



HP Integrity Server

Die Industriestandardplattform HP-UX



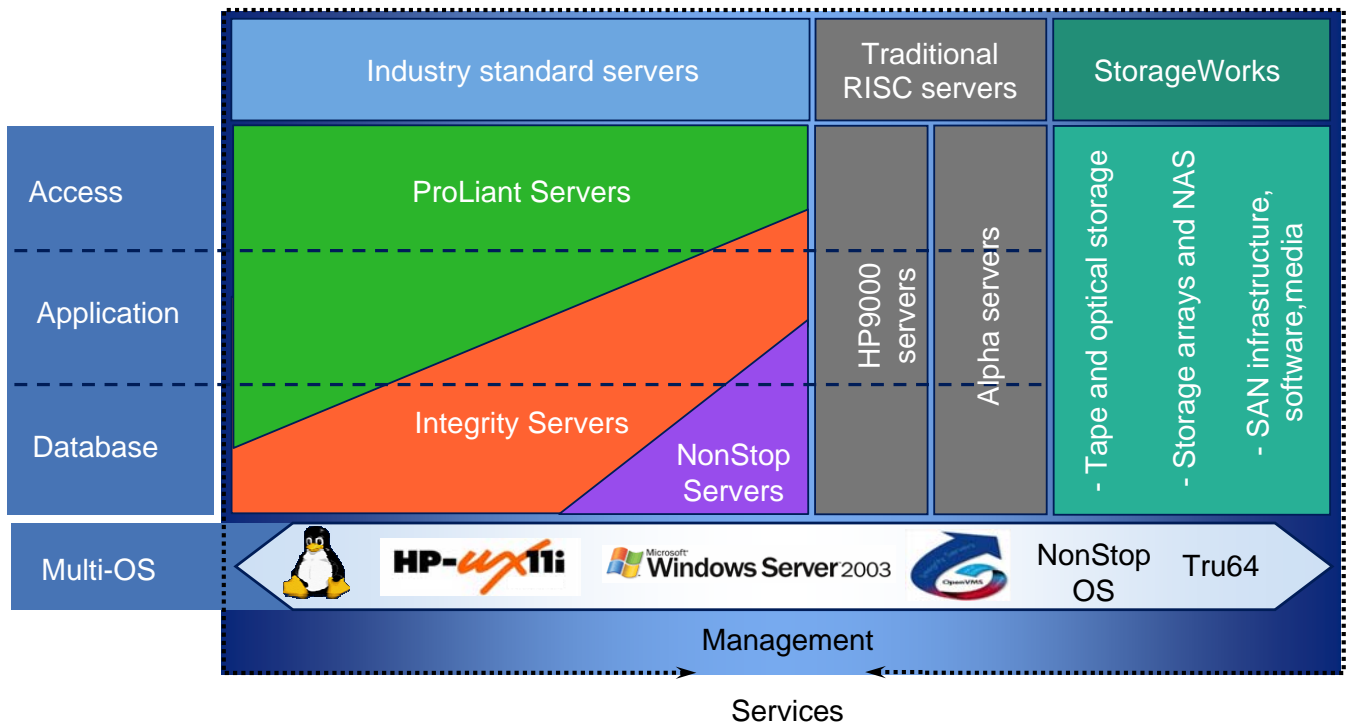
Hewlett Packard Deutschland
Business Critical Systems

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HP server and storage portfolio

The world's broadest, most robust enterprise offering

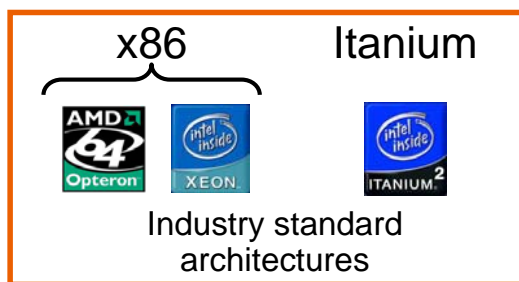
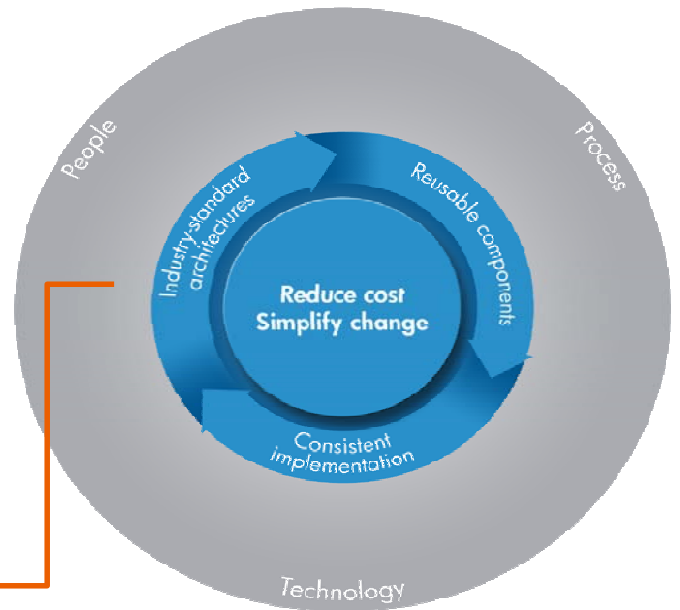


