if you are using HP-UX IPsec to secure Mobile IPv6 messages forwarded by an HP-UX system acting as a Home Agent.

Compatibility

For compatibility notes and information about migrating to the current version, see the *HP-UX IPSec A.02.01 Administrator's Guide*.

Performance

There are no significant performance changes.

Documentation

- Manpages:
ipsec_admin(1M), *ipsec_config(1M)*, *ipsec_config_add(1M)*, *ipsec_config_batch(1M)*, *ipsec_config_delete(1M)*, *ipsec_config_export(1M)*, *ipsec_migrate(1M)*, *ipsec_policy(1M)*, and *ipsec_report(1M)*.
- Documents available at <http://docs.hp.com/en/internet.html#IPSec>:
 - *HP-UX IPSec version A.03.00 Administrator's Guide*
 - *HP-UX IPSec version A.03.00 Release Notes*
- Additional white papers will be published after the release.

Obsolescence

Not applicable.

HP-UX Secure Shell

HP-UX Secure Shell A.05.20, based on OpenSSH 5.2p1, offers transparent encrypted security for HP-UX 11i v1, HP-UX 11i v2, and HP-UX 11i v3. The client/server architecture supports the SSH-1 and SSH-2 protocols and provides secured remote login, file transfer, and remote command execution.

HP-UX Secure Shell uses hashing to ensure data integrity and provides secure tunneling features, port forwarding, and an SSH agent to maintain private keys on the client. HP-UX Secure Shell supports several authentication methods and schemes, including the following:

- Kerberos5/GSSAPI
- Public Key
- Host-based
- Keyboard-interactive
- password

The following lists the availability of HP-UX Secure Shell on HP-UX 11i v1, HP-UX 11i v2, and HP-UX 11i v3:

- A.05.20.013 - HP-UX 11i v1
- A.05.20.014 - HP-UX 11i v2
- A.05.20.015 - HP-UX 11i v3

Summary of Change

The following new features are introduced in OpenSSH5.2p1. HP-UX Secure Shell version A.05.20 is based on OpenSSH5.2p1 and includes the following new features:

- Secure Shell 5.2 is linked with OpenSSL A.00.09.8k instead of OpenSSL A.00.09.8j.
- A new option is added to ensure logs are directed to `syslog` instead of `stderr`.
- The `sshd_config(5)` `ForceCommand` directive accepts command-line arguments for the internal-sftp server.

- The `ssh(1)` `~C` escape command-line supports runtime creation of the dynamic (`-D`) port forwards.
- Secure Shell 5.2 supports the SOCKS4A protocol in `ssh(1)` dynamic (`-D`) forwards.
- Secure Shell 5.2 supports remote port forwarding with a listen port 0, thereby ensuring the server dynamically allocates a listen port and reports it to the client.
- `sshd(8)` supports setting `PermitEmptyPasswords` and `AllowAgentForwarding` in match blocks.

Impact

See the preceding “Summary of Change.”

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Following documents are available at <http://www.docs.hp.com/en/internet.html#Secure%20Shell>:

- *HP-UX Secure Shell Getting Started Guide*
- *HP-UX Secure Shell A.05.20.013, A.05.20.014, and A.05.20.015 Release Notes*

Manpages:

- `sshd_config(5)`
- `ssh_config(5)`
- `ssh(1)`

Obsolescence

Not applicable.

HP-UX Software Assistant

HP-UX Software Assistant C.02.25 is a tool that consolidates and simplifies patch management and security bulletin management on HP-UX systems. SWA combines the versatility and power of the HP IT Resource Center Patch Assessment and Security Patch Check utilities, and is the HP-recommended utility to use to maintain currency with HP-published security bulletins for HP-UX software.

Summary of Change

The September 2009 release includes improvements in the integration with HP-SIM:

- Consolidated logging
- Support for 100 systems
- New options page

Impact

See the preceding “Summary of Change.”

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Manpages:

- *swa*(1M)
- *swa-clean*(1M)
- *swa-get*(1M)
- *swa-report*(1M)
- *swa-step*(1M)

The HP-UX Software Assistant web pages can be found at <https://www.hp.com/go/swa>, where you can get an overview, receive installation instructions, and download SWA.

The *HP-UX Software Assistant Release Notes* and the *HP-UX Software Assistant System Administration Guide* are available at <http://www.docs.hp.com/en/oshpux11iv3.html#Software%20Assistant%20%28SWA%29>.

Obsolescence

Not applicable.

