



HP's UNIX Patch Strategy: Moving from Tru64 to HP-UX



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Agenda

- 
1. Industry Wide Software Patching
 2. HP-UX Patch Strategy Overview
 3. HP UNIX Patching Comparison
 - Tru64 and HP-UX



Industry Wide Software Patching

Industry Wide Customer Patching Practices



Customer behavior varies greatly

- Some install changes suggested by vendor
- Others avoid any changes (except fixes to bugs they have reported)
- Many prefer to make their own decisions about which releases and upgrades they adopt

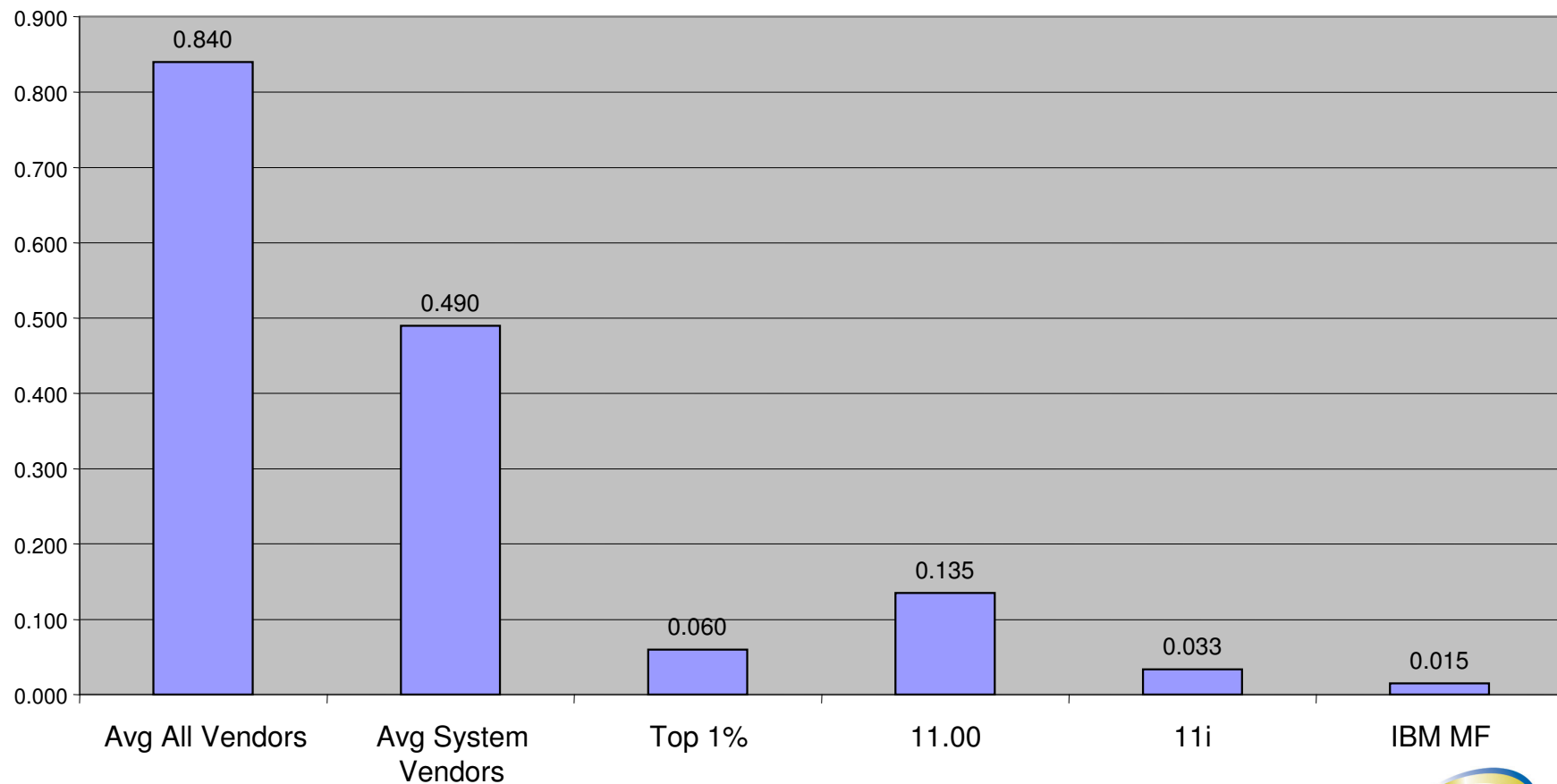
Typical to install a patch tentatively to analyze impact before committing as permanent part of OS