An adaptive enterprise starts with standards



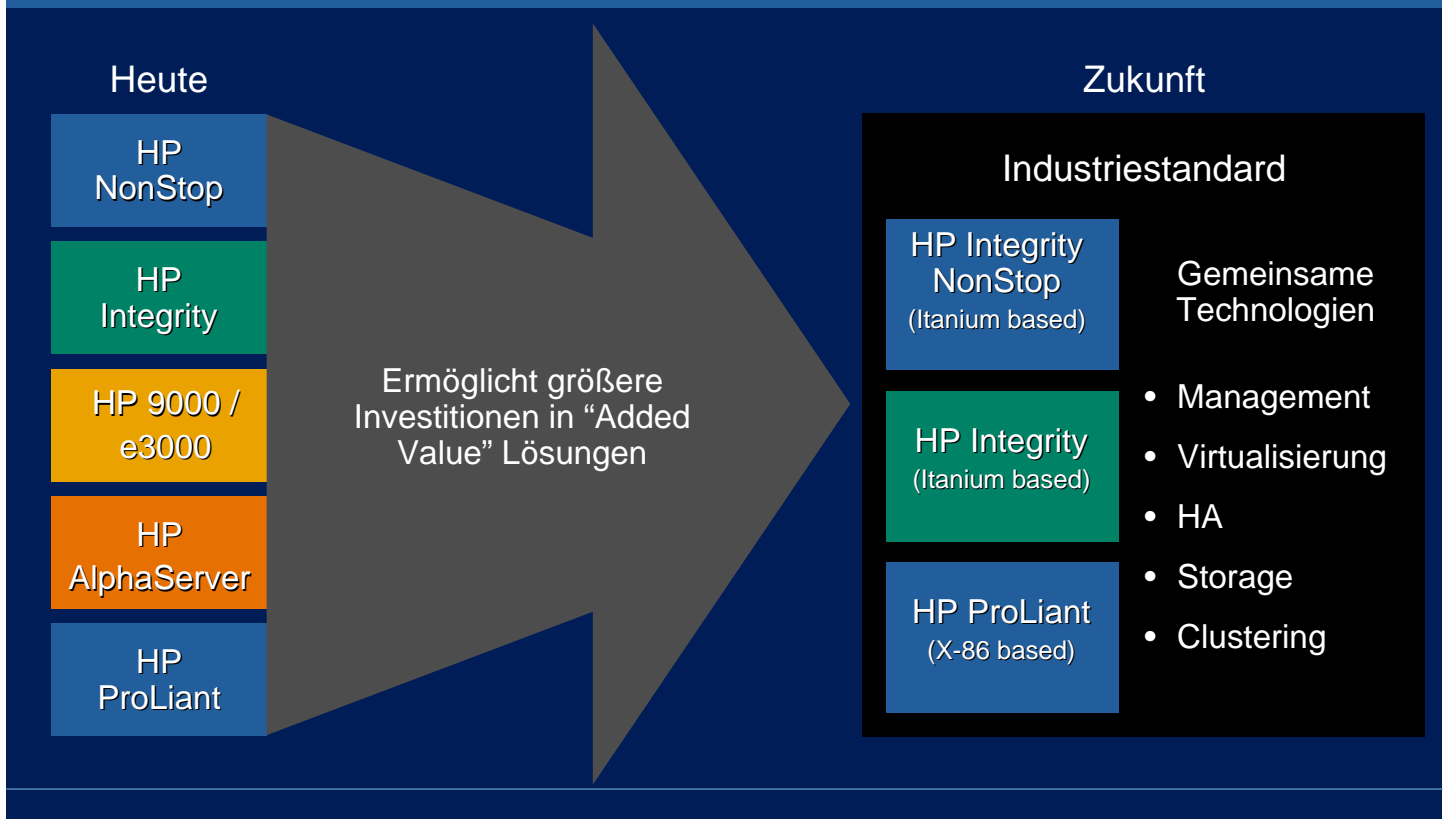
HP is:

- Committed to providing the best in industry standard components
- Providing more customer choice without compromise
- Investing in industry standards and focused innovation

