

HP Integrity rx4640 and rx5670 servers



HP Integrity rx4640 server



HP Integrity rx5670 server

To meet today's computing demands, a new era of high-performance computing has begun, and HP is leading the industry. Based on the revolutionary Intel® Itanium® 2 processor co-developed by HP and Intel, HP Integrity servers reduce platform costs, enable higher performance and scalability, and enhance flexibility, providing the agility, accountability, and return on IT investment you need to build an adaptive enterprise.

Demand more—more accountability, more agility, and a better return on IT

Powerful HP Integrity servers introduce a new era of computing

Based on the revolutionary Intel® Itanium® 2 processor co-developed by HP and Intel, HP Integrity servers reduce platform costs, enable higher performance and scalability, and enhance your flexibility. Integrity servers provide the agility, accountability, and return on IT investment (RoIT) you need to build an adaptive enterprise.

The HP Integrity rx4640 and rx5670 servers, powered by 1 to 4 Intel Itanium 2 processors, improve the price/performance of HP-UX, Linux, Microsoft® Windows®, and OpenVMS (rx4640 only) servers in enterprise environments. The rx4640 and rx5670 are part of the complete line of server solutions from HP, the most experienced vendor of Itanium-based systems in the industry.

Increase business agility with leading entry-level performance

With its 1.5 GHz or 1.3 GHz Intel Itanium 2 processors and up to 96 GB of memory, the 4-way HP Integrity rx4640 and rx5670 servers help you achieve more performance, improve business processes, and manage your IT infrastructure more efficiently. The HP Integrity rx4640 and rx5670 bring unparalleled performance in their class to commercial computing applications while reducing complexity in key areas of the enterprise, from databases and business intelligence to enterprise resource planning and customer resource management. Technical computing users will also benefit by running simulations faster and performing more in-depth analysis than they could before.

HP has applied its extensive system experience and insights as a co-developer of the Intel Itanium architecture to produce a chipset that yields unmatched performance gains when combined with Intel Itanium 2 processors. The HP Scalable Processor Chipset zx1 fully unleashes the power of Intel Itanium 2 processors by lowering memory latency and increasing memory and I/O scalability, bringing you maximum performance and memory expandability.

The industry-leading power and scalability of the rx4640 and rx5670 servers is further enhanced when used in a high-availability clustering solution. High-availability clustering solutions for the HP Integrity rx4640 and rx5670 ensure data integrity, maximize application availability, and minimize planned maintenance time. Regardless of your choice of HP-UX, Linux, or Windows, HP has a powerful, flexible, highly available, and easily managed clustering solution to meet your needs.

Key features and benefits

	Features	Benefits
Increased business performance and agility	<ul style="list-style-type: none">• Next-generation Intel Itanium 2 processors• HP zx1 Chipset• Performance clustering capabilities with manageability features• Applications written for PA-RISC and IA-32 systems are binary compatible with Itanium-based systems• Customer and ISV applications can run unmodified on HP Integrity servers• Improved resource utilization	<ul style="list-style-type: none">• Higher performance than today's RISC and IA-32 platforms• Blazing fast application performance and unmatched memory scalability• Enable massively scalable systems, from low-end systems to supercomputers• Ease of transition from today's platforms to next-generation, industry-standard computing• Reduced costs and increased operational efficiency
Vendor accountability	<ul style="list-style-type: none">• Consistent management tools• Complete high-availability and business-continuity solutions to bulletproof systems and data centers, keeping them up and running when you need them most• Comprehensive services	<ul style="list-style-type: none">• Easy integration of HP Integrity platforms into your existing computing environments• Ensure data integrity• Maximize application availability• Minimize planned maintenance time• Choice of services to meet whatever availability needs are required for mission-critical environments
Better return on your IT investment	<ul style="list-style-type: none">• Architecture of the future working for you today• Choice of operating systems (HP-UX, Linux, Windows, OpenVMS)• Rack-optimized form factor	<ul style="list-style-type: none">• Ensures the performance you need for decades to come• Supports the right operating system for the right job while lowering IT costs• Cost-efficient use of expensive data center space• Increased flexibility and reduced total cost of ownership