Industry Wide - Best in Class Defect Density



11i has 23.5K Function Pts, compared to industry data for 10K

Delivered Defects/Function Point

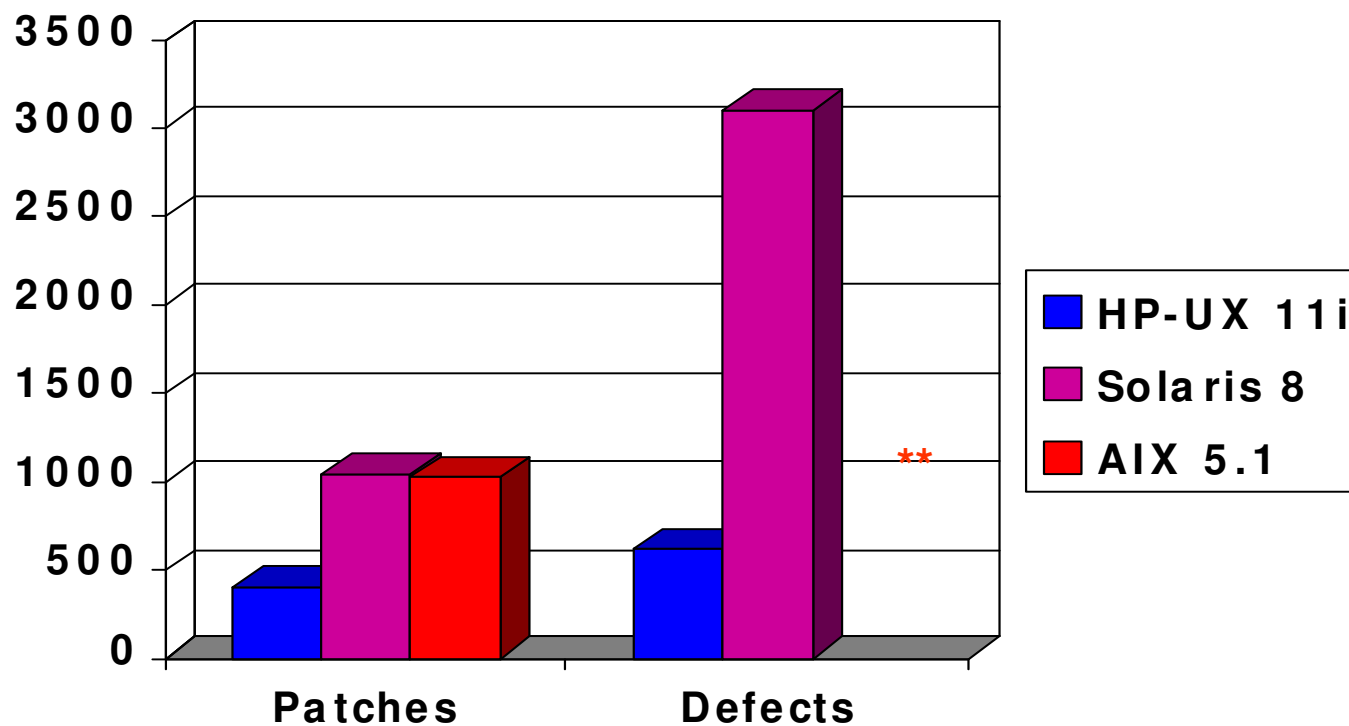


Applied Software Measurement, 2nd Edition, Capers Jones



HP-UX 11i versus Solaris 8, AIX 5.1

First 15 months of shipments



**** Could not get AIX 5.1 defect data**



HP-UX Patch Strategy Overview



“The patch-management field has been a conservative one, slow to change. D.H. Brown Associates, Inc. (DHBA) believes that innovation of the kind described here is long overdue.”

White Paper: HP Improves Patch Management to Reduce System Downtime

D.H. Brown Associates, Inc. , March 2000



HP-UX Patch Strategy Overview



How did HP-UX get there?



HP-UX Patch Strategy Overview

Customer Patch Requirements



Minimize down time for patch operations

To provide the most stable environment possible, I want to choose exact patches I apply.

Particularly in the kernel and other sensitive areas, keep patches small.

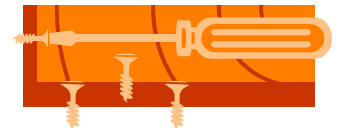
Patches should only be fixes to defects, not enhancements.



Minimize system administration cost

But keep patch management simple – I don't want to spend a lot of time here.

Provide me with tools to manage multiple systems – track what is installed, install a golden image on multiple systems, etc.