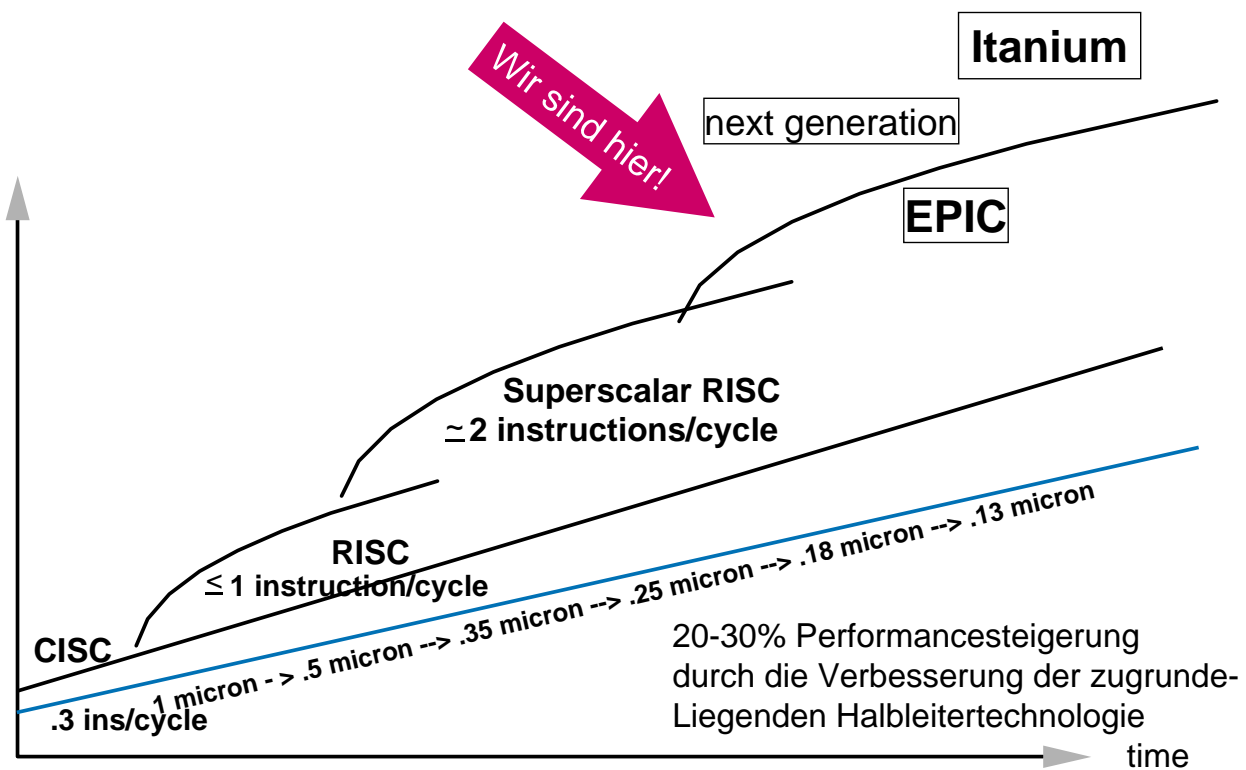


Complementary, modular approach based on two standard architectures

Auf dem Weg zu 3 führenden Produktlinien – basierend auf 2 “Industriestandard”-Architekturen



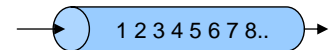
Prozessor Evolution



Traditionelle CPU Architekturen

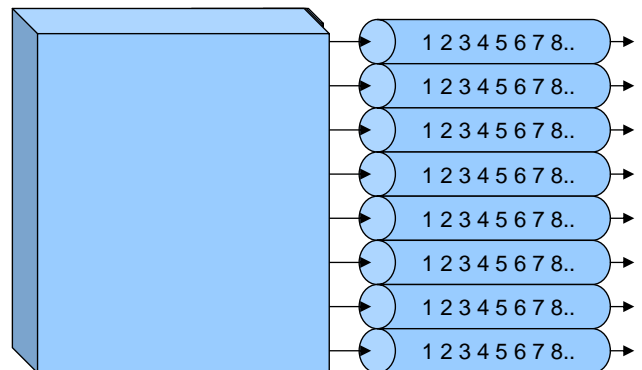
RISC (reduced instruction set computing)

- Pipeline Stufen laufen parallel



Superscalar RISC

- Mehrere parallele Pipelines
- Hardware steuert Instruktionen und löst potentielle Konflikte
- Code wird im laufenden Betrieb parallelisiert



Platzbedarf der Parallelisierungseinheit wächst quadratisch mit der Anzahl der Pipelines

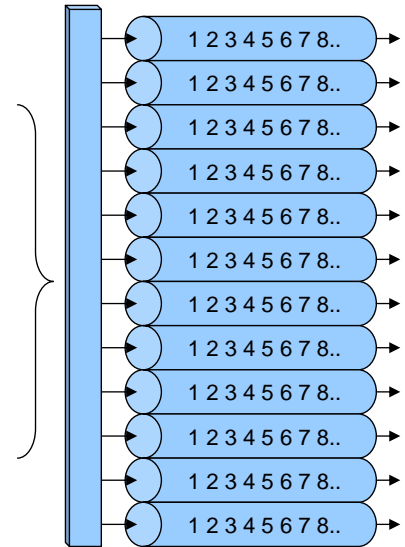
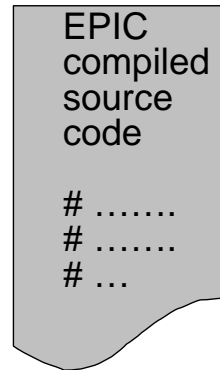
Fortschrittliche CPU Architekturen



EPIC

(explicit parallel instruction comp.)

- Compiler steuert die Instruktionen und garantiert Unabhängigkeit
- Dadurch sehr viele parallele Pipelines möglich
- Code wird bereits beim Kompilieren parallelisiert



