

The HP server family

Innovation based on standards

Overview

- Simplify the way you manage technology resources.
- Minimize or eliminate downtime, with availability you can trust.
- Deliver a higher quality of service to the business.
- Rely on the industry's broadest range of servers.



We've entered a new era in business computing—one that reflects a shift from technology that merely *supports* the business to technology that *powers* the business and is measured in terms of how effectively it delivers better business outcomes. To move you toward this next generation, the HP Adaptive Infrastructure portfolio creates a foundation that helps reduce operational costs, respond rapidly to changing business conditions, and deliver a higher quality of service to the business.

The essential building blocks of this infrastructure are industry-leading servers, software, and storage—supported by high-availability, security, power and cooling, virtualization, and automation solutions. Establishing an adaptive infrastructure requires careful consideration of each building block. What kind of server best suits your needs? What level of high availability and performance do you require? How many users will be supported? What are their application and storage needs? What operating system and management software will you be using?

Whether it's a departmental server, an enterprise data center, or anything in between, HP is committed to meeting your exact needs. This commitment has resulted in more customers choosing HP servers than any other vendor's servers.*

* IDC Worldwide Quarterly Server Tracker, May 2008

Count on superior choice, outstanding value

Our portfolio of servers includes:

- **HP ProLiant server family**—delivering superior price/performance and proven reliability for complex business applications and databases, high-performance compute nodes, and front-end applications in data centers of all sizes. HP ProLiant servers are based on both AMD Opteron™ and Intel® Xeon® processors and run Microsoft® Windows®, Linux, NetWare, and Solaris operating systems. HP ProLiant servers continue to lead the x86 market as the preferred way to run IT.
- **The HP Integrity systems family**—delivering superior business-critical availability, scalability, and virtualization for databases, complex analytics, real-time transaction processing, and server consolidation. HP Integrity systems have the flexibility to run diverse workloads across leading high-availability operating systems—HP-UX 11i, OpenVMS, and NonStop—as well as Windows and Linux, where the Integrity architecture enhances reliability, availability, and serviceability (RAS) levels. HP Integrity is trusted and proven in a world where systems can never go down, where applications and data that run the business are always available.
 - HP Integrity NonStop servers—ideal when user service levels are paramount, they deliver the highest levels of availability, fail-safe data integrity, and linear scalability for ultimate business continuity
 - HP Integrity servers—the premier choice for your most demanding workloads and applications, whether running or consolidating business-critical HP-UX, OpenVMS, Windows, and/or Linux



- **HP BladeSystem server family**—a simple, modular infrastructure that is consolidated from the start to save you more time, energy, and money—regardless of what you put inside. In one box, the BladeSystem infrastructure supports ProLiant and Integrity server blades, StorageWorks storage blades, and a variety of virtual machine, client, and workstation solutions. With the essential elements built in—management, networking, and smart power and cooling—the HP BladeSystem is a highly flexible way to deliver reliable, cost-effective services to your business.

Think beyond the box

Through HP innovation, you can simplify your overall technology environment while adding value. We are a company that has been recognized over several decades for excellence in innovation. When we innovate, we do so across all HP servers, storage solutions, software, and services. As a result, you can count on a truly unified infrastructure that works together seamlessly. In fact, we were the first to deliver unified infrastructure management—a consolidated view of everything you need to manage your HP infrastructure from anywhere.

Our customers tell us that their major cost drivers are personnel and services expense. With that in mind, we focus our attention on driving greater efficiencies into these important areas. We standardize to simplify, and then innovate to add value. From bottom to top, HP's entire line of standards-based servers is designed for security and availability; energy efficiency; simplified management, virtualization, and automation; and much more.

Innovation through management, virtualization, and automation—optimize your infrastructure resources

Your servers are valuable assets. To help you get the most from them, HP delivers a unified portfolio of software that enables you to continuously control and optimize your physical and virtual server environment. With a single, unified view of your infrastructure, you can anticipate and correct problems before they become critical—and automate and manage change dynamically and in real time. The result is greater efficiency with lower cost; doubled productivity of server administrators;¹ and the ability to manage power usage and automatically align resources to meet business needs.

The foundation of this unified environment is HP Systems Insight Manager (HP SIM), the industry's only fully integrated platform management solution that lets you centrally discover, monitor, and control all of your HP servers, as well as storage, client, network, and printer resources. HP SIM can be enhanced by platform-specific solutions like Insight Control management suites for HP ProLiant and BladeSystem, which let you spend less time on server lifecycle management from deployment through integration. For HP Integrity servers, the HP Virtual Server Environment helps you optimize your server resources in real time by creating virtual servers that can grow and shrink automatically as business needs change.