Integrity rx4640—platform for the future

With future in-chassis upgrades to Intel's next generation of processors and an easy-to-service design that reduces repair costs and complexity, the rx4640 is truly a platform for the future. This competitively priced server brings you exceptional price/performance, reliability, and availability in a compact, rack-dense design to meet the most demanding enterprise-level computing requirements. With a choice of operating systems, including HP-UX, Linux, Windows (in 1H 2004), and OpenVMS (evaluation release), the rx4640 gives you total flexibility. Key features unique to the rx4640 include the following:

- In-chassis upgrades to Intel's next-generation Itanium 2 processors (available in 2004)
- Optional HP mx2 processor module doubles processor density (available in 1H 2004)
- Quick Find LED panel speeds problem diagnosis by identifying defective or mismatched hardware components

- Field-replaceable parts and simple swap-out repairs give you the option of maintaining the server yourself
- Server Identification LED can be activated locally or remotely for easy physical location of problem hardware
- Rack-dense 4U form factor maximizes the number of servers per rack for better return on IT

Integrity rx5670—maximum scalability in a 4-way server

This powerful server takes entry-class enterprise computing to the next level of agility, maximizing application availability and achieving high performance. With a memory capacity of up to 96 GB, 9 PCI-X expansion slots, and 4 GB/s of I/O bandwidth, the rx5670 is a highly versatile server. This versatility extends to operating environments, where the rx5670 gives you the flexibility to choose between HP-UX, Linux, and Windows. The rx5670 is also an ideal in-box upgrade for users of HP 9000 rp5400 servers who want to take advantage of the performance and agility of the Intel Itanium processor while getting the most out of their existing assets.

Itanium 2–based solutions from HP deliver more—scalable, industry-standard systems; world-class services and support; and breakthrough performance for business-critical applications.

Evolve your infrastructure confidently with a partner that stands accountable

When you're ready to take advantage of the performance Itanium-based systems offer, HP has a full range of multi-OS services to help make the transition as seamless and painless as possible. We'll help you quickly and confidently introduce HP Integrity systems into your existing IT environment and maximize their potential for your business. We offer assessment services to precisely define porting requirements and chart a course to deployment, implementation services to install and configure equipment rapidly, and education services to give your staff the expertise required to achieve optimal system performance. Throughout the evolution process, HP accepts full accountability for delivering on the service commitments we and our partners have made. And our commitment to your satisfaction doesn't stop with the transition process itself. Our multi-OS support packages—from simple reactive support to comprehensive mission-critical support—reduce the risks associated with downtime once your HP Integrity systems are installed. We are looking ahead to ensure your long-term success by working with leading independent software vendors (ISVs) in both the technical and commercial markets to optimize their applications for the Intel Itanium 2 microarchitecture, thereby exploiting the full potential of your HP Integrity servers.

Maximize your return on IT investment

You are guaranteed investment protection because HP offers you the flexibility to choose between HP-UX, Linux, Windows, and OpenVMS operating systems. HP Integrity servers allow you to choose the operating system that best meets your needs now and keep the flexibility to change operating systems as your business needs change. This flexibility is important because some applications are only available or are more economical on a particular operating system.

HP is the only vendor to offer a proven mission-critical, enterprise-quality UNIX® operating system for Itanium-based systems. HP-UX 11i offers unsurpassed scalability, reliability, manageability, availability, and security. And HP-UX 11i for HP Integrity servers even has the ability to execute applications written for HP 9000 (PA-RISC) servers, using built-in Aries dynamic code translation technology from HP.

The HP Integrity rx4640 and rx5670 servers include many of the management, availability, and security features you typically expect to find with HP-UX, Linux, Windows, or OpenVMS operating systems. These features include the tools you need to monitor, deploy, and provision your servers, as well as solutions for high availability.

