

HP-UX 11i v3 Operating Environment Updates

Expanded virtualization and availability, with simplified manageability and lower TCO

Data sheet

Mission-critical applications are the backbone of every organization's IT, and how well your server environment is equipped to deal with the heavy workload it supports can make or break your business in today's Instant-On world. That's why it's important to implement an operating system with the capability to support your organization's massive IT workload as well as make the most of a converged infrastructure. The operating system must also be flexible and scalable to accommodate anything that may come your way in the future.

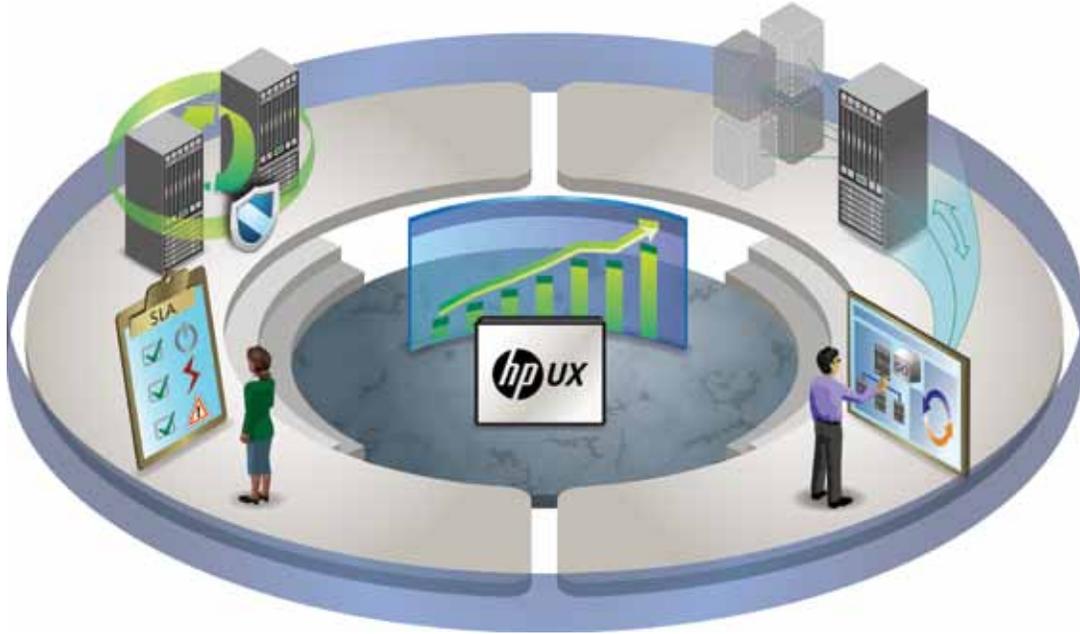
The new and improved HP-UX 11i v3 Operating Environment comes with a set of features that can provide more value for your investment. Backed by over 25 years of innovations in the field, it offers advancements in technology that suit users of both HP Integrity systems (based on Intel® Itanium® processors) and HP 9000 systems (based on PA-RISC). What's more, HP-UX 11i v3 also enables and supports the new HP Integrity blades, as well as HP Superdome 2,

the flagship server in our newest line of Integrity servers. So now you can amplify your mission-critical advantage in the areas of virtualization, high availability, and simplified management.

The operating system of the mission-critical HP Converged Infrastructure

HP-UX 11i v3 simplifies and unifies IT, and is designed to deliver the always-on resiliency, dynamic optimization of resources, and investment protection and stability demanded in mission-critical computing. It integrates proven UNIX® functionality with advances in high availability, security, partitioning, workload management, and instant capacity on demand and delivers it within the industry's first mission-critical converged infrastructure to drive up flexibility while reducing risk and delivering compelling value.

HP-UX 11i v3 Operating Environment: expanded virtualization and availability and simplified management for mission-critical HP Converged Infrastructure



Simplify and unify IT	Always-on resiliency	Dynamic optimization	Investment protection and stability
HP-UX manages seamlessly within your HP Converged Infrastructure.	HP provides a proven operating environment to deliver one of the industry's most resilient UNIX platforms that enables your mission-critical applications are always on and secure without compromise.	HP-UX delivers built-in integration of virtualization and management software to optimize IT infrastructure dynamically.	HP-UX is a stable operating environment that powers the core of your mission-critical applications today and for many years to come, delivering exceptional value.