OpenSSL

OpenSSL A.00.09.07m and A.00.09.08k for HP-UX are based on the Open source product OpenSSL (version 0.9.7m and 0.9.8k) which offers a general purpose cryptography library and implementation of the Secure Sockets Layer (SSL v2/v3) and Transport Layer Security (TLS v1) protocols. They are fully tested and supported on the HP-UX operating system.

OpenSSL A.00.09.07m contains the following:

- OpenSSL A.00.09.08k under `/opt/openssl/0.9.8`
- OpenSSL A.00.09.07m under `/opt/openssl/0.9.7`

Summary of Change

This release of OpenSSL is a defect-fix release and does not have any new features.

Impact

There is no impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For more information, see *OpenSSL A.00.09.07m.055*, *A.00.09.07m.056*, and *A.00.09.08k.009 Release Notes* at <http://www.docs.hp.com/en/internet.html#OpenSSL>.

Obsolescence

Not applicable

PAM Kerberos

Pluggable Authentication Module (PAM) is an easily configurable framework that provides support for multiple authentication technologies on HP-UX. PAM Kerberos v1.26 (bundle PAM-Kerberos) is the PAM module that provides support for Kerberos authentication protocol as specified in Open group RFC 86.0. PAM allows multiple authentication technologies to co-exist.

Summary of Change

This update of PAM Kerberos incorporates defect fixes.

Impact

There is no impact.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

Manpages: *pamkrbval(1M)* and *pam_krb5(5)*

The following PAM Kerberos documents are available at <http://www.docs.hp.com/en/internet.html>:

- *Configuration Guide for Kerberos Client Products*
- *PAM-Kerberos v1.26 Release Notes*

Obsolescence

Not applicable.

9 Commands and system calls

This chapter provides information about new and changed commands and system calls.

`ioscan(1M)`

The `ioscan(1M)` command scans system hardware, usable I/O system devices, or kernel I/O system data structures as appropriate, and lists the device information.

- The `-P` option of this command displays the information about a given property of a node in the agile view.
- On Integrity servers, the `-e` option of `ioscan` displays "Extensible Firmware Interface" (EFI) device paths when available.

Summary of Change

The `-P` option of `ioscan` has been enhanced to accept two new below mentioned properties:

- The `ms_scan_time` shows the time taken by the IO subsystem to scan a device. Using this value, one can identify components that have increased their scan time and identify misconfigurations, if any.
- The `physical_location` is a hexadecimal value indicates the actual physical device location. A physical location consistently refers to a device based on where the device is physically located in the system configuration.

On Integrity servers, the `-e` option has been enhanced to display "Unified Extensible Firmware Interface" device paths when available. Depending on the platform on which this option is run, the same option displays either the "Extensible Firmware Interface" device paths OR the "Unified Extensible Firmware Interface" device paths when available.

Impact

See the preceding "Summary of Change."

Compatibility

There is no known compatibility impact.

Performance

There is no known performance impact.

Documentation

For additional information, see the `ioscan(1M)` manpage.

Obsolescence

Not applicable.

`mediainit(1)`

The `mediainit(1M)` initializes mass storage media by formatting the media, writing and reading test patterns to verify media integrity, then sparing any defective blocks found. This process prepares the disk or tape for error-free operation. Initialization destroys all existing user data in the area being initialized.

The `mediainit` command can also be used for disk scrubbing. Disk scrubbing is the process of overwriting the entire disk with a single character.

Summary of Change

The *mediainit*(1) command has been enhanced to provide a new option: -v. This option makes the command validate the scrub operation. That is, after the disk scrubbing, it reads the disk in “random” order to validate the completeness of scrub operation. This option can be used along with disk scrub options, if validation of disk scrub operation needs to be done.

Impact

See the preceding “Summary of Change.”

Compatibility

There is no known compatibility impact.

Performance

When the new option -v is used along with existing disk scrub options, the validate procedure will take some time. Hence, the duration of the overall disk scrub operation will increase.

Documentation

For additional information, see the *mediainit*(1) manpage.

Obsolescence

Not applicable.

mincore(2) system call

The *mincore*(2) system call reports on the core residency of memory pages.

Summary of Change

The *mincore*(2) system call, which previously was not available on HP-UX, is introduced with this enhancement.

Impact

The *mincore*(2) system call will enable Independent Software Vendors (ISVs) to provide memory capacity planning tools.

Compatibility

There are no compatibility issues whatsoever: no tunables involved; no regressions; no difference between PA-RISC and Itanium-based platforms.