The rx4640 and the rx5670 protect your investment and give you the scalability your IT systems require to grow with your business. Flexibility of design along with a minimized physical footprint makes space saving and high-density computing a reality for your business and lets you derive the highest possible value from your IT assets.

Technical specifications	HP Integrity rx4640	HP Integrity rx5670
Performance/Scalability/Flexibility	1 to 4 Intel Itanium 2 processors Clock frequency: 1.3 GHz or 1.5 GHz System bus bandwidth: 6.4 GB/s	1 to 4 Intel Itanium 2 processors Clock frequency: 1.3 GHz or 1.5 GHz System bus bandwidth: 6.4 GB/s
Cache (on-chip)	Level 1 cache: 32 KB Level 2 cache: 256 KB Level 3 cache: 6 MB @ 1.5 GHz, 3 MB @ 1.3 GHz	Level 1 cache: 32 KB Level 2 cache: 256 KB Level 3 cache: 6 MB @ 1.5 GHz, 3 MB @ 1.3 GHz
Main memory	Bus bandwidth: 12.8 GB/s RAM type: PC2100 ECC registered DDR266A/B SDRAM Capacity: 64 GB maximum Memory slots: 16 or 32 DIMM slots (depending on your choice of memory board)	Bus bandwidth: 12.8 GB/s RAM type: PC2100 ECC registered DDR266A SDRAM Capacity: 96 GB maximum Memory slots: 48 DIMM slots on two 24-slot extenders
Operating systems	HP-UX 11i v2 Microsoft Windows Server 2003, Enterprise Edition (64-bit) (available on the rx4640 in 1H 2004) Linux—Red Hat and SuSE/United Linux distributions OpenVMS Industry Standard 64 Evaluation Release 8.1	HP-UX 11i v2 Microsoft Windows Server 2003, Enterprise Edition (64-bit) Linux—Red Hat and SuSE/United Linux distributions
Internal storage devices	Internal hard disk drive bays: 2 Ultra320 SCSI: 36 GB, 73 GB, and 146 GB drives available Removable media: 1 open bay for DVD	Internal hard disk drive bays: 4 Ultra320 SCSI: 36 GB, 73 GB, and 146 GB drives available Removable media: 1 open bay for DVD or DDS
Maximum HDD (internal)	292 GB (2 × 146 GB)	584 GB (4 × 146 GB)
Expansion slots	PCI-X slots available: 6 (2 × 133 MHz, 4 × 66 MHz) I/O bandwidth: 4 GB/s	PCI-X slots available: 9 (3 × 133 MHz, 6 × 66 MHz) PCI slots available: 1 (33 MHz) I/O bandwidth: 4 GB/s
Core I/O interconnect	10/100/1000Base-T LAN 2 Ultra160 SCSI channels 10/100Base-T management LAN 1 RS-232 serial ports for general use 2 RX-232 serial ports for the integrated management processor VGA 2 USB ports	10/100/1000Base-T LAN 2 Ultra160 SCSI channels 10/100Base-T management LAN 3 RS-232 serial ports VGA (optional) 2 USB ports (optional)
Rack-optimized design	<ul style="list-style-type: none"> Rackmount solution: Side-mounted rack slides install without tools—allows server to fit into 4U (7 in. height) space Fits into all HP racks and many third-party racks <p>For a complete list of racks and rack accessories, refer to www.hp.com/racksolutions/</p>	<ul style="list-style-type: none"> Rackmount solution: Stationary rails (A5562A, A5575A, A5580A)—allow server to fit into 7U (12.25 in. height) space Sliding shelf (A5556A, A5581A)—allows server to fit into 8U (14 in. height) space Fits into all HP racks (requires additional adapter kit for Compaq 7000/9000/10000 series rack) <p>For a complete list of racks and rack accessories, refer to www.hp.com/racksolutions/</p>
Environmental specifications	HP Integrity rx4640	HP Integrity rx5670
Altitude	Operating: 10,000 ft. (3048 m) maximum Non-operating: 15,000 ft. (4572 m) maximum	Operating: 10,000 ft. (3048 m) maximum Non-operating: 15,000 ft. (4572 m) maximum
Temperature	Operating: +41° to +95°F (+5° to +35°C) Non-operating: -40° to +158°F (-40° to +70°C)	Operating: +41° to +95°F (+5° to +35°C) Non-operating: -40° to +158°F (-40° to +70°C)
Humidity	Operating: 15% to 80% RH non-condensing	Operating: 15% to 80% RH non-condensing
Physical dimensions	Height: 6.8 in. (173 mm)/4U EIA Width: 19.0 in. (482 mm) Depth: 27.2 in./690 mm (including 1.1 in./29 mm front bezel)	Height: 12.24 in. (311 mm)/7U EIA Width: 19.0 in. (482 mm) Depth: 30.5 in. (774 mm)
Net weight	Maximum configuration: 45.4 kg/100 lb.	Maximum configuration: 72.6 kg/160 lb.
Power requirements	Maximum input current: 8A at 200–240 VAC Line frequency: 50–60 Hz Maximum power input: 1600W (conservative), 1065W (typical) (Note: These numbers are per system, not per input line.)	Maximum input current: 16A at 100 VAC, 13A at 120–127 VAC, and 8A at 200–240 VAC Line frequency: 50–60 Hz Maximum power input: 1600W (conservative), 1250W (typical) (Note: These numbers are per system, not per input line.)
Power supply	Maximum output: 1200W per supply Number of supplies: 1 or 2 (1+1 configuration: one required, one optional) Power inlet type: IEC320-C14	Maximum output: 930W per supply Number of supplies: 2 or 3 (2+1 configuration: two required, one optional) Power inlet type: IEC320-C16
Regulatory	Regulatory model number: RSVLA-0201	Regulatory model number: RSVL-0105-A