Itanium® Prozessor Familie – Industrie Momentum



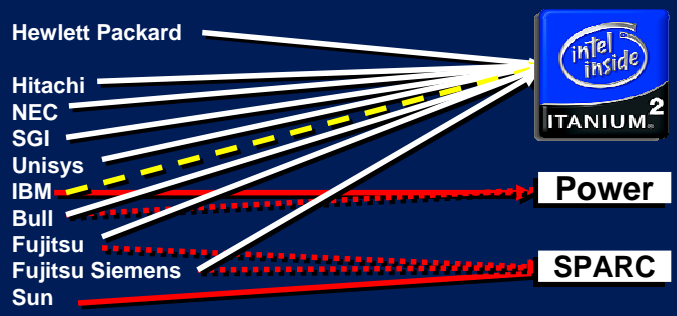
Betriebssystem-angebot



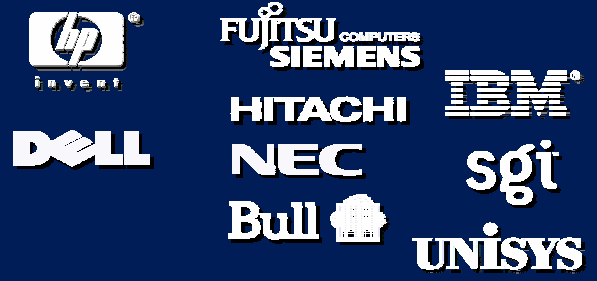
Applikationsportfolio



System Hersteller



8 von 9 RISC Anbietern liefern Itanium Lösungen...und viele Andere, insgesamt über 75 Anbieter

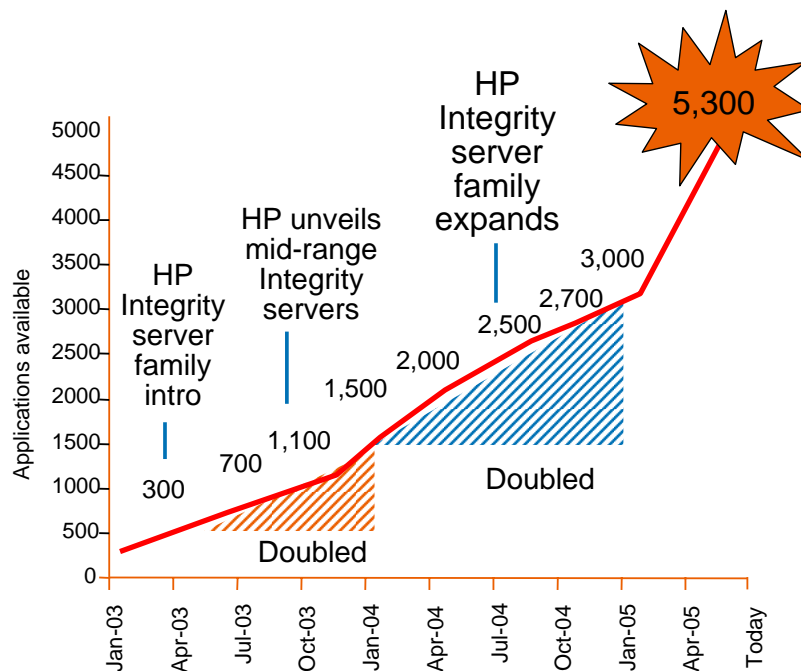


HP Integrity server momentum continues: More customers, more ISVs



HP Integrity servers at:

- One of the largest manufacturing installations of SAP in the world
- One of the largest instances of PeopleSoft in the world
- Largest telco provider in North America
- One of the largest database installations of Microsoft SQL Server in North America
- One of the largest Windows-based Siebel Public Sector deployments in Asia Pacific
- Largest power/utility company in Hong Kong



Q3 FY05 Business Critical Servers (BCS) financial highlights



- Overall business had solid year-over-year growth
- HP Integrity servers up 113% YoY
- HP-UX up 8% YoY



HP Integrity Servers – The ideal platform for multiple operating environments









- Outstanding deployment platform for each individual operating system
- Easily redeploy to another solution running another operating environment
- A common IT infrastructure (hardware) across various solutions and operating environments with common management tools
- Multi-OS is the pinnacle of consolidation capabilities



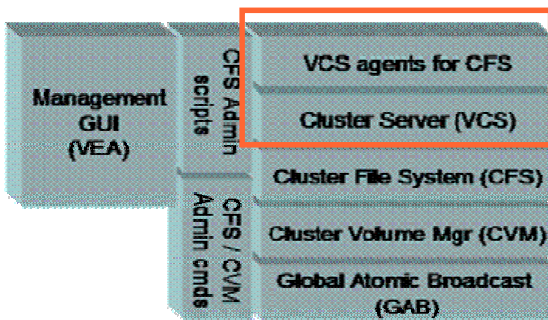
HP Integrity Server: das breiteste Itanium[®]2-basierende Serverportfolio