Performance

There is no impact to performance.

Documentation

For additional information, see the *mincore*(2) manpage.

Obsolescence

No obsolescence nor deprecation.

10 Libraries and programming

This chapter covers a variety of changes of particular interest to programmers, such as changes to compilers, editors, and libraries.

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 systems.

Java JDK/JRE for HP-UX

Java JDK/JRE 6.0

The HP-UX Java Development Kit (JDK) for the Java 2 Platform Standard Edition 6 (Java™ SE 6) provides the programming tools and runtime environment that enable you to deploy version 6.0 Java technology with the best performance on systems running HP-UX 11i.

Java JDK/JRE 5.0

The HP-UX Java Development Kit (JDK) for the Java 2 Platform Standard Edition (J2SE) provides the programming tools and runtime environment that enable you to deploy version 5.0 Java technology with the best performance on systems running HP-UX 11i.

Java SDK/RTE 1.4.2

The HP-UX Software Development Kit (SDK) and Runtime Environment (RTE) for the Java 2 Standard Edition platform provides the Java 2 programming tools and runtime environment that enable you to deploy version 1.4 Java technology with the best performance on systems running HP-UX 11i.

Products are as follows:

- Java60JDK - Java 6.0 JDK
- Java60JDKadd - Java 6.0 JDK Addon
- Java60JRE - Java 6.0 JRE
- Java60JREadd - Java 6.0 JRE Addon
- Java15JDK - Java 5.0 JDK
- Java15JDKadd - Java 5.0 JDK Addon
- Java15JRE - Java 5.0 JRE
- Java15JREadd - Java 5.0 JRE Addon
- T1456AA - Java 1.4 SDK
- T1456AAaddon - Java 1.4 SDK Addon
- T1457AA - Java 1.4 RTE
- T1457AAaddon - Java 1.4 RTE Addon
- T1458AA - Java 1.4 Plugin
- ObsJava12 - Obsolescence for Java 1.2 (1.0.02)
- ObsJava13 - Obsolescence for Java 1.3 (1.0.03)

Summary of Change

The Java versions for this HP-UX 11i v3 OE release are as follows. All referenced documents can be found at <http://docs.hp.com/en/dev.html#Java>.

JDK/JRE version 6.0.04 is a new version of the HP-UX Java Development Kit (JDK) 6.0.x that has been updated to include the Sun 6.0u12 and 6.0u13 releases functionality and incorporate defect and security bulletin fixes. Additionally, IPv6 support is improved and new flags have been added. See the *JDK 6.0.04 Release Notes* for details.

JDK/JRE version 5.0.16 is a new version of the HP-UX Java Development Kit (JDK) 5.0.x that has been updated to include the Sun 5.0u18 release functionality and incorporate defect and security bulletin fixes. Additionally, IPv6 support is improved. See the *JDK 5.0.16 Release Notes* for details.

SDK/RTE version 1.4.2.22 is a new version of the HP-UX Java Software Development Kit (SDK) that has been updated to include the Sun 1.4.2_20 release functionality and incorporate defect and security bulletin fixes. See the *SDK 1.4.2.22 Release Notes* for details.

Impact

Besides the defect and security bulletin fixes in JDK 6.0.04, JDK 5.0.16, and SDK 1.4.2.22 - JDK 6.0.04 and JDK 5.0.16 have improved IPv6 support. There should be no other impact to customers and you will have the most current Java technology.

Compatibility

There are no known compatibility issues.

Performance

On HP Integrity Itanium servers, if the Aries option is set to `-pa_os_cpu` globally, HP-UX Java incorrectly runs PA binaries instead of IA binaries. This happens silently without any messages. The performance degrades by 2-3 times. The problem is fixed for JDK releases beginning with 6.0.01 and 5.0.14, and SDK releases beginning with 1.4.2.20, but it is seen across previously released JDKs and SDKs.

Documentation

The HP-UX Java Web site, including free software downloads, is located at <http://www.hp.com/go/Java>.

The HP-UX Java technical documentation website is located at <http://docs.hp.com/en/dev.html#Java>.

Obsolescence

SDK/RTE 1.3 has reached end-of-life and is not included in this release. `ObsJava13`, Obsolescence for Java 1.3 (1.0), is included in the OBSOLESCENCE bundle and will remove version 1.3 upon HP-UX 11i v3 update

libc

The C library, `libc`, implements a set of commonly used functions. It also provides the interface between the user program and the kernel.