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High availability

Standard features

- N+1 redundant power supplies (N=1 for rx4640 and N=2 for rx5670)
- N+1 fans
- ECC on memory and caches
- Memory chip spare
- Automatic deconfiguration of memory and processors
- Service processor to monitor system status

Optional high-availability and business-continuity solutions

- HP Serviceguard for HP-UX
- HP Serviceguard Extension for RAC for HP-UX
- HP Serviceguard Extension for SAP for HP-UX
- HP Serviceguard Manager for HP-UX and Linux clusters
- HP Event Monitoring Service
- HA Monitors for HP-UX
- High Availability Toolkits for HP-UX and Linux
- HP Mirrordisk/UX
- Extended Campus Cluster, HP Metrocluster, and HP Continentalclusters for HP-UX
- OpenVMS clusters (rx4640 only)
- Microsoft Cluster Service for Windows Server 2003, Enterprise Edition
- HP StorageWorks Cluster Extension XP for Windows Server 2003, Enterprise Edition and Linux

Manageability

Deploy

- HP Ignite-UX for installation and deployment of the operating system
- HP Software Distributor-UX for software and patch management
- HP Enablement Kit for Linux
- HP Integrity Essentials Foundation Pack for Windows including Smart Setup DVD

Monitor

- Built-in Management Processor for comprehensive remote server management of HP-UX, Linux, Windows, and OpenVMS
- HP Servicecontrol suite for HP-UX servers including tools for system administration, asset management, and fault management
- HP-UX kernel configuration for easy, dynamic kernel parameter changes
- HP Insight Manager 7 for centralized Windows and Linux fault and inventory management

Optimize

- Process Resource Manager for HP-UX resource management
- HP-UX Workload Manager for HP-UX workload management based upon service-level objectives
- HP OpenView Glanceplus Pack

Enterprise

- HP OpenView suite for infrastructure, service, and business process management

For more information

For more information on the HP Integrity rx4640 and rx5670 servers, visit our Web site at

www.hp.com/products1/servers/integrity/entry_level/index.html

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