HP-UX Patch Strategy Overview

Key Improvements



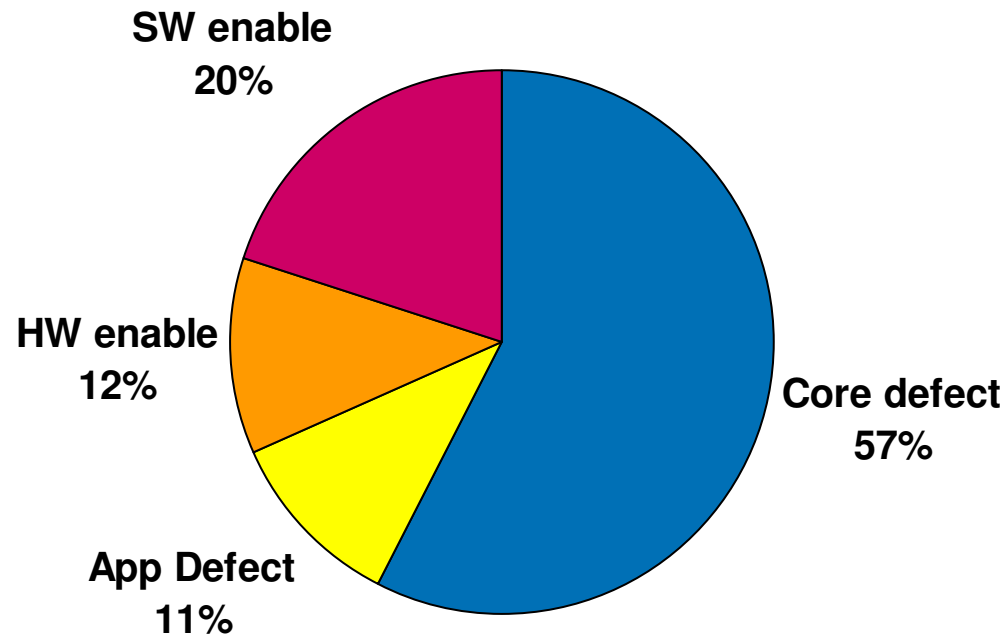
1. Label Patches with our confidence rating 1,2 or 3
 - Rating 1 has gone through all labs tests
 - Rating 2 has significant customer exposure (60% fewer warnings)
 - Rating 3 has passed our system tests (80% fewer warnings)
2. Keep patches as small as possible, but they must be cumulative from the last patch.
3. Use bundles to simplify proactive patch management - QPK
4. Enhancements can only be delivered in patches if they enable new hardware or add compatible minor features.

HP-UX Patch Strategy Overview

Types of HP-UX 11iv1 Patches



32% Deliver Enhancements



Software enablement includes IPV6, Virtual partitions, Processor Sets, Interrupt Migration, and Compressed Dump

Contents of SWPack, and Support Plus – 421 total patches



HP-UX Patch Strategy Overview

Key Improvements



5. Provide more robust patch management tools and processes
 - IT Resource Center (ITRC)
 - Recommendations based upon patch ratings
 - Complete dependency management
 - New patch assessment capability
 - “Ideal system” concept
 - incorporation of patch sets
 - combination of internal and external tools
 - removal of entitlement requirement
 - “HP Live” access to patch support experts
 - Mission Critical Software Change Management (MCSCM)

HP-UX Patch Strategy Overview

Reactive and Proactive Patching



Reactive Patching

- **Solve an existing problem**
 - **Timeliness:** Highest priority
 - **Reliability:** Fix it the first time
 - **Change:** Minimize
 - **Risk:** Fast delivery of fix may compromise testing

Find the **Best** patch to fix the problem, as quickly as possible.



Proactive Patching

- **Preventive maintenance**
 - **Reliability:** Highest priority. Use only most stable tested patches
 - **Timeliness :** Periodic activity, planned in advance, time allotted for testing
 - **Change:** Understand and evaluate
 - **Risk:** Larger changes introduce greater risk, however, risk is reduced by more testing.

Choose a period for proactive patching.
Use standard HP recommended sources.

Timeliness vs. Risk



HP-UX Patch Strategy Overview Summary



- HP Patch strategy allows many options
 - Small patches in most sensitive areas for reactive patching
 - Patch bundles for proactive patching
 - Customer choice on how frequently to patch and what to patch
 - Levels of confidence in patches (lower risk) based on customer usage and HP testing.
 - Proactive notification of any problem patches, but most customers remove very few of them.





HP UNIX Patching Comparison

HP UNIX patching comparison

Scope



Tru64

Core (OS) patches

HP-UX

Core patches

Application patches

HP UNIX patching comparison

Individual patches



Tru64

CSP (Customer Specific Patch)

No equivalent

ERP (Early Release Patch) patches are equivalent to GR at levels 2 & 3.

HP-UX

Site Specific

GR0 (controlled release)

GR (General Release) patches at level 1-3

- 1 – Initial release
- 2 – Widely distributed & used
- 3 – Greatest amount of testing

HP UNIX patching comparison



Patch Installation SW Package Installer

Tru64

dupatch

- Install and remove all or selected patches (-install, -delete)
- View the patch-specific documentation (-help)
- View patch tracking information (-track)
- Establish a baseline for systems that have had manually installed system files placed on them
- No equivalent to adding patches to a depot

HP-UX

SD – SW Distributor

- Install and remove selected patches (swinstall, swremove)
- No equivalent to view patch specific documentation
- View patch tracking information (swlist)
- No equivalent to establish a baseline
- Adding patches to a depot (swcopy)
- Network support



HP UNIX patching comparison



Patch Installation

Install and remove all or selected patches.

Tru64

dupatch

- Cluster aware
- Patch applicability
- Patch dependencies
- Patch removal, rollback
- System inventory changes for patches
- Capturing patch activities in log files

HP-UX

SD – SW Distributor

- No knowledge of clusters
- Patch applicability
- Patch dependencies (11.11)
- Patch removal, rollback
- System inventory changes for patches
- Capturing patch activities in log files
- Combined product patch installs

HP UNIX patching comparison



Patch Installation

Viewing the Patch Documentation

Tru64

Select the Patch Documentation item of the main menu, dupatch displays:

- Problem summaries
- Full descriptions
- Special Instructions
- Report identifiers
- Revision control strings