Summary of Change

Previously, 32-bit applications could not access time beyond the year 2038. With the new APIs added in September 2009, 32-bit applications can compute time beyond 2038

Impact

If you do not want to compile your applications in 64-bit mode, you can call these APIs in 32-bit mode for time calculation beyond 2038

Compatibility

There are no known compatibility issues.

Performance

There is no performance impact for this change.

Documentation

For further information, see the *ctime64(3C)* manpage.

Obsolescence

Not applicable.

Perl

Perl is a high-level programming language created and enhanced by the Open Source community. Perl takes the best features from other languages, such as C, awk, sed, sh, and BASIC, among others and at least a dozen other tools and languages.

Summary of Change

Perl version 5.8.8 has been updated to incorporate defect fixes and performance improvements.

Impact

There is no impact.

Compatibility

The perl that is delivered in September 2009 is from OpenSource. Earlier perl versions were delivered from ActiveState that were also based from OpenSource. Perl application users will have seamless transition from ActiveState Perl. There are a few "goodies" delivered from ActiveState that will not be available in 0909

The following are the list of ActiveState modules (goodies), which would not be available in September 2009.

- ActiveState::Browser
- ActiveState::Bytes
- ActiveState::Color
- ActiveState::DateTime
- ActiveState::Dir
- ActiveState::DiskUsage
- ActiveState::Duration
- ActiveState::File
- ActiveState::Handy
- ActiveState::Indenter
- ActiveState::Menu
- ActiveState::ModInfo
- ActiveState::Path
- ActiveState::Prompt
- ActiveState::Run
- ActiveState::Scineplex
- ActiveState::StopWatch
- ActiveState::Table
- ActiveState::Utils
- ActiveState::Unix
- ActivePerl::Config
- ActivePerl::DocTools
- ppm

Performance

There are no known performance issues.

Documentation

For additional information, see the following websites:

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

Obsolescence

Not applicable.

11 Internationalization

This chapter describes changes internationalization functionality, including text fonts and converters relating to various international languages.

Devanagari (Indic) TrueType fonts

HP-UX 11i v3 provides TrueType Fonts support for Asian and European languages. In addition to these fonts, support for new Devanagari TrueType Fonts has been added.

These new Devanagari TrueType fonts contain the following glyphs (indexed in Unicode encoding):

Table 11-1 Devanagari Glyphs

Character Set	Unicode Range
Independent Vowels	U+0904 - U+0914
Consonants	U+0915 - U+0939
Dependent Vowels	U+093E - U+094C
Digits	U+0966 - U+096F
Additional Consonants	U+0901 - U+0903, U+093C - U+093D, U+094D, U+0950 - U+0954, U+0958 - U+0965, U+097B - U+097F

In addition to these glyphs, the fonts also contain half-forms and ligatures commonly used in Devanagari script.

Summary of Change

HP-UX 11i v3 previously lacked TrueType fonts support for Devanagari scripts. New Devanagari TrueType fonts have been provided to support printing of text files containing characters written in Devanagari scripts, such as Hindi and Marati.

In addition to the printing of text files, these fonts can be used by other technologies, such as Java, for the display of Devanagari script characters.

Impact

You can now print and display text written in Devanagari script.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

There is no additional documentation.

Obsolescence

Not applicable.

iconv codeset conversion

The `iconv` codeset conversion command and APIs enable the conversion of character data from one character set to another.

Summary of Change

The `iconv` codeset conversion command and APIs for the Integrity platform are updated to check the `/usr/lib/nls/iconv/config.iconv` configuration file for user or third-party application added codeset converters. This is the same behavior as the corresponding command and APIs for the PA-RISC platform.

Impact

These changes should ease application migration from PA-RISC to Integrity.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For additional information, see the `iconv(1)` and `iconv(3C)` manpages.

Obsolescence

Not applicable.

Internationalized PostScript printing

The internationalized PostScript printing environment includes the `psfontpf` print filter, `psmsgen` configuration utility and the `PS.font` model script. These utilities support the printing of international characters in text files and web pages.

Summary of Change

The internationalized PostScript printing environment has been updated to provide the following enhancements to support the printing of the following new languages and scripts:

- Supports the printing and proper shaping of Arabic, Hebrew, and Thai characters with enhanced bidirectional printing support (shipping since September 2008).
- Supports the printing and proper shaping of Devanagari script characters that are used in some Indian languages like Hindu (new to September 2009).