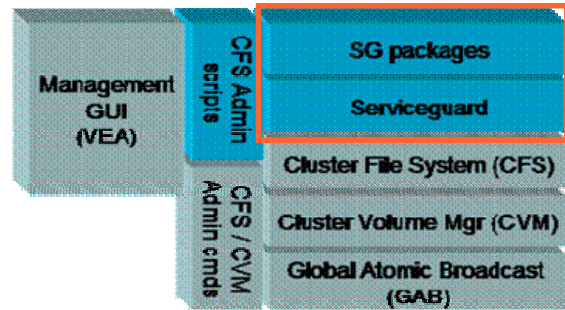
CPU's

128	HP Integrity Superdome Server		Up to 128-way scalability and hard-partitioning capability for leading consolidation	<ul style="list-style-type: none"> • Up to 128 Intel[®] Itanium[®] 2 processors • Up to 512 GB memory • 192 PCI-X slots (with I/O expansion) • Up to 16 hard partitions
32	HP Integrity rx8620 Server mit Server Expansion Unit (SEU)		32-way scalability and hard-partitioning capability for consolidation	<ul style="list-style-type: none"> • 2- to 32-way Intel Itanium 2 processors • Up to 128 GB memory • 32 PCI-X slots (with SEU) • Up to 4 hard partitions • 2 servers per 2m rack
16	HP Integrity rx7620 Server		16-way flexibility with high-performance, density, and partitioning capabilities	<ul style="list-style-type: none"> • 2- to 16-way Intel Itanium 2 processors • Up to 64 GB memory • 15 PCI-X slots • Up to 2 hard partitions • 4 servers per 2m rack
8	HP Integrity rx4640 Server		8-way high-performance servers in ultra-dense and highly scalable models	<ul style="list-style-type: none"> • 1- to 8-way Intel Itanium 2 processors • Up to 64 and 96 GB memory, resp. • 6 and 9 PCI-X slots, respectively • 10 and 5 servers per 2m rack, resp.
2	HP Integrity rx2620 and rx1620 server		2-way ultra-dense, power-packed server redefines entry-level computing	<ul style="list-style-type: none"> • 1- to 2-way Intel Itanium 2 or Low Voltage Itanium 2 • 1U (rx1620) and 2U (rx2620) form factors • Up to 24 GB memory • 4 PCI-X slots • 20 servers per 2m rack
	HP Integrity Blade BL60p		2-way BladeSystem	<ul style="list-style-type: none"> • 1- to 2-way Low Voltage Itanium 2 • Up to 8 GB memory

Veritas Solution



HP Serviceguard Solution



- HP Serviceguard replaces the Veritas Cluster Server
- HP Serviceguard packages replace the VCS agents
- CFS Admin scripts are utilized by and integrated with Serviceguard

Single virtual view functionality

HP innovation for ease of management

- Single-cluster Management
 - Auto synchronization (including auto-synch for down nodes upon reboot)
 - Centralized cluster management
 - Expanded auto-discovery of single points of failure
- Multi-cluster Management
 - Common management solution
 - Multiple groupings
 - Variable levels of synchronization
 - HP-UX 11i and Linux
- Visualization
 - Auto discovery of resources
 - Relationships of resources



Single virtual view functionality

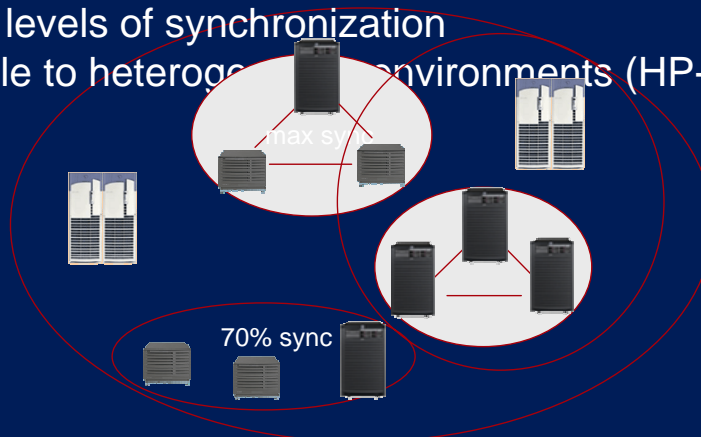
- Applicable to
 - Serviceguard HA
 - Serviceguard with VERITAS Storage Foundation™ Cluster File System
 - HPTC
 - Any group(s) of servers / partitions
- Integrated with Virtual Server Environment management tools such as
 - Serviceguard Manager
 - HP Systems Insight Manager
- Complements server deployment life-cycle tools (Ignite-UX)

Improved cluster management with single virtual view



With single virtual view (SVV)

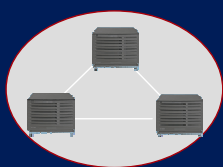
- Same toolset for scale up and scale out environments
- Improved ease of use for single cluster management
- Synchronization of any group of virtual resources: SMP, partitions, clusters
- Variable levels of synchronization
- Extensible to heterogeneous environments (HP-UX and Linux)



Single virtual view complementing management tasks – examples



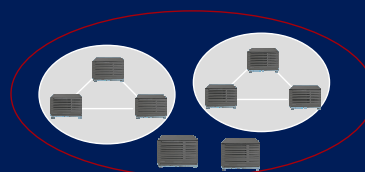
Cluster synchronization



System/cluster deployment

1. Set kernel parameter once and execute concurrently
2. Define logical volume/volume group for Oracle once & push to all cluster members concurrently

Multi-cluster and multi-system synchronization



Server deployment and user definition

1. Build golden image and push to all cluster members and nodes concurrently
2. Define user and push out to all applicable cluster members and nodes concurrently

Visualization

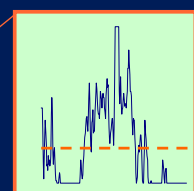
Physical view



Virtual view

Workload performance of defined group of servers

- Access layer servers
- Application layer servers
- Database layer servers



Bundles Veritas/Serviceguard



- T2771BA
- Serviceguard A.11.17
- VxVM
- Enterprise Cluster Master Toolkit
- 2TB File System
- VEA

- T2772BA premium
- QoS
- Instant Volume snapshots
- Checkpoint rollback
- Storage CheckPoints

- T2775BA Cluster Files Syst
- CVM
 - CFS

- T2773A Oracle
- Quick I/O <9i
- ODM >9i
- VxDBA GUI

- T2774A Oracle premium
- Storage rollback
- Database FlashSnap
- Storage Checkpoints