Simplify and unify IT

HP helps customers simplify their environment by consolidating applications with the HP mission-critical portfolio, which includes a common, modular server and management platform.

The HP strategy to unify management around a single management tool enables IT staff to use one common interface and consistent processes to manage the server and storage infrastructure. HP Insight software is a key element to deliver on the mission-critical HP Converged Infrastructure strategy.

HP Systems Insight Manager (SIM) provides a common, centralized interface to HP systems management (across Integrity and ProLiant servers, network, and storage). HP SIM is easily extensible, integrating with other HP management products and value-add plug-ins such as the HP Matrix Operating Environment (OE), HP Insight Control management software suites, and the individual HP Insight Foundation products. Individual system management capability is provided through HP Integrated Lights-Out (iLO) 2, the HP Insight Display for rack-mounted servers, and the HP System Management Homepage (SMH).

HP software and hardware are based on industry standards to increase integration and compatibility with other HP devices and third-party components.

Always-on resiliency

Downtime happens, whether it's caused by technology, processes, or people. Fortunately, HP provides a proven operating environment to deliver the industry's most resilient UNIX platform¹ that provides your mission-critical applications are always on and secure without compromise.

HP Serviceguard Solutions, a suite of complementary software solutions available for HP Integrity servers running HP-UX 11i, protect your business with uncompromising resiliency—mitigating and managing risks and increasing the availability of IT to drive business results—simply.

HP Serviceguard is the foundation of every HP Serviceguard Solution, and monitors the availability and accessibility of your critical IT services, such as applications, databases, or even custom applications.

Those applications—and everything that they rely on to do their job—are meticulously monitored for any fault in hardware, software, operating system, virtualization, storage, or the network. When a failure or threshold violation is detected, HP Serviceguard automatically and transparently resumes normal operations almost in seconds by restarting the service in the right way and in the right place to enable improved performance.

HP Serviceguard Manager is included at no charge with HP Serviceguard, and gives your staff a bird's-eye view of the entire environment with full control from a single console. Its intuitive graphical interface and effortless wizards reduce both the need for expertise and the potential for human error by automating cluster setup and configuration to improve efficiency and the productivity of your IT staff.

In addition, **HP-UX builds in one of the most comprehensive security portfolios**, encompassing systems and data protection, role-based access controls, and cross-platform directory integration.

HP-UX has multiple security certifications and is the only UNIX vendor who provides a system-hardening tool with the OS that is certified by the Center for Internet Security.²

Dynamic optimization

To succeed in today's unpredictable marketplace, you need an IT environment that mirrors your dynamic business—one that responds to business demands automatically by supplying computing resources as required.

HP-UX delivers built-in integration of virtualization and management software to dynamically optimize your IT infrastructure.

The Matrix OE provides the infrastructure management at the core of both the HP-UX 11i v3 Virtual Server Environment (VSE-OE) and HP CloudSystem Matrix. It is a critical piece of the mission-critical HP Converged Infrastructure solution, which spans servers, storage, and network resources, providing an ideal platform for delivering shared or private cloud services. It provides an automated virtual infrastructure that can dynamically adapt while providing mission-critical reliability. HP Matrix OE for HP-UX enables you to:

- Provision your infrastructure in minutes³ with automated activation of servers, storage, and networking
- Optimize infrastructure confidently with built-in capacity planning and rebalancing tools
- Protect continuity of services with automated failover

Through tight integration with virtualization, high availability and disaster recovery, and utility pricing, HP Matrix OE for HP-UX enables you to maintain service levels in the event of downtime, and to pay for spare capacity on an as-needed basis.

Virtualization lowers costs with reduced infrastructure; shared, dynamic resourcing; increased utilization; and rapid deployment. Resources can be optimized by choosing the type of HP-UX mission-critical virtualization that best matches your workload requirements, including the right levels of isolation and flexibility.

With HP-UX integrated virtualization and infrastructure management, you can dynamically enhance your environment and respond to changing business requirements as needed.

¹ Source: "Unix Vendor Preference Survey 2010-2011," Gabriel Consulting Group, 2011.

² http://h71028.www7.hp.com/enterprise/w1/en/os/hpux11i-security-overview.html?jumpid=ex_r1533_us/en/large/tsg/go_hpux11isecurity

³ Based on HP internal lab testing.

HP-UX 11i v3 September 2011 (Update 9)—what's new?