HP-UX

1. Retrieve individual patches using ITRC, it displays:
 - One line description
 - Symptoms
 - Defect description
 - Patch files
 - Special Installation Instructions
 - Other information fields for
 - Analysis
 - Selection
 - Some patch documentation in the ITRC can be updated after the patch is released.
2. Swlist (SD) can view the original, embedded patch documentation

HP UNIX patching comparison



Patch Installation

Cold Install Options

Tru64

- Remote installation service (RIS)
 - curses (text menu)
 - pull only
 - not integrated with cloning
- Install - GUI interface
 1. Collection of command line, RIS, and sysmon sub-menus

HP-UX

- Ignite-UX
 - graphical & command line
 - push or pull
 - designed for cloning
- Install - GUI interface
 1. Ignite-ux
 2. Integrated with SD

HP UNIX patching comparison



Patch Installation

SW cloning model

Tru64

Installation cloning

- Can create definition text files to be read by installation engine to customize the system being installed

HP-UX

Ignite-UX server “config files”

- Allows definition of configuration options to be set as well as software components to be loaded on client

Golden image/OS archive

- Mechanism to create a tar ball of a system’s installation image for re-installation or cloning



HP UNIX patching comparison



Patch Installation SW Update - Migration

Tru64

Installupdate

- Same functions

HP-UX

update-ux

- performs update preparation steps
- executes swinstall
- selection & analysis of sw to load
- SW load & reboot
- Clean up old information

HP UNIX patching comparison



Patch Installation

Patch management on clusters

Tru64

- Rolling Patch
- No-Roll Patch

HP-UX

- No Equivalent – until 11i Version 3

HP UNIX patching comparison



Collections of patches

1. Tested together
2. Delivered together
3. Intended to be installed together

HP UNIX patching comparison



Collections of patches

Tru64

Kits

By base level, for designated OS streams

Defect Fixes

- Inaugural/Aggregate kits
- One kit per supported release
- One milestone CD containing all latest base level kits
- Support for current kit and one back
- **Guaranteed 1 year minimum support on 5.1B-1 forward.**
- IPK: Inaugural kit released at 6 weeks
- PKn: Aggregate kits released at 4-6 month intervals based upon business need

HP-UX

Bundles

Per OS stream for all currently supported Enterprise releases

Defect Fixes

- QPK (Quality Pack)
- One bundle per OS version
- Share Support Plus CD
- No support restriction on previous bundle version
- First bundle approximately 6 months after release
- Subsequent bundles at 6 month intervals



HP UNIX patching comparison



Collections of
patches

Tru64

Kits

- New Core SW features
 - No equivalent
- New Hardware
 - NHD (New Hardware Device)
for those requiring boot support
- Layered Products by segment
 - APCD (Associated Products CD)
- Layered Products
 - Software Product Library

HP-UX

Bundles

- New Core SW features
 - SPK (SW Pack)
- New Hardware
 - HWE (Hardware Enablement)
- Application Products by segment
 - OE (Operating Environment)
Products
- Application Products
 - AR (Application Release)



Tru64 – standard kits



IT resource center - bundle list - Microsoft Internet Explorer provided by Hewlett-Packard

Address: rc.hp.com/service/patch/bundlesPage.do?BC=patch.breadcrumb.main|&context=tru::

bundle list

» IT resource center

- » online help
- » my profile
- » logout
- » maintenance and support for hp products
 - » technical knowledge base
 - » knowledge trees
 - » patch database
 - » software update manager
 - » support case manager
- » maintenance and support for Compaq products
- » forums
- » training and education
- » site map

Welcome, ESC Demo wcsstest! (ESCDemo)

» view selected patch list

Please select a bundle name to read the bundle description or to download the bundle.

useful links

- » Tru64 patch kit installation guide
- » Verifying MD5 checksums

bundle name	description	size (MB)	platform - OS
DUV40FB22AS0008-20030730	Tru64 UNIX 4.0F Patch Kit 8 (DUV40FB22AS0008-20030730)	125	tru64 4.0f
T64V40GB22AS0004-20030731	Tru64 UNIX 4.0G Patch Kit 4 (T64V40GB22AS0004-20030731)	115	tru64 4.0g
T64V50AAS0003-20010523	Tru64 UNIX V5.0A Patch Kit 3	92	tru64 5.0a
T64V51AB03AS0003-20020827	Tru64 UNIX 5.1A Patch Kit 3	113	tru64 5.1a
T64V51AB23AS0005-20030723	Tru64 UNIX 5.1A Patch Kit 5 (T64V51AB23AS0005-20030723)	163	tru64 5.1a
T64V51B19AS0005-20020411	Tru64 UNIX 5.1 Patch Kit 5	117	tru64 5.1
T64V51B20AS0006-20030210	Tru64 UNIX 5.1 Patch Kit 6	120	tru64 5.1
T64V51BB1AS0001-20021229	Tru64 UNIX V5.1B/TCR5.1B Patch Kit 1 (BL1)	98	tru64 5.1b
T64V51BB24AS0003-20030929	Tru64 5.1B Patch Kit 3 (T64V51BB24AS0003-20030929)	164	tru64 5.1b

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Done Internet

HP-UX – standard patch bundles




IT resource center - standard HP-UX patch bundles index - Microsoft Internet Explorer provided by Hewlett-Packard