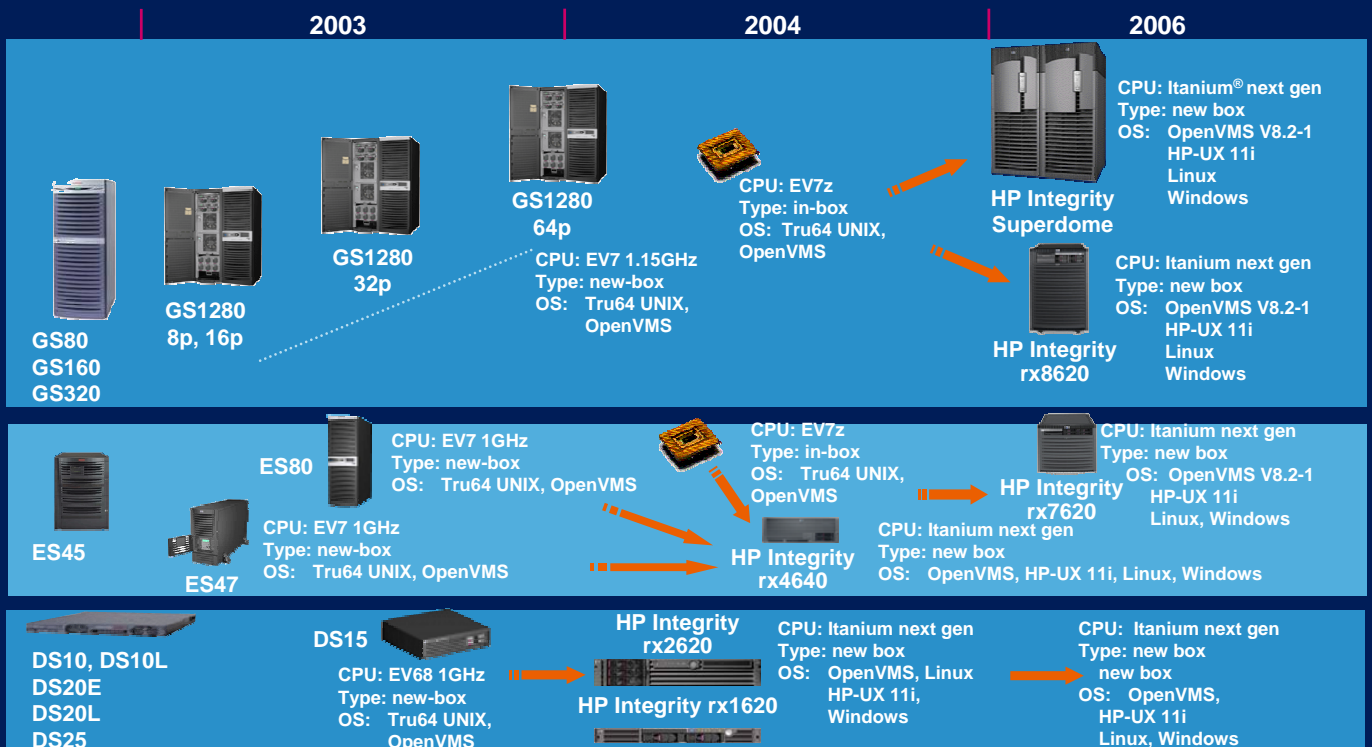
- T2776BA CFS Oracle

T2777BA SGeRAC

HP AlphaServer Evolution

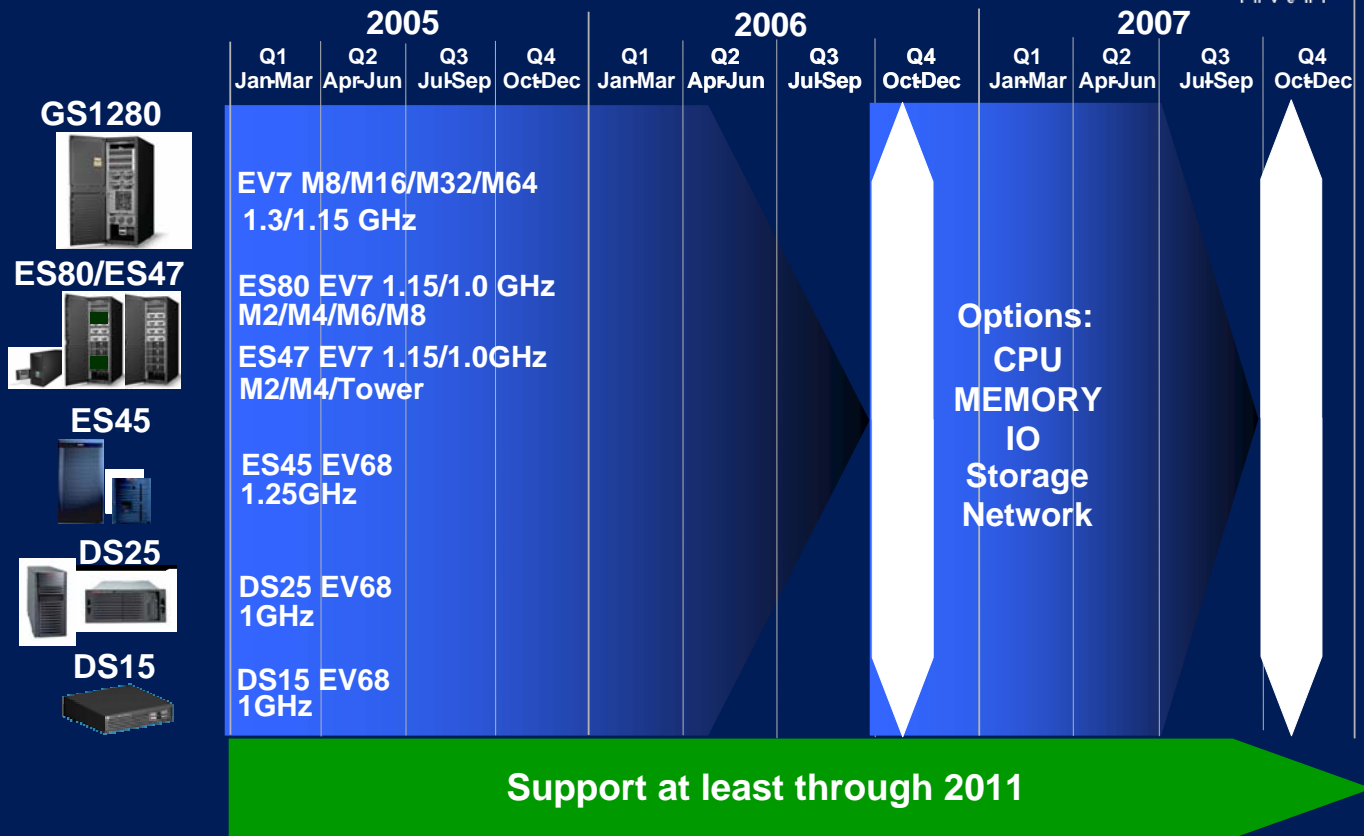


Sales until 2006, with support at least through 2011



Subject to change without notice

HP AlphaServer Roadmap



Tru64 UNIX[®] roadmap



V5.1B with updates, sales until 2006; support at least through 2011

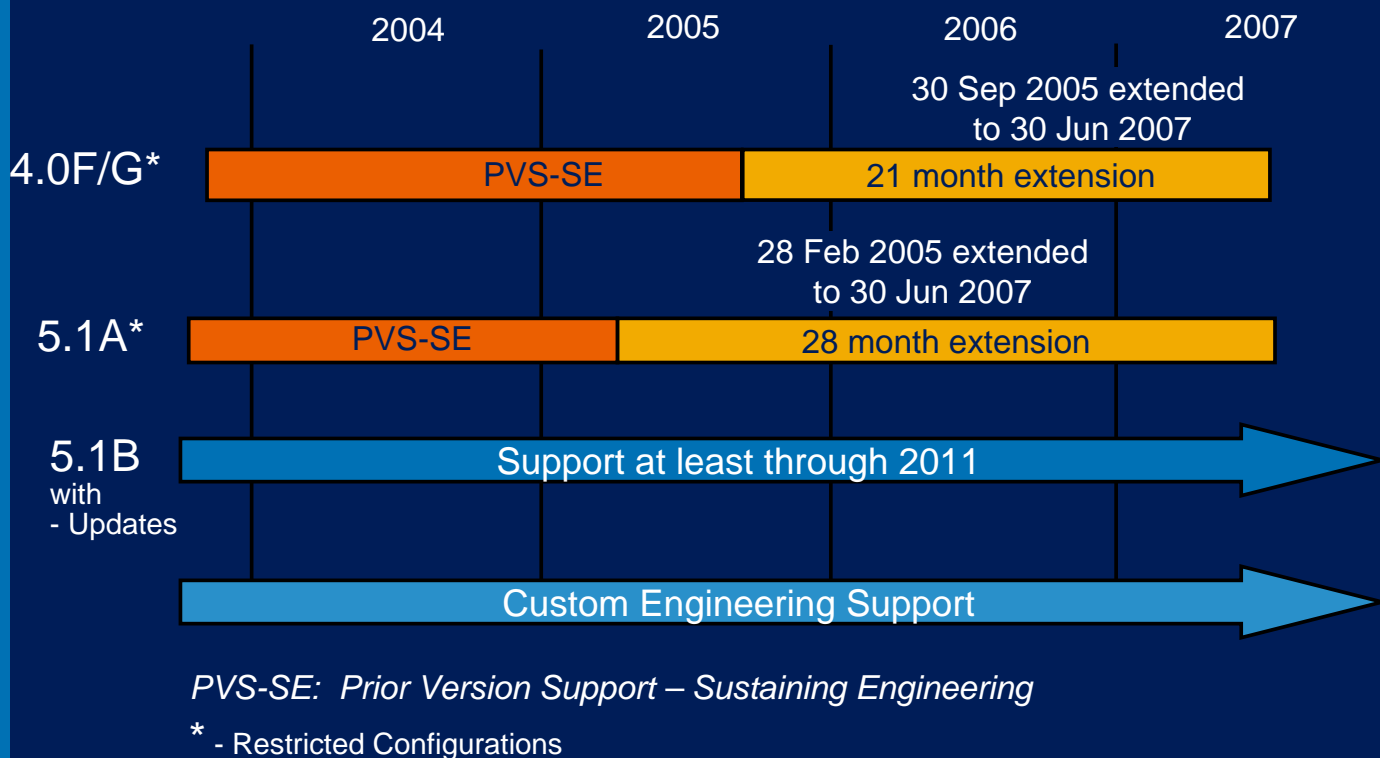
V5.1B-2 2004	V5.1B-3 2005	V5.1B-4 2006
<ul style="list-style-type: none"> • EV7z AlphaServers • Improved storage management • Storage options • Resiliency enhancements • HP-UX 11i compatibility tools • Application updates 	<ul style="list-style-type: none"> • Storage options • Resiliency enhancements • ISV support • HP-UX 11i compatibility tools • Application updates 	<ul style="list-style-type: none"> • Storage options • Resiliency enhancements • ISV support • Application updates