Impact

You can now print Arabic, Hebrew, Thai, and Devanagari characters on PostScript printers.

Compatibility

There are no known compatibility issues.

Performance

There are no known performance issues.

Documentation

For more information about the internationalized PostScript printing environment, refer to the *psfontpf*(1M) and *psmsgen*(1M) manpages, and the “HP-UX 11i v3 International Printing Features” white paper, available at <http://www.docs.hp.com/en/oshpux11iv3.html#Internationalization>.

Obsolescence

Not applicable.

12 Other functionality

This chapter covers additional applications or functionality in the Operating Environments.

Locality-Optimized Resource Alignment (LORA)

Locality-Optimized Resource Alignment (LORA) is a framework for delivering ease-of-use and improved performance on HP servers with Non-Uniform Memory Architecture (NUMA). This version of LORA is for HP-UX 11i v3 Update 5 (September 2009).

Summary of Change

This enhancement:

- Provides a new command, `parconfig`, that can be used to make the configuration of servers easier.
- Implements new vPars processor core selection algorithms to make it easy to achieve and maintain good processor core to memory alignment in LORA configurations.
- Provides a new command, `loratune`, that can be used to restore good processor/memory alignment if it has been disrupted by a major workload transition or platform reconfiguration event.
- Provides a new `numa_mode` kernel tunable parameter, which is autosensed based on the partition memory configuration.
 - Provides new automatic process launch policies, obviating the need to specify the launch policy with the `mpsched` command. The default launch policy is governed by a new kernel tunable parameter, `numa_sched_launch`.
 - Implements new process and memory placement algorithms to improve locality alignment on NUMA servers. Every process, every thread, and every user memory object has a home locality to indicate its preferred placement location.
 - Implements the migration of user memory objects from remote localities back to their home locality.
 - Provides for the automatic striping of user memory objects that are too large to fit within one single locality.

Impact

It will be easier for you to operate your NUMA servers in LORA mode, which yields a significant performance improvement over the interleaved memory configuration. The LORA functionality is available in the kernel only when the full set of enabling patches is installed. On systems with an OE Update Release (OEUR) before September 2009, the selection of PHKL_38980 (`loratune` cumulative patch) will automatically select all enabling patches from the FEATURE11i patch bundle on the September 2009 OEUR media. Note that all of these enabling patches are always installed after performing a cold-install or complete update to the HP-UX 11i v3 September 2009 OEUR.

The current version of the HP-UX nPartition Configuration Commands product is also recommended. HP-UX nPartition Configuration Commands is delivered in the March 2009 (and later) OEUR as a required (always-installed) product.

If deploying vPars, the version A.05.05 is preferred. HP-UX Virtual Partitions (vPars) A.05.05 is delivered as an optional (optionally installed) product in the VSE-OE and DC-OE, starting in the March 2009 OEUR. For more information about HP-UX nPartition Configuration Commands, see “HP-UX nPartition Configuration Commands” (page 107). For more information about vPars, including an important incompatibility note, see “HP-UX Virtual Partitions” in the *HP-UX 11i Version 3 March 2009 Release Notes* (<http://www.docs.hp.com/en/oshpux11iv3.html#Release%20Notes>).

Compatibility

No compatibility issues whatsoever. The enhancements are supported on Itanium-based platforms only. There is no regression from previous releases.

Performance

Configuring a server with local memory instead of interleaved memory results in a significant performance improvement for applications such as SAP and Java, as well as virtualization environments based on vPars and Integrity Virtual Machines. For a hard partition containing four cells, the typical performance benefit is estimated at 20%.

Documentation

There are new manpages for the `parconfig` command, for the `loratune` command, for the `numa_sched_launch` kernel tunable parameter, and for the `numa_mode` kernel tunable parameter.

A white paper, entitled “Locality-Optimized Resource Alignment,” is located at <http://www.docs.hp.com/en/oshpux11iv3.html#Virtual%20Partitions>.

Obsolescence

No obsolescence nor deprecation.

13 Support and other resources

HP encourages your comments

HP encourages your comments concerning this document. We are truly committed to providing documentation that meets your needs.

Send comments to docsfeedback@hp.com.

Please include document title, manufacturing part number, and any comment, error found, or suggestion for improvement you have concerning this document. Also, please include what we did right so we can incorporate it into other documents.

Related information

HP offers information on a wide variety of subjects. The following websites may be of interest.