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Address <http://www2.itrc.hp.com/service/patch/releaseIndexPage.do?BC=patch.breadcrumb.main> Go Links @hp Employee Portal epatch email My Search More

 **standard HP-UX patch bundles index** [printable version](#)

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- » online help
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- » maintenance and support for hp products
 - » technical knowledge base
 - » knowledge trees
 - » **patch database**
 - » software update manager
 - » support case manager
- » maintenance and support for Compaq products
- » forums
- » training and education
- » site map

Welcome, ESC Demo wcsstest! (ESCDEMO)

» view selected patch list

Standard HP-UX patch bundles have received additional testing as a group. The current bundles for all currently supported HP-UX releases are placed onto CD-ROM every three months and are made available to those with HP Software Support Agreements. Individual bundles however are available to all.

The table below lists the most recent releases.

Find recent HP-UX patch bundles that contain a patch (search by patch ID, e.g. PHSS_26798): [find bundles >>](#)

useful links

- » support plus on software depot
- » HP-UX software pack core enhancements
- » software update manager (SUM)

documentation

- » HP-UX patch management

release name	release date	hp part number
Dec '03 (Support Plus 11.11)	2003/12	5013-2054
Sep '03 (Support Plus 11.11)	2003/09	5012-7986
Sep '03 (Support Plus 11.00)	2003/08	5012-7886
Jun '03 (Support Plus 11.11)	2003/06	5012-7830
Mar '03 (Support Plus 11.00)	2003/03	5012-7805
Mar '03 (Support Plus 11.11)	2003/03	5012-7806
Dec '02 (Support Plus 11.00)	2002/12	5012-1977

Downloading picture [http://hphqglobal.112.2o7.net/b/ss/hphqglobal,hphqwwwsupportitrc/1/G.0-xP-R/s65011964508226?\[AQB\]&ndh=1&t=8/](http://hphqglobal.112.2o7.net/b/ss/hphqglobal,hphqwwwsupportitrc/1/G.0-xP-R/s65011964508226?[AQB]&ndh=1&t=8/) Internet

HP UNIX patching comparison

What is Factory Installed?



Tru64

Factory Installed Software (FIS)

1. Selected OS version
2. Latest NHD
3. Latest Aggregate Patch Kit

HP-UX

Factory Ignition (IUX)

1. Selected OE
2. Latest HWE
3. Latest QPK

HP UNIX patching comparison



Web services

Tru64

ITRC

New!

- PatchDB
 - Initially Aggregate patch kits, in the future: NHD's and individual ERPs
- No equivalent CPM

support.compaq.com

- Previously for Aggregate kits
- Has been replaced with ITRC

HP-UX

ITRC

- PatchDB (all GR patches)
- CPM (Custom Patch Manager), **Now Patch Assessment**

software.hp.com

- Latest version of all bundles



ITRC Patch Database Homepage



IT resource center - patch database home - Microsoft Internet Explorer provided by Hewlett-Packard

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Address <http://www2.itrc.hp.com/service/patch/mainPage.do> Go Links [@hp Employee Portal](#) [epatch email](#) **MySearch** More

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» site map

Welcome, ESC Demo
wccstest!
(ESCDemo)

» find a specific patch
Retrieve a single patch by entering the patch name (e.g. PHCO_12345 or 12345)
 [»](#)

» find individual patches
locate individual patches and firmware updates to solve a problem

- » find patches for my HP-UX system
 - » HP-UX
 - » OpenVMS
 - » Tru64 UNIX
 - » MPE/ix
 - » firmware
 - » patches for applications on other platforms

» find standard patch bundles
locate standard patch bundles and patch aggregate kits for a particular operating system to maintain my system

- » HP-UX patch bundles
- » OpenVMS
- » Tru64 UNIX

» run a patch assessment
identify patches applicable to my system (only available for HP-UX systems, 10.X and above)

» find patches for a product -new-
find patches for specific products

[» view selected patch list](#)

useful links

- » [itanium-based servers](#)
- » [itanium-based workstations](#)
- » [toptools patches](#)
- » [openview patches](#)
- » [hp output management software patches](#)
- » [subscribe to patch digests](#)

whats new

- » patch database has been improved
- » Tru64 Unix and OpenVMS patches
- » Tru64 Unix and OpenVMS patch FAQ
- » patch assessment replaces custom patch manager
- » support information digests replaces custom patch notification
- » [how to proactively patch hp-ux systems](#)

tools

- » large font (Netscape 4.7x on UX)

HP-UX Patch Strategy Overview

For a specific fix not contained in the bundle – use the ITRC



IT resource center - search results - Microsoft Internet Explorer provided by Hewlett-Packard

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Address http://www2.itrc.hp.com/service/patch/search.do

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search results

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Welcome, ESC Demo
wctest!
(ESCDemo)

view selected patch list

Your search resulted in 31 matches:

Note: Use the recommended patch if it is listed below and it meets your needs. If the recommended patch does not meet your needs, use the most recent patch.