The new release for HP-UX 11i v3 delivers strategic improvements that focus on virtualization, system management, security, and application development. The enhancements below assist in moving your IT environment to the next level

Simplify and unify IT	
Focus areas	Enhancements
File systems	Increase performance for file systems mounted on HP Logical Volume Manager (LVM) volumes, with OnlineJFS file system version 5.01 now default within HP-UX: <ul style="list-style-type: none">File system “lock contention” is no longer an issue, thanks to direct and concurrent I/O available in base Veritas File System (VxFS) and OnlineJFS respectively
System management	<ul style="list-style-type: none">Ease installation with new Web-Based Enterprise Management (WBEM) provider “mega bundle”
Application development	<ul style="list-style-type: none">Ease software development with updates to C/C++ compiler and HPjmeter (Java performance optimizer)
Always-on resiliency	
Focus areas	Enhancements
High availability and disaster recovery (HP Serviceguard)	<ul style="list-style-type: none">Increase availability of IBM DB2 High Availability Disaster Recovery replication with Serviceguard by using HP Serviceguard Toolkit for Database Replication SolutionsIncrease availability of HP 3PAR Storage Array data with new HP Serviceguard Metrocluster and Continentalcluster disaster recovery for HP 3PAR, with synchronous data replication and automated failover
High availability (HP Serviceguard Extension for SAP—SGeSAP)	Increase availability: <ul style="list-style-type: none">SGeSAP supports “easy deployment” of SAP applicationsKeep SAP highly available with SAP Web Dispatcher integrationSimplify SAP deployment using Serviceguard ManagerEnable failover success using SAP cluster verificationReduce Oracle licenses with SGeSAP and workload containers
Security	<ul style="list-style-type: none">Increase data security with the latest cryptographic libraries and an encrypted network in the latest open source versions of secure shell (SSH) and OpenSSL (OpenSSL 0.9.8q and OpenSSH 5.8)Reduce security threats with updated security definitions within OpenSSH, Bastille, and IPFilterIncrease robustness and isolation of HP-UX Containers by adding auditing and HP-UX Host Intrusion Detection Services
Dynamic optimization	
Focus areas	Enhancements
Infrastructure management	Increase your benefits from private cloud today with HP Matrix OE 6.3, now included in the HP-UX 11i v3 VSE-OE: <ul style="list-style-type: none">The expanded Matrix OE enables an existing Matrix environment to also manage virtual machines (VMs) from an Integrity Superdome 2 environment with HP Expanded Matrix Conversion ServicesIncrease scalability and simplify management for large, diverse sets of cloud users in multitenancy environmentsSimplify storage management with HP 3PAR storage integrationManage utilization of multi-initiator NPIV
HP-UX Containers	3.0 (now provided within all OEs) increases isolation and control: <ul style="list-style-type: none">Enable consolidation of multiple private environments within an HP-UX instance with new system containersGain control with per-container administrator domainsGain enhanced compliance with Force-to-Wire, which sends networking to the wire if external monitoring or auditing is required 3.1 (now Web released) simplifies container manageability: <ul style="list-style-type: none">Easily update HP-UX in a container environmentReplicate containers for faster setup of new containers
Investment protection and stability	
Focus areas	Enhancements
Networking (HP X.25)	<ul style="list-style-type: none">Enable legacy X.25 software applications to run unchanged on HP Integrity servers over TCP/IP on Ethernet hardware
HP 9000 Containers	<ul style="list-style-type: none">Leverage the power of Integrity servers, by consolidating multiple HP 9000 environments onto a single Integrity server

