



This is a presentation slide with an orange background. In the top left corner, there is a white square and the HP User Society logo. The main title, "HP Integrity Server Overview & Roadmap", is written in white text in the center-left. On the right side, there is a photograph of three flags: the flag of the People's Republic of China (red with yellow stars) and the flag of Denmark (white with a red cross and a gold crown). Below the photograph is a white rectangular box. At the bottom left, the speaker's name and title are listed: "Robert Sakic - Vortrag 2L04 Senior Presales Consultant, HP". At the very bottom left, there is a small copyright notice: "© 2006 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice".

HP Processor/Core naming conventions



In this presentation, a **PROCESSOR** is the component that plugs into a processor socket – it may contain more than one processor core.

A **CORE** is the actual data-processing core within a Processor – there may be multiple cores within a single processor.

Examples:

product	old vendor naming	using HP's "P/C" naming
HP rx4640-8 with Itanium 9M (single core)	"4 processors"	4P/4C (may be abbreviated 4P or 4C)
HP rx4640-8 with Montecito (dual core)	"8 processors"	4P/8C








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HP Integrity servers: The broadest line of Enterprise systems




New sx2000 chipset





64	HP Integrity Superdome	 <ul style="list-style-type: none"> Up to 64-way scalability and hard-partitioning capability for leading consolidation Up to 64 Intel® Itanium® 2 processors Up to 1 TB memory 192 PCI-X slots (with I/O expansion) Up to 16 hard partitions
16	HP Integrity rx8640 server with Server Expansion Unit (SEU-2)	 <ul style="list-style-type: none"> 16-socket flexible capacity and partitioning capability for scale up or consolidation 2- to 16-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
8	HP Integrity rx7640 server	 <ul style="list-style-type: none"> 3-socket flexibility with high-performance, density, and hard-partitioning capabilities 2- to 8-way Intel Itanium 2 processors Up to 64 GB memory 15 PCI-X slots Up to 2 hard partitions 4 servers per 2m rack
8/4	HP Integrity rx4640-8 server	 <ul style="list-style-type: none"> 4-way/8-way high-performance server in ultra-dense form factor 1- to 4-way Intel Itanium 2 processors or 2- to 8-way HP mx2 dual-processor modules Up to 128 GB memory 6 available PCI-X slots 10 servers per 2m rack
2	HP Integrity rx2620-2 server	 <ul style="list-style-type: none"> 2-way high-performance, server for multi-purpose entry-level computing 1- to 2-way Intel Itanium 2 1.3GHz/3MB, 1.6GHz/3MB, 1.6GHz/6MB processors 2U form factor Up to 24 GB memory and 4 PCI-X slots 20 servers per 2m rack
2	HP Integrity rx1620-2 server	 <ul style="list-style-type: none"> 2-way ultra-dense server delivering maximum computing value 1- to 2-way Intel Itanium 2 1.3 GHz/3MB, 1.6GHz/3MB/533MHz FSB processors 1U (rx1620-2) form factor Up to 16 GB memory and 2PCI-X slots 40 servers per 2m rack
2	HP Integrity Blade BL60p	 <ul style="list-style-type: none"> First 2-way blade to support HP-UX 11i 1- to 2-way Intel Itanium 2 1.6 GHz/3MB of L3 Cache Blade form factor Fanwood for power and thermal efficiency Up to 8GB memory expansion

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Unparalleled choice of 64-bit operating systems




	Proven quality, availability and manageability
	Industry standard MS Windows now available on 64-bit servers
	Openness, flexibility and cost savings
	Secure, feature rich, stable and with investment protection










Choice of operating systems gives you maximum flexibility for deployment and redeployment in an adaptive enterprise.