! -critical fix -reboot required -possible reboot required ✕ -not available + -enhancements only -special instructions

description	recommended (hp rating)	most recent (hp rating)
s700_800 11.11 cumulative SAM patch	<input type="checkbox"/> PHCO_24118 ★★ created: 2001/12/04 notes: ⓘ	<input type="checkbox"/> PHCO_24118 ★★ created: 2001/12/04 notes: ⓘ
s700_800 11.11 cat(1) cumulative patch	<input type="checkbox"/> PHCO_29040 ★★ created: 2003/07/10	<input type="checkbox"/> PHCO_29040 ★★ created: 2003/07/10
s700_800 11.11 NFS nfsd deadlock	<input type="checkbox"/> PHKL_25238 ★★★ created: 2001/09/26 notes: ⓘ	<input type="checkbox"/> PHKL_25238 ★★★ created: 2001/09/26 notes: ⓘ
s700_800 11.11 thread nostop for NFS, rlimit, Ufalloc fix	<input type="checkbox"/> PHKL_25652 ★★★ created: 2002/04/08 notes: ⓘ	<input type="checkbox"/> PHKL_25993 ★★ created: 2002/06/27 notes: ⓘ

Internet

HP-UX Patch Strategy Overview

The ITRC manages dependencies



Patch I asked
for

Dependencies

IT resource center - selected patch list - Microsoft Internet Explorer provided by Hewlett-Packard

Address: <http://www2.itrc.hp.com/service/patch/addToCart.do>

patch / bundle id	size (kb)	description
<input checked="" type="checkbox"/> PHNE_20627 ★★★ created: 2000/05/08 notes:	1033	s700_800 11.0 NFS Kernel General Release/Performance Patch
PHNE_20627 has the following dependencies:		
<input checked="" type="checkbox"/> PHCO_21187 ★★★ created: 2000/05/10	21466	s700_800 11.00 cumulative SAM/ObAM patch
<input checked="" type="checkbox"/> PHCO_23651 ★★★ created: 2001/03/21 notes:	512	s700_800 11.00 fsck_wfs(1M) cumulative patch
<input checked="" type="checkbox"/> PHCO_23791 ★★★ created: 2001/04/09 notes:	2334	s700_800 11.00 LVM commands cumulative patch
<input checked="" type="checkbox"/> PHCO_26111 ★★★ created: 2002/07/07	107	s700_800 11.00 libc cumulative header file patch
<input checked="" type="checkbox"/> PHCO_28425 ★★★ created: 2003/03/04 notes:	10235	s700_800 11.00 libc cumulative patch
<input checked="" type="checkbox"/> PHCO_28630 ★★★ created:	34	s700_800 11.00 bdf(1M) cumulative patch; large file support

Done Internet

On 11i, the Software Distributor product also will warn when dependencies are not satisfied

Find patches for a product



IT resource center - select a product - Microsoft Internet Explorer provided by Hewlett-Packard

Address: www2.itrc.hp.com/service/patch/byProductMainPage.do?BC=patch.breadcrumb.main

select a product

HP Invent

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- » technical knowledge base
- » knowledge trees
- » **patch database**
- » software update manager
- » support case manager
- » maintenance and support for Compaq products
- » forums
- » training and education
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Welcome, ESC Demo wcsstest! (ESCDEMO)

Click on the relevant link to access patches for that specific product.

HP Output Management

- » HP Output Distributor
- » HP Output Management for SAP
- » HP Output Server
- » HP Web Delivery

» view selected patch list

useful links

- » toptools patches
- » openview patches

patches for a specified product; includes all operating systems

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HP-UX Patch Assessment



IT resource center - run a patch assessment - Microsoft Internet Explorer provided by Hewlett-Packard

Address: www2.itrc.hp.com/service/patch/assessSystemsPage.do?BC=patch.breadcrumb.main

run a patch assessment

[printable version](#)

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Welcome, ESC Demo
wccstest!
(ESCDEMO)

A patch assessment provides a list of patch issues associated with the given system and specific patch recommendations to resolve the issue. The types of issues analyzed is determined by the assessment profile.

Note: Assessments are only currently supported on HP-UX systems 10.X and above.

[» view selected patch list](#)

useful links

- » running a patch assessment
- » configuring an assessment profile
- » interpreting assessment results

step 1. ← select a system to assess or [upload new system information](#):

system	upload date	last assessment	platform	OS revision
<input checked="" type="radio"/> patchdog	2004/03/08		9000/800	11.00

step 2. ← select an assessment profile or [create new assessment profile](#):

assessment profile	description
<input checked="" type="radio"/> hpRecommended	HP Recommended Target Configuration
<input type="radio"/> ase_erpap	

step 3. ←

Load system information

Create profile or use existing profile

execute the assessment

http://www2.itrc.hp.com/service/patch/addUpdateSystemsPage.do?BC=patch.breadcrumb.main|patch.breadcrumb.assess|

Internet

HP-UX Patch Assessment

Setup the profile



IT resource center - assessment profile - Microsoft Internet Explorer provided by Hewlett-Packard

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Address [/patch/targetSystemPage.do?BC=patch.breadcrumb.main|patch.breadcrumb.assess](#) Go Links [hp @hp Employee Portal](#) [patch email](#) My Search More

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assessment profile

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Welcome, ESC Demo
wcsstest!
(ESCDEMO)

The assessment profile controls how patch issues are identified and resolved. You can create a customized profile to filter patches for your environment or use the HP recommended assessment profile.