¹ Source: "Gaining Business Value and ROI with HP Systems Insight Manager," IDC, May 2007

For the 21st consecutive quarter, over five years, HP (combined with Compaq) is the #1 vendor in worldwide server shipments.

For the 47th consecutive quarter, nearly 12 years and counting, HP ProLiant is the x86 server market-share leader in both factory revenue and units.

—Market share figures are for the 1st quarter of 2008 and represent worldwide results as reported by the *IDC Worldwide Quarterly Server Tracker*, May 2008





Security and availability—mitigate risk and decrease downtime

You need to be able to count on an infrastructure that remains up and running and safe from internal and external intruders. Our Secure Advantage portfolio of security products and solutions enables you to protect your resources, protect your data in all its forms, and provide validation of compliance for your internal and external auditors. The portfolio extends from the desktop to the data center. In the data center it starts with the inherent trust features built into select servers using the Trusted Platform Module (TPM) chip and extends to the operating systems that run on them. For example, the HP-UX operating system provides additional protection with its Security Containment, Host Intrusion Detection, Encrypted Volume and File System (EVFS), and Install Time Security features plus additional security capabilities.

On the HP Integrity NonStop server product line, platform security is provided through NonStop Safeguard as well as protection for data in transit using NonStop SSH, specifically developed to work with the NonStop fault-tolerant operating system. On HP Integrity servers running Linux you will find standard Linux security features with HP enhancements, including the highest Common Criteria Certification, and NetTop, a high-assurance solution for multi-network and multi-OS access based on National Security Agency (NSA) technology. HP ProLiant server security is enhanced by Microsoft ISA Server as well as the HP Firewall/VPN Server—Check Point Edition for Internet and network security. Within the network, the HP ProCurve Networking Adaptive EDGE Architecture™ provides integrated access and infrastructure management—enabling end-to-end security across all server environments.

Our family of servers also gives you the widest array of highly available systems in the industry, so you can minimize or eliminate downtime through their built-in error checking and correction, redundant and hot-swappable components, and serviceability features.

If you need additional levels of protection from system or data center outages, we offer a wide selection of high-availability and disaster-tolerant solutions for HP-UX 11i, Windows, Linux, OpenVMS, and NonStop operating systems to keep business-critical environments continuously available. This extensive portfolio includes HP Serviceguard—a specialized software solution for protecting mission-critical applications from a wide variety of hardware, software, and network failures. HP Serviceguard builds upon the concept of virtualization by grouping multiple servers or partitions into a cluster to provide high availability and data integrity. While HP Serviceguard is effective in handling unplanned events, it can also be used for planned maintenance of your clustered environment.

For the highest service levels, including those required by the world's leading stock exchanges and financial institutions, HP Integrity NonStop servers are designed from the ground up for continuous application availability—relying on a proven fault-tolerant architecture and self-healing software.

Energy efficiency for power and cooling—enhance performance while controlling rising costs

In today's server environments, it has become increasingly difficult to take advantage of improvements in system performance and compute density while managing spiraling power and cooling costs. Data center design has not kept pace with advancements in technology. With rising energy costs, the budget for data center power and cooling now consumes a much larger portion of most overall budgets.

From the system level to the data center, HP is at the forefront of addressing this energy challenge. As a leader in power and cooling technology, we hold numerous patents in this area and are shaping the future of energy-aware, environmentally responsible computing. We are developing efficient systems using technologies such as multi-core and low-voltage processors, small form factor hard drives, innovative heat sink designs, high-efficiency power supplies, and high-performance fans.

HP BladeSystem applies breakthrough technology to addressing the power and cooling requirements of dense computing. Our Modular Cooling System and innovative self-cooled rack for Integrity and ProLiant servers meet the needs of high-density environments. And the HP Power Regulator is an efficient, operating-system-independent power management feature of ProLiant and Integrity servers.

HP Thermal Logic (for Integrity and ProLiant servers) is a portfolio of energy-efficiency solutions that dynamically adapt thermal controls to lower your operational costs and deliver exceptional performance. The Thermal Logic portfolio includes HP's unique rack and power solution, HP SIM combined with Insight Power Manager, and Dynamic Smart Cooling technology.

Storage—transform your stored data into a business asset

In an information-driven world, data has become the lifeblood of business. Storing this data and making it widely available yet secure present formidable challenges. Ultimately, you want complete storage solutions that fit your needs and enable business growth, while reducing risk and cost. You want all parts of your infrastructure to work together to produce the best possible results with lower cost and complexity. Delivering these kinds of solutions is what HP StorageWorks does best.