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HP Integrity and HP 9000 Server Roadmap




Revision: OB.06.03.1 Mar-06

	Current offering	2006	2007	2008	Future
 HP 9000 Superdome HP-UX 11iv1, v2		New sx2000 Chipset CPU: PA-8900 OS: HP-UX 11iv1, v2, v3	No more PA-RISC releases	New Server & Chipset CPU: Tukwila OS: HP-UX, Windows, Linux, OpenVMS	New CPU: Poulson
 HP Integrity Superdome HP-UX, Windows, Linux, OpenVMS	CPU: Itanium2 "Montecito" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS		CPU: Itanium2 "Montvale" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS		
 HP 9000 rp7420, rp8420 HP-UX 11iv1, v2		New sx2000 Chipset CPU: PA-8900 OS: HP-UX 11iv1, v2, v3	No more PA-RISC releases	New T6P Servers & Chipset CPU: Tukwila OS: HP-UX, Windows, Linux, OpenVMS	
 HP Integrity rx7640, rx8640 HP-UX, Windows, Linux, OpenVMS	CPU: Itanium2 "Montecito" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS		CPU: Itanium2 "Montvale" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS	New 8P Servers & Chipset CPU: Tukwila OS: HP-UX, Windows, Linux, OpenVMS	
 HP Integrity rx4640 HP-UX, Windows, Linux, OpenVMS	New 4P/8C Server & Chipset CPU: Itanium2 "Montecito" OS: HP-UX, Windows, Linux, OpenVMS		CPU: Itanium2 "Montvale" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS	New 4P Server & Chipset CPU: Tukwila OS: HP-UX, Windows, Linux, OpenVMS	
 HP Integrity rx2620 HP-UX, Windows, Linux, OpenVMS	CPU: Itanium2 "Montecito" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS		CPU: Itanium2 "Montvale" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS	New Servers & Chipset CPU: Tukwila OS: HP-UX, Windows, Linux, OpenVMS	
 HP Integrity rx1620 HP-UX, Windows, Linux, OpenVMS	New 2p/4c Capacity Optimized Server & Chipset CPU: Itanium2 "Montecito" OS: HP-UX, Windows, Linux, OpenVMS		CPU: Itanium2 "Montvale" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS		
 HP Integrity BL60p HP-UX, Windows, Linux, OpenVMS	New 2p/4c Density Optimized Server CPU: Itanium2 "Montecito" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS		CPU: Itanium2 "Montvale" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS	New Blade Server CPU: Tukwila OS: HP-UX, Windows, Linux, OpenVMS	
 HP Integrity BL60p		New Blade Server CPU: LV Montecito OS: HP-UX, Windows, Linux, OpenVMS*	CPU: Itanium2 "Montvale" OS: HP-UX 11iv2, v3, Windows, Linux, OpenVMS	New Blade Server CPU: Tukwila OS: HP-UX, Windows, Linux, OpenVMS	

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

New Chassis
 PCI-Express
 DDR-3 Memory

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Serial-Attached SCSI (SAS)

Investment protection

- Small Form Factor (SFF) SAS will become the new universal drive

Higher reliability

- 1.7 million MTBF (vs. 1.5 million for 3.5" SCSI)

Flexible configurations


- Mix and match SAS and SATA drives
- Increased Drive Bays

Better performance

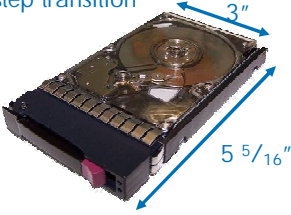
- Serial point-to-point connections
- More spindles per platform

Greater efficiency & improved thermals


- Half the power consumption – 9 Watts
- Smaller form factor enables better airflow




1-step transition




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rx4640 TPC-C HP-UX Benchmark (2/4/8)


	HP Integrity rx4640			TPC-C Revision 5.6
Total System Cost	TPC Throughput	Price/Performance	Report Date: March 21, 2006	
\$551,406	200,829 tpmC	\$2.75/tpmC	Availability Date: September 1, 2006	
Server Processors/Cores/Threads	Database Manager	Operating System	Other Software	Number of Users
2/4/8 Dual-Core Intel Itanium2 1.6GHz	Oracle Database 10g Enterprise Edition	HP-UX 11.i, v2 64-bit	TUXEDO 8.0	158,400




Client 1



Server



Fiber Channel



Client 5


HP Integrity rx4640
2 - 1.6GHz Dual Core Intel Itanium2
with 2 24MB iL3 Cache
128GB Memory


8 HP StorageWorks MSA 1500
1 HP Storage Works MSA1000
- 26 HP StorageWorks Enclosures MSA30
- 336 36GB 15K RPM Disk Drives
- 42 73GB 15K RPM Disk Drives