» view selected patch list

useful links

- » configuring an assessment profile
- » patch set definitions

basic information

Profile Name:

Description:

Patch Strategy:

patch options

Contains (select one or more):

- ☒ security patches
- ☐ latest quality pack patch bundle **-new-**
- ☒ replacements for installed patches with critical warnings
- ☐ replacements for installed patches with any warnings
- ☐ critical fixes
- ☒ updates for the patches already installed

Find HP-UX patches in a patch set



IT resource center - find patches in patch set - Microsoft Internet Explorer provided by Hewlett-Packard

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find patches in patch set [printable version](#)

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Welcome, ESC Demo
wcsstest!
(ESCDEMO)

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step 1: Select hardware and OS
800 11.11

step 2: Select a patch strategy
conservative

step 3: Select a patch set
1000BaseSX [search >>](#)

» view selected patch list

useful links

- » patch set definitions

same patch sets as found in patch assessment profile

Opening page <http://www2.itrc.hp.com/service/patch/searchPatchSet.do?BC=patch.breadcrumb.main> Internet

HP-UX Patch Assessment - results



IT resource center - patch assessment results - Microsoft Internet Explorer provided by Hewlett-Packard

Address: <http://www2.itrc.hp.com/service/patch/assessSystems.do>

patch assessment results

HP invent

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Welcome, ESC Demo wcsstest! (ESCDEMO)

system: [patchdog](#)
assessment profile: [hp_recommended-no.gpk](#)

» view selected patch list

useful links
» interpreting assessment results

The assessment results display a list of patch recommendations and the issues that are resolved by each recommended patch. Unresolved issues are displayed at the bottom of the list.

Your assessment resulted in 164 recommended items and 1 unresolved issue(s):

» communicate online with a support specialist

! -critical fix -reboot required -possible reboot required -not available + -enhancements only -special instructions

description	recommended (hp rating)
s700_800 11.00 HPDPS cumulative patch	<input type="checkbox"/> PHCO_21854 ★★★ created: 2000/06/14 notes:
Recommended for the following reason(s): installed patch PHCO_21205 has successor PHCO_21854 (candidate)	
s700_800 11.00 fuser(1M) cumulative patch	<input type="checkbox"/> PHCO_21901 ★★★

Internet

Chat live with an HP support specialist

patch recommendation

reason for recommendation

Tru64 Kits/ERPs/NHDs on ITRC



IT resource center - search for patches - Microsoft Internet Explorer provided by Hewlett-Packard

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History Print Mail Address .com/service/patch/search.do?BC=patch.breadcrumb.main|&pageContextName=tru:: Go Links @hp Employee Portal epatch email My Search More

search for patches [printable version](#)

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step 1: select OS revision

tru64 5.1B/TCR 5.1B

step 2: [search or browse the patch list](#)

Search by Keyword Search

step 3: [Search Criteria](#) all words

step 4: Results per page 25 **search >>**

For general help in using Patch Database, [read our usage guide](#).

[view selected patch list](#)

useful links

- » Tru64 and TruCluster aggregate patch kits
- » Tru64 patch kit installation guide
- » Verifying MD5 checksums
- » HP AlphaServers firmware
- » [subscribe to patch digests](#)

whats new

- » Tru64 Unix and OpenVMS patch FAQ

Tru64 – patch browsing



IT resource center - search results - Microsoft Internet Explorer provided by Hewlett-Packard

Address: <http://www2.itrc.hp.com/service/patch/search.do>

Links: [@hp Employee Portal](#) [epatch email](#) [mySearch](#) More

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wctest1
(ESCDemo)

description	most recent
Advanced Server For Unix ECO1 Release	<input type="checkbox"/> ASU51B ECO1 164 ★★ created: 2003/09/05
ASU 5.1B ECO2 Release	<input type="checkbox"/> ASU51B ECO2 193 ★★ created: 2004/03/02
Tru64 UNIX NHD7 kit for V5.1A and V5.1B	<input type="checkbox"/> NHD7 ★★★ created: 2003/11/04 notes:
HP Tru64 UNIX - Mandatory ee device driver update v1.0.23	<input type="checkbox"/> T64KIT0019505-V51BB22-E-20030802 ★★ created: 2003/08/08 notes:
HP Tru64 UNIX V5.1B PK2 (BL22) Early Release Patch Kit - fix for SSRT3498	<input type="checkbox"/> T64KIT0019576-V51BB22-ES-20030806 ★★ created: 2003/08/06 notes:
HP Tru64 UNIX - Problem with IP Multicast Packets	<input type="checkbox"/> T64KIT0019662-V51BB22-E-20030818 ★★ created: 2003/08/18 notes:
HP Tru64 UNIX V5.1B PK2 BL22 Early Release Patch Kit - Fix for SSRT3589	<input type="checkbox"/> T64KIT0019665-V51BB22-ES-20030818 ★★ created: 2003/08/18 notes:
HP Tru64 UNIX 5.1B PK2 (BL22) Early Release Patch Kit - Fix for SSRT3631, sendmail	<input type="checkbox"/> T64KIT0020135-V51BB22-ES-20031001 ★★ created: 2003/10/01 notes:
SSRT3631 - HP Tru64 UNIX sendmail Potential Security Vulnerability	<input type="checkbox"/> T64KIT0020437-V51BB24-ES-20031023 ★★