Dynamic optimization	
Focus areas	Enhancements
Infrastructure management	<p>Enhancements:</p> <p>Increase your benefits from private cloud with Matrix OE 6.3, available in an April 2011 Web release:</p> <ul style="list-style-type: none"> • Increase provision scalability up to 3,200 nodes (with Federated CMS) • Manage any VM Host as part of the HP CloudSystem Matrix resource pool (with HP CloudSystem Matrix Extended Infrastructure) • Convert existing HP BladeSystem hardware into Matrix-managed nodes (with HP CloudSystem Matrix Conversion Services) • Simplify storage management with new HP 3PAR storage integration • Reduce costs by managing utilization of multi-initiator NPIV
HP Integrity Virtual Machines	<p>Version 4.3:</p> <ul style="list-style-type: none"> • Double the virtual machine size,⁴ supporting larger mission-critical workloads, with up to 16 virtual cores, 128 gigabytes of memory, and 256 HP Integrity VM Accelerated Virtual I/O (AVIO) storage LUNs • Reduce management costs with new administrative capabilities • Quickly manage VM guests wherever they are running with virtual HP iLO Remote Console, which provides a specific IP address for each guest console, which: <ul style="list-style-type: none"> – Reduces costs and enables network-attached storage with shared NFS storage – Automates deployment with a new tool, which edits Extensible Firmware Interface variables for guest virtual firmware, from within a VM host
HP-UX Containers⁵ 3.0	<p>HP-UX Containers 3.0 increases isolation and control in an April 2011 Web release. New system containers:</p> <ul style="list-style-type: none"> • Enable consolidation of multiple private environments within an HP-UX instance with new system containers • Gain control with per-container administrator domains • Gain enhanced compliance with Force-to-Wire, which sends networking to the wire if external monitoring or auditing is required
Always-on resiliency	
Focus areas	Enhancements
HP Serviceguard	<p>A.11.20 Patch A enhancements (released in April 2011):</p> <ul style="list-style-type: none"> • Simplify and increase availability—with robust replication capabilities with the HP 3 Data Center solution • Ease deployment—with command-line and GUI interfaces in HP Serviceguard Manager • Increase serviceability and manageability—with manual site switching, to further reduce downtime, and to validate a cluster configuration • Increase integration and modularity—with simple configuration for partner products
HP Serviceguard Extension for Oracle Real Application Clusters (SGeRAC)	<p>Now bundled into the HP-UX 11i v3 High Availability Operating Environment (HA-OE) and HP-UX 11i v3 DC-OE with no additional cost for licensing or support</p>
HP SGeSAP	<p>Licensing now made consistent with Integrity servers—with per-socket, tiered pricing</p>
HP Serviceguard Storage Management (SMS) Suites	<p>Simplify suites, with or without cluster file system:</p> <ul style="list-style-type: none"> • One suite is now targeted for single-instance Oracle customers. • The other suite is targeted for Oracle RAC customers (with the cluster file system). Customers with SMS Suites, which will be obsolete, can be migrated to a higher-level bundle.
Security	<p>HP-UX 11i v3 introduces a new capability called Whitelisting, which:</p> <ul style="list-style-type: none"> • Protects all critical system files from being modified • Enables only authorized applications to access protected files and data • Simplifies certifications efforts like Payment Card Industry (PCI) Payment Application Data Security Standard (PCI-DSS) • Seamlessly integrates into our current environments: Serviceguard clusters, HP Data Protector, and Symantec <p>The SSLCipherSuite, which specifies the suite of encryption ciphers that the server uses to make communications more secure, is now customizable.</p>
Simplify and unify IT	
Focus areas	Enhancements
System management	<ul style="list-style-type: none"> • Dynamic Root Disk (DRD) now synchronizes volume characteristics, reducing the length of planned downtime • HP SMH is now more efficient—you no longer need to refresh your screen to see issues; status icons are auto-refreshed
Application development	<ul style="list-style-type: none"> • Performance analysis is improved: pinpoint problems more efficiently and exactly with HP Caliper 5.3 • Reduce troubleshooting time with the improved, central Web-Based Enterprise Management (WBEM) Assist utility

⁴ While version 4.2 VMs have a maximum of 8 processor cores, version 4.3 VMs have a maximum of 16 processor cores.

⁵ Formerly known as HP-UX Secure Resource Partitions.