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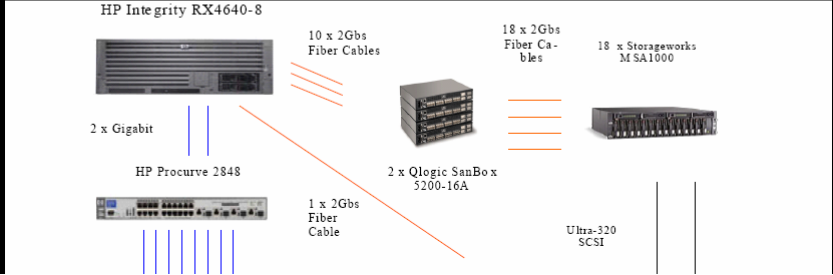
rx4640 TPC-C Windows Benchmark

(4/8/16)



	HP Integrity rx4640-8			TPC-C Revision 5.6
Total System Cost	TPC Throughput	Price/Performance	Report Date	Availability Date
\$788,155 USD	290,644 tpmC	2.71 USD per tpmC	March 27, 2006	Sept 1, 2006
Procs/Cores/Threads	DataBase Manager	Operating System	Other Software	Number of Users
Srvr - 4/8/16 Dual Core Itanium 2 Processor 9050 @ 1.6GHz Client - 8 x 2/2/4 Intel Xeon @ 3.6 GHz	Microsoft SQL Server 2005 Enterprise Itanium Edition SP1	Microsoft Windows Server 2003, Enterprise Edition for Itanium-based Systems, SP1	Microsoft Visual C++ Microsoft COM+ Transaction Monitor	231,740

HP Integrity RX4640-8



10 x 2Gbs Fiber Cables

18 x 2Gbs Fiber Cables

18 x Storageworks MSA1000

2 x Gigabit

HP Procurve 2848


2 x Qlogic SanBo x 5200-16A

1 x 2Gbs Fiber Cable

Ultra-320 SCSI

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rx4640/Montecito TPC-C Configuration



- zx1 chip set (400 MHz FSB)
- 2 Montecito 1.6GHz/24MB processors (4 Montecito cores)
- 128 GB memory
- Oracle Database 10g Enterprise Edition
- HP-UX 11i v2

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HP-UX 11i – Taking You Confidently Into Tomorrow

Timeline: 2005 | 2006 | 2007 | 2008 | 2009 | 2010

HP-UX 11i V4: Automated Virtualization

- Ultimate for Mission Critical Applications
- Unsurpassed in Scalability & Reliability
- Grid enablement
- Integrated security and compliance reporting
- Superior Linux Coexistence

HP-UX 11i V3: Unlimited Expansion

- Leadership performance
- Next Generation Systems Management
- Encrypted Volumes and Filesystems
- Enhanced storage & I/O stack – SAN agility
- Increased reliability, availability & serviceability
- Dynamic reconfiguration

HP-UX 11i V2: Your Enterprise UNIX!

- Dynamic Root Disk
- Common Criteria Certification
- Encrypted Volumes (EVFS)

Integrated Virtualization – scale out

- Serviceguard Storage Management – integrating Symantec/VERITAS Cluster File System
- Single virtual view management (DSAU)
- Extending disaster tolerant solutions
- Sub-CPU partitions – Integrity Virtual Machines
- Integrated Identity Management
- Blade Support

Security containment & Secure resource partitions

- VSE: gWLM, vPars on Integrity
- Performance improvements, 128way processor support

HP-UX 11i V1 enhancements for HP 9000 Servers

ISV portfolio growing

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Linux on HP Integrity enablement roadmap

HP Confidential – Subject to Change
Based on HP Integrity roadmap 08.05.10.6 Nov-05.
Timeline is not to scale.
(Madison 9M in sx2000 cell-based servers scheduled to ship in Q1'06 will not be supported)
















Today | 2006 | 2007

○ Represents new server chassis.