Internet

HP UNIX patching comparison

SW Support Guidelines



Tru64

- Patches provided on current kit or 1 back only for releases under standard support
- **Guaranteed 1 year minimum support on 5.1B-1 forward**
- No specific support level will be required

HP-UX

- All patches are cumulative - customers not required to install a minimum supported level of sw to obtain patches
- Specific support level no longer required to access to CPM/Patch Assessment



HP UNIX patching comparison

Tru64 Patch Kit Support Policies



Previous Policy

- For releases under standard support, Tru64 UNIX Engineering supports the latest patch kit and one (1) back.

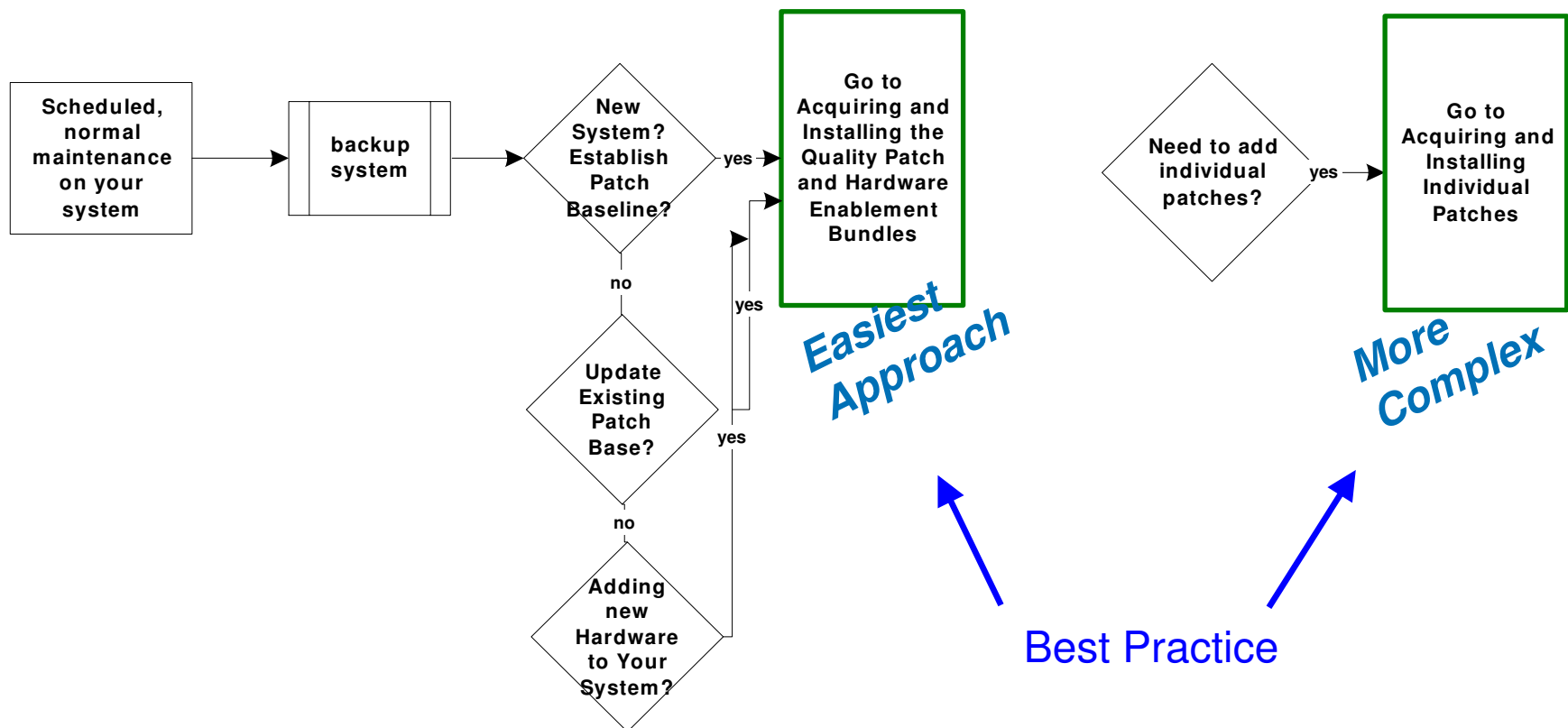
New Policy

- For releases under standard support, Tru64 UNIX Engineering supports the latest patch kit and one (1) back. (No change for releases or patch kits prior to V5.1B-1(Vail)).
- In addition, starting with V5.1B-1 (Vail) patch kits will be supported for a minimum of one (1) year after their release. Support for the latest patch kit and one (1) back AND the minimum of one (1) year from the time of release are both guarantees for V5.1B patch kits and V5.1-B associated updates (V5.1B-1, V5.1B-2, etc..) only.



HP's UNIX Patch Strategy

When You do Move to HP-UX
What is the Right Approach?



HP's UNIX Patch Strategy

Summary



HP has track record of innovation

- Listening to our customers
- Responding with improved solutions





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