Simplify and unify IT	
Focus areas	Enhancements
A common converged platform	<ul style="list-style-type: none"> • Consolidate applications on a common platform based on a unified blade architecture from x86 to Superdome 2 servers • Keep applications up and running using power-on-once technology with up to 450 percent boost to infrastructure reliability⁶ • Scale up with HP Superdome 2 Crossbar Fabric with fault tolerance in 100 chipset data paths⁷ • Improve performance up to four times and lower entry price by 40 percent⁸ • Take advantage of the new bladed HP Superdome 2, including 100 mission-critical innovations that make it more reliable, affordable, and flexible than ever before
Always-on resiliency	
Focus areas	Enhancements
HP Serviceguard Extension for Oracle E-Business Suite (SGeEBS)	<ul style="list-style-type: none"> • Lower time and costs to cluster Oracle E-Business Suite with the new HP SGeEBS by 93 percent⁹ • Reduce 12 hours of planned downtime a month for Oracle E-Business Suite maintenance¹⁰ • Enhance resource utilization and costs by integrating with HP Insight Dynamics-VSE software • Scale easily with full support for disaster recovery
HP Serviceguard Toolkit for Oracle Data Guard	<ul style="list-style-type: none"> • Manage database with high availability and zero custom coding • Integrate HP Serviceguard and Oracle Data Guard to achieve high availability and disaster recovery for Data Guard itself • Protect with automatic Data Guard failover/switchover • Provide enhanced resiliency against data corruption
Faster startup for Oracle RAC after failover	<ul style="list-style-type: none"> • Speed startup time by 90 percent¹¹ for multi-instance applications such as Oracle RAC, SAP, and Cluster File System • Restart multinode packages simultaneously instead of sequentially
Dynamic optimization	
Focus areas	Enhancements
HP 9000 Containers	<ul style="list-style-type: none"> • Consolidate applications in days, not months, with new HP 9000 Containers that virtualize PA-RISC environments on Integrity servers to reduce resource burn
HP Integrity Virtual Machines	<ul style="list-style-type: none"> • Enhance resource utilization by running multiple instances of operating systems; use Integrity VMs to run HP-UX 11i v2 as a guest on an HP Superdome 2 server that is running HP-UX 11i v3
HP-UX Porting Kit	<ul style="list-style-type: none"> • Port AIX to HP-UX 80 percent faster¹² with the new AIX to HP-UX Porting Kit (AHPK) that automatically identifies porting issues, accurately estimates effort, and recommends solutions. Reduce porting time by 85–95 percent against manual processes,¹³ and achieve 90–95 percent automation¹⁴—all with a completely free, fully-supported product from HP.

⁶ Based on testing on mean time between failures in HP engineering labs and HP lab analysis of hardware crash rates, comparing the previous generation of Superdome with Superdome 2.

⁷ Based on analysis by HP Labs, referring to Integrity Superdome 2 crossbar fabric. All data paths within the chipset are fault tolerant, with end-to-end retry and rerouting.

⁸ Source: HP performance engineering.

⁹ Comparison of time to configure storage and package using the previous release and the new Serviceguard Manager easy package storage enhancement.

¹⁰ Maintenance outages usually take 3–12 hours and may require performing those as frequently as every month, according to the information provided by Oracle.

¹¹ HP Lab comparison of Serviceguard 11.19 to Serviceguard 11.20.

¹² Source: Based on HP experience with the Solaris to HP-UX Porting Kit (SHPK) and customer testimonials, such as from a large European logistics provider who automated about 90 percent of its code with SHPK, reducing its deployment time on HP-UX to weeks from months. Since the AHPK technology is similar to SHPK's, we assume similar benefits from AHPK.

¹³ Source: The European logistics provider estimated 4–5 months of porting effort and was able to complete the porting in 4–5 weeks by using SHPK. We expect similar benefits from AHPK when porting AIX code.

¹⁴ Source: Based on SHPK experience and testimonials.

Simplify and unify IT	
Focus areas	Enhancements
HP-UX Software Assistant (SWA)	<ul style="list-style-type: none"> • Faster and more options in generating reports with SWA • Patch flagging in SWA clearly explains why patches are recommended
HP Caliper	<ul style="list-style-type: none"> • Caliper with ktracer delivers improved reliability, expanded support, and ease of use
Always-on resiliency	
Focus areas	Enhancements
Security	<ul style="list-style-type: none"> • The first commercial UNIX to be successfully evaluated against the new commercial Common Criteria • COTS Compartmentalized Operations Protection Profile • Bastille-certified by the Center for Internet Security as providing a system-hardening tool that reflects the best practices across the industry by independent experts • Enhancements to IPFilter firewall • HP Online VM Migration can employ data encryption during migration, an option to paying for expensive private networks for online migrations • Secure Resource Partitions easier to deploy with new reference architectures for Oracle and SAP
Dynamic optimization	
Focus areas	Enhancements
HP Integrity Virtual Machines 4.2	<ul style="list-style-type: none"> • Delivers automatic memory reallocation and suspend/resume capabilities for guests • LVMove reduces manual steps when moving logical volumes • New storage reporting tool • Suspend/resume guests with Integrity VM 4.2; less interruption in online VM migration • Tighter management of service-level agreements with memory entitlements, part of HP VM automated resource allocation • Boot a logical volume in LVM Layout 2 in addition to LVM Layout 1 • Online VM Migration for Integrity VM now in the HP-UX 11i v3 virtualization bundles (VSE-OE, DC-OE, and Insight Dynamics – VSE Suite); AVIO • Drivers now bundled with Integrity VM OpenVMS guest support and integration with HP Insight Orchestration • Integrity VM 4.2 improves VMs-as-a-Serviceguard-package functionality, including integration with application monitoring
Dynamic Root Disk	<ul style="list-style-type: none"> • The ability to compare and synchronize a clone with the running system with DRD LVM snapshots
Investment protection and stability	
Enhancements	
<ul style="list-style-type: none"> • Latest standards for Java, C++, and Fortran improve quality and speed porting to HP-UX 11i 	