- HP Software Depot:
<http://hp.com/go/softwaredepot>
- IT Resource Center (ITRC):
<http://itrc.hp.com>.
- Dev Resource Central:
<http://devresource.hp.com>
- Developer & Solution Partner Program (DSPP):
<http://www.hp.com/dspp>
- HP Software Releases and Media:
<http://www.hp.com/software/releases/releases-media2/index.html>
- HP Servers:
 - HP 9000 Server Family: <http://www.hp.com/go/hp9000>
 - HP Integrity Server Family: <http://www.hp.com/go/integrity>
 - HP BladeSystem: <http://www.hp.com/go/blades>
- HP Workstations:
<http://hp.com/go/workstations>
- Enterprise Servers, Workstations and Systems Hardware Documentation:
<http://docs.hp.com/hpux/hw/>

Other sources of information about this release

In addition to these release notes, many other sources of information related to the HP-UX 11i v3 release are available on the Web at the following sites:

- HP-UX 11i v3 for HP Integrity and HP 9000 servers
<http://hp.com/go/hpux11iv3>
- HP-UX 11i v3 Documentation
<http://docs.hp.com/en/oshpux11iv3.html>
- QuickSpecs: HP-UX 11i v2 & v3
http://h18004.www1.hp.com/products/quickspecs/12079_div/12079_div.PDF
- HP-UX 11i v3 on HP Integrity Servers
<http://h71028.www7.hp.com/ERC/downloads/5982-7653EN.pdf>

Of particular interest at <http://docs.hp.com/en/oshpux11iv3.html> are the following documents:

- *HP-UX 11i Version 3 Installation and Update Guide*
- *HP-UX 11i v3 Read Before Installing or Updating*
- *The HP-UX System Administrator's Guide*

Beginning with HP-UX 11i v3, a new multi-volume set of manuals, collectively known as *The HP-UX System Administrator's Guide*, replaces *Managing Systems and Workgroups* as the primary source of information on HP-UX system administration tasks and concepts. *The HP-UX System Administrator's Guide* covers an expanded set of topics, logically organized to guide you to the correct volume with minimal searching. While some material in *The HP-UX System Administrator's Guide* may apply to previous releases of HP-UX 11i, the new set focuses on HP-UX 11i v3.

Other sources of information include the following:

- HP Documentation Website

HP provides a website where the latest HP-UX documentation and updates are available:
<http://www.docs.hp.com/>

- HP-UX 11i v3 Instant Information Media

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

- Manual Pages

For the HP-UX 11i v3 release, the manual pages (manpages) are available on the HP-UX Welcome Page of your system, on the Instant Information DVD under the title HP-UX Reference, through the use of the man command, and on the Web at

http://www.docs.hp.com/en/hpuxman_pages.html

- README Documents

README (or *Read Before Installing*) documents are media booklets that contain information about the installation process that may not appear in the *HP-UX 11i Version 3 Installation and Update 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 v3 is included with your media kit.

- White Papers on HP-UX

You can locate a collection of white papers on various topics related to the HP-UX 11i v3 release at

www.hp.com/go/hpux11iv3resources

White papers on various topics related to HP-UX can also be found at the HP Documentation Web site at

<http://www.docs.hp.com/>

Locating release notes for previous versions of HP-UX

Release notes for previous versions of HP-UX can be found at the following websites:

- HP-UX 11.0:
<http://www.docs.hp.com/en/oshpux11.0.html>
- 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 v1:
<http://www.docs.hp.com/en/oshpux11i.html>
- HP-UX 11i v2:
<http://www.docs.hp.com/en/oshpux11iv2.html>

Typographic conventions

The following conventions are used in this document:

<i>audit(5)</i>	An HP-UX manpage. <i>audit</i> is the name and <i>5</i> is the section in the <i>HP-UX Reference</i> . From the HP-UX command line, enter “man <i>audit</i> ” or “man <i>5 audit</i> ” to view the manpage. See <i>man(1)</i> .
<i>Book Title</i>	The title of a book.
<i>Emphasis</i>	Text that is emphasized.
Emphasis	Text that is strongly emphasized.
ComputerOut	Text displayed by the computer.
Command	A command name or qualified command phrase.
Filename	Text that shows a filename and/or filepath.
UserInput	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.
WARNING	An alert that calls attention to important information that if not understood or followed can result in personal injury.
CAUTION	An alert that calls attention to important information that if not understood or followed can result in data loss, data corruption, or damage to hardware or software.
IMPORTANT	An alert that calls attention to essential information.
NOTE	An alert that contains additional or supplementary information.