Today	2006	2007
<p>HP Integrity Superdome CPU: Madison 9M (16P/16C max) Chipset: sx1000</p>	<p>New CPU: "Montecito" (32P/64C max) New chipset: sx2000</p>	<p>New CPU: "Montvale" Chipset: sx2000</p>
<p>HP Integrity rx8620 CPU: Madison 9M Chipset: sx1000</p>	<p>New CPU: "Montecito" New chipset: sx2000</p>	<p>New CPU: "Montvale" Chipset: sx2000</p>
<p>HP Integrity rx7620 CPU: Madison 9M Chipset: sx1000</p>	<p>New CPU: "Montecito" New chipset: sx2000</p>	<p>New CPU: "Montvale" Chipset: sx2000</p>
<p>HP Integrity rx4640 CPU: Madison 9M Chipset: zx1</p>	<p>New 4P/8C capacity chassis New CPU: "Montecito" New chipset: zx2</p>	<p>New CPU: "Montvale" Chipset: zx2</p>
<p>HP Integrity rx2620 CPU: Madison 9M Chipset: zx1</p>	<p>New 2P/4C capacity chassis New CPU: "Montecito" New chipset: zx2</p>	<p>New CPU: "Montvale" Chipset: zx2</p>
<p>HP Integrity rx1620 CPU: Madison 9M Chipset: zx1</p>	<p>New dense chassis New CPU: "Montecito" New chipset: zx2</p>	<p>New CPU: "Montvale" Chipset: zx2</p>
<p>HP Integrity Blades (Bl60p not supported)</p>	<p>New blade New CPU: "Montecito" New chipset: zx2</p>	



HP Integrity Servers: Broadest line of Itanium® 2-based systems supporting Windows Server 2003

 	HP Integrity Superdome		Up to 64p scalability, support for dual-core Itanium2 processors and hard partitioning capability for leading consolidation
 	HP Integrity rx8620 server rx8640 server		16p scalability, support for dual-core Itanium2 processors and hard partitioning capability for consolidation
 	HP Integrity rx7620 server rx7640 server		8p flexibility, support for dual-core Itanium2 processors, high-performance, density, and partitioning capabilities
	HP Integrity rx4640 server		4p high-performance server in ultra-dense and highly scalable models with support for dual-core Itanium2 processors
	HP Integrity rx2620 server		2p ultra-dense, power-packed server redefines entry-level computing
	HP Integrity rx1620 server		2p ultra-dense, entry level server optimized for price and performance

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HP OpenVMS roadmap

	06	07	08	09	10
HP AlphaServer Systems	V8.3, H2 2006 • Production Integrity and Alpha release • Montecito upgrades • Security enhancements • iCAP & TICAP	V8.4, +12-18 months Functional releases on AlphaServer and HP Integrity servers • New Integrity systems • Scalability • Ongoing standards	V8.n, +12 - 18 months Continued functional releases on AlphaServer and HP Integrity servers	V8.n, +12 - 18 months Continued functional releases on AlphaServer and HP Integrity servers	
HP Integrity servers					

Continued enhancements, sales of AlphaServer systems at least until 2006, with support at least until 2011
 Integrity Server support:

- Support for new Montecito platforms plus upgrades for rx2620 and rx4640 supported in OpenVMS V8.3
- Support for Next Generation HP Blade Server with OpenVMS in H2 2007

• Focus areas:

- Virtualization: Global Workload Manager, Pay Per Use, iCAP, TICAP
- OpenView support for OpenVMS: Network Node Manager, Data Protector, Storage Area Manager, OVO Agent available today; adding Performance Agent, database SPI, upgrade to OVO v8, Storage Essentials
- Continued enhancements in performance and scaling, disaster tolerance, security and standards
- Support for current and next generation storage architectures
- Continued J2EE and .Net support
- Mixed Alpha and Integrity cluster support with shared fibre channel storage today

Services

- Full set of tools/services to support ISVs and customer transition to HP Integrity servers
- Investment protection through Alpha RetainTrust Program

ISV support

- Nearly 1,000 applications committed for porting to OpenVMS for Integrity servers
- FastTrack program to assist with ISV support

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Where to find more information

- On the web
 - <http://www.hp.com/go/hpux>
 - <http://www.hp.com/go/rx7640>
 - <http://www.hp.com/products1/unix/operating/filesystems.html>
- Whitepapers & Books
 - <http://www.docs.hp.com/en/oshpux11iv2.html#LVM%20Volume%20Manager>
 - LVM Limits White Paper; LVM Online Disk Replacement (LVM OLR); When Good Disks Go Bad: Dealing with Disk Failures under LVM
 - <http://www.hp.com/go/hpbooks> (e.g. Virtual Server Environment)
- Tools & Utilities
 - <http://www.visiocalfe.com>
 - <http://www.desktop-assistance.com/hp>
 - <http://hpux.asknet.de>
 - <http://software.hp.com>

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