Simplify and unify IT	
Focus areas	Enhancements
Locality-Optimized Resource Alignment (LORA)	<ul style="list-style-type: none"> Performance optimization now includes a new “loratune” command, to simplify retuning after a configuration change. Also, the new “parconfig” command simplifies the configuration of nPartitions.
File system I/O	<ul style="list-style-type: none"> New direct I/O and concurrent I/O make it possible to bypass the usual computing overhead associated with file systems, to approach raw disk performance, more than doubling I/O performance for all involved applications and users, compared to the prior release
Direct I/O in VxFS Lite 5.0.1	<ul style="list-style-type: none"> HP delivers direct I/O in VxFS Lite 5.0.1, part of the HP-UX 11i v3 Base OE, and concurrent I/O in VxFS Full (OnlineJFS) 5.0.1, part HA, VSE, and DC-OEs. Compared to the prior release, the new VxFS Lite performance, as a percent of raw disk performance, is more than double, up from about 10–15 percent to 30–50 percent. VxFS Full more than doubles I/O performance also, up from 30–50 percent to 80–99 percent of raw disk performance
HP Instant Capacity (iCAP)	<p>iCAP version B.11.31.09.02.00 includes the following new features and changes:</p> <ul style="list-style-type: none"> Enhanced performance of Global Instant Capacity by efficiently using locally available Temporary Instant Capacity (speed up initial activation of cores) Group Manager now enabled to accept members with longer passwords (up to 80 characters) More efficient OE upgrade process
HP Systems Insight Manager 5.3	<p>Update 1 increases management scope with:</p> <ul style="list-style-type: none"> The ability to monitor and manage HP ProLiant G6 servers Support for HP Insight Management WBEM Providers v2.3, as well as Integrity Linux providers
Driver updates	<ul style="list-style-type: none"> Extended support for PCI Express Support for tape devices using LTO-5 format IBX4-00 driver for InfiniBand now includes support for Reliable Datagram Sockets in Oracle RAC installations Support for USB 2.0 high-speed devices and DVD write capability
Always-on resiliency	
Focus areas	Enhancements
HP Serviceguard Manager	<ul style="list-style-type: none"> Serviceguard Manager B.02.00.10: Cut cluster management time by half. Utilize the Cluster Topology Map to view cluster status at a glance, drag and drop packages from one node to the other, and view the integration with HP Serviceguard Enterprise Cluster Master Toolkit (ECMT), SGeRAC, Metrocluster, and built-in log viewers for faster troubleshooting. The industry’s only fully IPv6-ready clustering solution: A Serviceguard cluster can now operate on a set of nodes where a single IPv4 address would not be configured and all network traffic must be IPv6 (with no IPv4 traffic at all). IPv4-only and mixed IPv4/IPv6 clusters are also supported. Auto Port Aggregation (APA) support: HP SMS Suite provides support for APA as a cluster heartbeat, online changes to cluster configuration, and automatic resynchronization between cluster nodes.
Security	<ul style="list-style-type: none"> HP helps you achieve new file-level encryption to protect your data in transit. Together with our existing volume encryption, HP-UX 11i provides the granularity of encryption for every business need. HP-UX 11i is the only UNIX system to offer both levels of encryption services. HP helps you meet recently heightened auditing requirements for compliance with Sarbanes-Oxley (SOX) and CIS requirements. Update 5 reduces system resources used during security auditing and reporting, and provides PCI/SOX report templates to save you report-creation time. The HP-UX 11i automation-enhanced system-hardening tool, Bastille, is now aligned with the latest hardening checklist from the CIS—the leading industry-consensus security benchmark organization. HP-UX 11i comes enabled with new capabilities, including keystroke logging and capturing terminal session logs, an emerging security compliance requirement. The Disk Scrub capability with mediainit now includes the ability to validate the scrubbed data written during the last pass of the disk scrub process.
HP-UX Software Assistant	<ul style="list-style-type: none"> Scales further to enable security bulletin analysis and patch maintenance for more systems in a single view when integrated with HP SIM—now up to 100 systems instead of just 10. SWA’s further integration with SIM leads to additional boosts to productivity, including consolidated logging and option selection. Users no longer have to exit SIM or open a new window to edit the SWA configuration file on the CMS.