HP StorageWorks can bridge the gap between data explosion and storage infrastructure. We offer a comprehensive range of solutions that don't just store data but also give you productive ways to align it with your business objectives, transforming storage into an investment that can produce real competitive advantage. From arrays to network-attached storage (NAS) to tape, and from business continuity to consolidation, HP StorageWorks can help you find solutions that strengthen your business results. To learn more, visit www.hp.com/go/StorageWorks

HP Services

Rely on integrated service solutions for better business outcomes

Competitive organizations need an environment that's right for today and ready to evolve as business needs change. HP Services meets this challenge with services designed to manage your technology costs, increase availability, reduce the complexity of multivendor services, and accelerate system implementation.

A key to business success is an agile technology infrastructure that adapts to changing needs while keeping the business running smoothly. Maintaining predictable service levels is one of the benefits of comprehensive support services by HP. We cover the entire solution lifecycle to help you design, deploy, integrate, and manage an agile technology infrastructure—including convenient pre-packaged HP Care Pack service options and custom support solutions.

Break down costly technology silos with our consulting and integration services that allow you to access, share, and synchronize applications and data across your existing heterogeneous environment.

Do you dream of having more time to focus on your core competencies and spending less time on day-to-day IT services? Our outsourcing services and global technology expertise can make this dream a reality.

To speed product implementation, consider our factory-direct capabilities. Our plug-and-play solutions are integrated, tested, and shipped in a fully configured rack. Included are pre-delivery site reviews, factory installation and configuration, onsite installation, and product orientation.

In today's fast-paced business environment, your employees need to quickly assimilate new skills. HP can help you achieve this goal with a variety of training services, including instructor-led courses, customized onsite training, and innovative remotely assisted courses.

Capitalize on your technology resources with a service partner who thoroughly understands server, storage, and network technology in a multivendor environment. HP, working in partnership with HP Authorized Channel Partners, has the expertise and skill. Whether your company is a medium-size organization or a large global corporation, HP Services can help. To learn more, visit www.hp.com/services.

This table highlights key features of the latest standards-based members of the HP server family.

		HP standards-based servers		
		HP ProLiant servers	HP Integrity servers	HP Integrity NonStop servers
Key benefits	Why select this server family?	Leading price/performance for data centers of all sizes Industry-leading management tools and capabilities	Leading availability and TCO for business-critical workloads Industry-leading virtualization and multi-OS capabilities	Leading 24x7 application availability and TCO for mission-critical workloads Extreme linear scalability and proven data integrity
Key features	Processor type	AMD Opteron or Intel Xeon	Intel Itanium®	Intel Itanium
	Maximum number of processors or sockets	8 (up to 32 cores)	64 (up to 128 cores)	4080 (up to 8160 cores)
	Maximum physical memory	256 GB	2 TB	191 TB
	Operating systems	Windows, Linux, NetWare, Solaris	HP-UX, Windows, Linux, OpenVMS	NonStop OS
	Blade server configurations	1P, 2P, 4P	1P, 2P, 4P	1P (clusters to 4080 server blades)
	Management software	HP Systems Insight Manager HP Insight Control Integrated Lights-Out (iLO 2)	HP Systems Insight Manager Integrated Lights-Out (iLO 2)	HP Systems Insight Manager Integrated Lights-Out (iLO 2) HP NonStop Cluster Essentials Onboard Administrator
	Virtualization	VMware, Citrix XenServer, Microsoft Virtual Server	HP Virtual Server Environment	HP Application Virtualization

Focus on your precise needs

Your business is unique, which is why we won't prescribe a "one-size-fits-all" solution. We'll work with you to develop a solution that meets your precise needs and is based on proven standards for greater future flexibility. HP has formed strategic partnerships with leading independent software vendors (ISVs) and systems integrators, allowing us to deliver complete solutions using best-in-class technology that's pre-integrated and tested—reducing risk, speeding deployment, and streamlining support.

Solution financing

HP Financial Services offers a variety of transition, acquisition, management, and disposition services to help you effectively manage your technology infrastructure and your balance sheet at the same time. We even offer a range of utility pricing options that allow you to pay for actual usage—rather than hardware—thus helping your technology expenditures to align with revenue and business growth. We also offer a wide range of managed services and outsourcing options, providing IT resources just in time, with the flexibility to pay only for what you use.

Find out more

Whatever your server needs include—from a single system to a global enterprise-wide network—our server family can help you transform technology into a force that drives better business outcomes. For more information, please contact your local HP sales representative, or visit: www.hp.com/go/servers

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Technology for better business outcomes