Maintain binary compatibility,
Continued focus on quality, stability and security

Tru64 UNIX® O/S support roadmap

Availability of PVS-SE extended



HP Integrity and HP 9000 Server Roadmap



Revision: OB.05.7.0 Jul-05

Current offering	2005	2006	2007/2008
HP 9000 Superdome HP-UX 11iv1, v2		New Chipset CPU: PA-8900 OS: HP-UX 11iv1, v2, v3 DDR-II	No more PA-RISC releases CPU: Itanium2 "Montecito" OS: HP-UX 11iv2, v3 DDR-II
4-128P HP Integrity Superdome HP-UX, Windows, Linux	OpenVMS support	CPU: Itanium2 "Montecito" New Chipset OS: HP-UX 11iv2, v3* Windows, Linux, OpenVMS DDR-II	CPU: Itanium2 "Montvale" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS PCI-E
2-32P HP 9000 rp7420-16, rp8420-32 HP-UX 11iv1, v2		New Chipset CPU: PA-8900 OS: HP-UX 11iv1, v2, v3 DDR-II	No more PA-RISC releases CPU: Itanium2 "Montecito" New Chipset OS: HP-UX 11iv2, v3* Windows, Linux, OpenVMS DDR-II
2-16P HP Integrity rx7620-16, rx8620-32 HP-UX, Windows, Linux	OpenVMS support	CPU: Itanium2 "Montecito" New Chipset OS: HP-UX 11iv2, v3* Windows, Linux, OpenVMS DDR-II	CPU: Itanium2 "Montvale" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS PCI-E
1-8P HP 9000 rp4440-8 HP-UX 11iv1, v2		No more PA-RISC releases New 8p Server & Chipset CPU: Itanium2 "Montecito" OS: HP-UX, Windows, Linux, OpenVMS DDR-II	CPU: Itanium2 "Montvale" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS PCI-E
1-8P HP Integrity rx4640-4 HP-UX, Windows, Linux, OpenVMS		CPU: Itanium2 "Montecito" OS: HP-UX 11iv2, v3*, Windows, Linux, OpenVMS DDR-II	CPU: Itanium2 "Montvale" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS PCI-E
1-4P HP 9000 rp3440-4 HP-UX 11iv1, v2		No more PA-RISC releases New 4p Capacity Optimized Server & Chipset CPU: Itanium2 "Montecito" OS: HP-UX, Windows, Linux, OpenVMS DDR-II	CPU: Itanium2 "Montvale" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS PCI-E
1-4P HP Integrity rx2600-2 rx2620-2 HP-UX, Windows, Linux, OpenVMS		CPU: Itanium2 "Montecito" OS: HP-UX 11iv2, v3*, Windows, Linux, OpenVMS DDR-II	New 4p Density Optimized Server CPU: Itanium2 "Montecito" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS DDR-II PCI-E
1-2P HP Integrity rx1600-2 rx1620-2 HP-UX, Windows, Linux, OpenVMS		CPU: DP Itanium2 Millington OS: HP-UX 11iv2, v3*, Windows, Linux, OpenVMS	CPU: DP Itanium2 Millington+ OS: HP-UX 11iv2, v3*, Windows, Linux, OpenVMS
Blades HP Integrity Blades Due Early 2006		New Blade (P-class) CPU: Itanium2 Fanwood OS: HP-UX 11iv2, v3*	Next Gen. Blade CPU: Millington OS: HP-UX, Windows, Linux.

Timeframes not to scale
Plans subject to change
All upgrades "in-box" except as noted
"Not available at initial processor release"



HP-UX 11i – Proven Foundation for the Adaptive Enterprise



2004

2005

2006+

HP-UX 11i v4 – Self-healing/adapting
• Automation and mgmt. integration

HP-UX 11i v3 – Unlimited Expansion

- Leadership performance.....
- Extended virtual view and partition mgmt
- Enhanced storage & I/O stack – SAN agility
- Increased reliability, availability & serviceability

HP-UX 11i v2: Your Enterprise UNIX!

Integrated Virtualization – scale out & scale up

- Integrated Serviceguard with VERITAS Storage Foundation™ Cluster File System
- Single virtual view management
- Sub-CPU partitions – Integrity Virtual Machines
- Extending disaster tolerant solutions

- Security containment
- Secure resource partitions
- vPars support on Integrity

Runs on HP 9000 & Integrity Servers

- Performance improvement, 128-way scaling
- Serviceguard extension Fast Failover
- Global Workload Manager

Industry Standard - Integrity Servers

- Full enterprise release

ISV portfolio growing

HP-UX 11i v1 enhancements for HP 9000 Servers