Dynamic optimization

Focus areas

Enhancements

Online Package Maintenance Mode

- Package to be put into a partially started state for maintenance purposes.

Dynamic Root Disk

- HP-UX 11i DRD hot recovery and hot maintenance are now supported for Serviceguard upgrades. Perform Serviceguard upgrades on clones while nodes and cluster continue to run, and use hot recovery to revert back if needed.

Cluster-aware SAN congestion control

- HP-UX 11i v3 Update 5 and Serviceguard work together to reduce timeouts and SAN congestion by automatically managing I/O queues to save hours or even days on storage management.

HP Logical Volume Manager and Mirrordisk/UX

- Multinode online reconfiguration is available for SGeRAC clusters; vgmmove can move LVM volume groups (VG) from one array to another with no application downtime; pvmove can now rebalance all volume groups at the same time; and LVM VG forced deactivation allows faster failover in a Serviceguard clustered environment because nodes can be deactivated without waiting for resynchronization.

Investment protection and stability

Enhancements

- Legacy support: Metrocluster helps provide support for legacy and modular packages and Oracle Automatic Storage Management (ASM) for single-instance databases, dynamic provisioning, and Metrocluster rolling upgrades.

HP-UX 11i v3 April 2009 (Update 4)

Simplify and unify IT	
Focus areas	Enhancements
Memory file system	<ul style="list-style-type: none">• Doubles the performance of temporary file operations in memory, compared to v2
HP System Management Homepage	<ul style="list-style-type: none">• Now includes SMH setup wizards and graphical icon views
HPjmeter 4.0	<ul style="list-style-type: none">• Features zero preparation analysis: it discovers, monitors, profiles, and troubleshoots Java applications without restarting the applications, with reduced memory and CPU overhead, and achieves results faster
HP Wildebeest Debugger	<ul style="list-style-type: none">• New release for core file, thread, and memory debugging, with expanded control and increased performance
HP Caliper 5.1	<ul style="list-style-type: none">• HP Caliper 5.1 delivers simpler performance analysis, richer reports, and more efficient storage of the results
HP 9000 servers	<ul style="list-style-type: none">• Cross-development environment on Integrity servers for development of applications for HP 9000 systems
HP Mixed Mode Translator	<ul style="list-style-type: none">• Enables HP 9000 customers to move native Java applications to Integrity servers where they can invoke HP 9000 shared libraries and therefore HP 9000 Java Native Interface functions• All HP 9000 applications can run on Integrity servers with HP-UX 11i using the HP ARIES Dynamic Binary Translator, a long-proven tool supported by HP
Always-on resiliency	
Focus areas	Enhancements
HP Serviceguard 11.19	<ul style="list-style-type: none">• 83 percent faster failover; drastic reduction of planned downtime associated with cluster maintenance and configuration; and fully integrated advanced resource management to reduce custom scripting, avoid human error, and provide a fully supported environment• SGeSAP reduces recovery time for SAP liveCache from days or hours to two minutes when used in conjunction with SAP supply chain• Serviceguard ECMT now includes toolkits for IBM DB2, Sybase, and MySQL at no extra charge, and new support for Oracle ASM files speeds the deployment of ASM into a cluster 8x• Serviceguard Manager now delivers more virtualization integration, tool tips, and cluster wizards to reduce time and expertise required for cluster setup and maintenance
HP Mirrordisk/UX	<ul style="list-style-type: none">• Increase data and application protection through greater redundancy• The number of mirror copies increased from 3 to 6• Concurrent clustered node access to mirrors increased from 2 to 16• Reduce time to resynch with improved Mirror Write Cache and parallel resynch enhancements• Number of shared cluster nodes with extended distance (100 km) increased from 2 to 4
Dynamic optimization	
Focus areas	Enhancements
HP Logical Volume Manager	<ul style="list-style-type: none">• Reduce downtime when making a provisioning change to volumes when your requirements grow or shrink• Improve performance up to 88 percent in volume group scan and import operations• Upgrade L1 volume group layouts in place to the highly scalable, modern L2 layout
Dynamic Root Disk	<ul style="list-style-type: none">• Enables online upgrades from older releases of HP-UX 11i v3 to the Update 4 release and later, with only the reboot time left as planned downtime• Integrity Online VM Migration enables guest migration with no downtime• Enhanced Bastille offers 50 percent more system items, which can be hardened to further reduce the time and expertise required to make your HP-UX 11i v2 and v3 systems more secure and meet security benchmark standards
Investment protection and stability	
Enhancements	
<ul style="list-style-type: none">• New controls to reduce active processor energy use:<ul style="list-style-type: none">– Go green with HP-UX 11i v3's savings from power-managed processors, I/O, and cells• SAN target port congestion management allows for extra workloads on physical systems or more guests in a virtualized system without adding more storage resources• The disk sanitization tool is built in, for erase-in-place convenience that is compliant with U.S. Department of Defense standards	

HP-UX 11i v3 September 2008 (Update 3)

- v3 VM Host with AVIO
- More robust and automated cluster failover
- Advanced security integration and automation
- Improved multisystem manageability
- Dynamic power savings
- Faster application deployment and performance

HP-UX 11i v3 March 2008 (Update 2)

- Expanded OE integration
- Enhanced regulatory compliance and data encryption
- Simplified blade management
- Comprehensive capacity planning
- Clusterwide file system/volume management

HP-UX 11i v3 September 2007 (Update 1)

- Dynamic nPartitions
- Online addition, replacement, and deletion of I/O drivers
- Optimized for Integrity server blades
- Multicore utilization from the compiler

HP-UX 11i v3 February 2007 (Initial Release)

- OS performance improvement of around 30 percent
- Next-generation mass storage stack
- Automatic device discovery and configuration; dynamic handling of SAN changes
- Self-configuring multipathing for automatic load balancing and failover
- Planned and unplanned downtime reduction
- In-depth security protection that is easier to deploy
- Memory migration included in virtualization
- Accelerated deployment with reference architectures

HP Factory Express

HP Factory Express provides customization and deployment services along with your storage and server purchases. You can customize hardware to your exact specifications in the factory—helping speed deployment. www.hp.com/go/factoryexpress

Customer technical training

We offer a variety of training courses on storage software, networking, archiving, and disk storage systems. Our classes are available in many delivery modalities—from traditional instructor-led courses at one of our 80 training centers worldwide to online and onsite training. www.hp.com/learn/storage

HP Financial Services

HP Financial Services provide innovative financing and financial asset management programs to help you acquire, manage, and ultimately retire your HP solutions. www.hp.com/go/hpfinancialservices

HP Services

Keep your IT organization competitive and ready to evolve as your business needs change. HP Services are designed to lower your IT costs, increase availability, and reduce the complexity of multivendor services and system implementation.

Care Pack Services: Run your business smoothly as your IT adapts to changing business needs. The convenient prepackaged HP Care Pack Service options and custom support solutions cover the entire IT solution lifecycle to help you design, deploy, integrate, and manage an agile infrastructure. Visit www.hp.com/support/services.

Mission Critical Services: Your environments achieve the high levels of availability that your users demand when you utilize HP Mission Critical and Proactive Services. Visit www.hp.com/services/missioncritical.

Storage Services: Manage costs and streamline the management of your storage environments with the HP Storage Services Portfolio. Visit www.hp.com/services/storage.

Data Center Services: Transform your data center with HP Data Center Services, which help you design and build an energy-efficient data center that meets your needs today and tomorrow. Visit www.hp.com/services/datacenter.

Converged Infrastructure Services: Capitalize on your IT environment capabilities with a partner who understands server, storage, and network technology in a multivendor environment. Visit www.hp.com/services.

To learn more about how the HP-UX 11i v3 Operating Environment can give you increased efficiency at lower costs, and help you make the most of your investments in the Instant-On world, visit www.hp.com/go/hpux11inow.



Get connected

www.hp.com/go/getconnected

Current HP driver, support, and security alerts
delivered directly to your desktop

© Copyright 2011 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Intel Itanium is a trademark of Intel Corporation in the U.S. and other countries. Oracle and Java are registered trademarks of Oracle and/or its affiliates. UNIX is a registered trademark of The Open Group.

4AA3-5947ENW, Created September 2011

