



# Why HP ProLiant G6 Servers

The Hewlett-Packard tradition of continuous innovation, as exemplified in the market-leading ProLiant server family, is founded on the challenges customers, like YOU, face in today's changing business environment. These challenges include mounting competitive pressures, shrinking resources, unpredictable demand swings and ever-growing customer expectations. To be successful, YOU must increase business agility. HP believes that the key to increasing business agility is to better align the capabilities of YOUR IT with the demands of its business.

## HP ProLiant Servers—Why?



### Over 15 million ProLiant servers shipped

No.1 Blade server market for revenue and unit share worldwide<sup>1</sup>

No.1 Market share in x86 server market for 49 consecutive quarters<sup>1&2</sup>

No.1 Windows revenue and units worldwide<sup>1</sup>

No.1 Linux revenue and units<sup>1</sup>

No.1 Worldwide server shipments<sup>1&2</sup>

Source:

<sup>1</sup> IDC Quarterly Server Tracker, December 2008

<sup>2</sup> Includes Compaq

- **Breakthrough flexibility**
  - Standards-based technology and reusable components
  - Maximum use of data center space
  - Multiple drive technologies
- **Outstanding performance**
  - Processor choice: Intel and AMD
  - Quad-core and dual-core technology
  - Leading performance benchmarks
- **Unmatched availability**
  - Instant capacity solutions
  - High-availability clustering
  - Hot-swap redundant components
- **Reduced complexity**
  - Unified infrastructure management
  - World wide service and support
- **Increased investment protection**
  - Optimum power management
  - Increased server utilization
  - Strong industry relationships

## HP ProLiant Servers

With over 15 million servers shipped, ProLiant servers are the world's most trusted industry-standard server. Based on industry standards and engineering excellence, ProLiant technology delivers intelligent innovation, proven performance and demonstrated value for scale-out computing. Offering the widest choice of x86 servers that deliver leading price: performance and proven reliability for business environments ranging from small-medium business to the enterprise, running file/print servers to enterprise resource planning (ERP) and critical resource management (CRM) applications to high-performance compute nodes, ProLiant servers offer outstanding agility and increased investment protection.

HP has combined experience, customer feedback and innovation along with its customer-centric programs to design the ProLiant server family. Recognizing that one server cannot effectively and economically meet all requirements, HP offers a comprehensive family of servers that aligns with YOUR's unique environment today, but will grow as business needs change. The HP ProLiant server portfolio includes the following server series.



# Why HP ProLiant G6 Servers

## HP ProLiant Server Series

**HP ProLiant 100 series**—Affordable, entry-level rack and tower servers ideal for small to medium businesses, workgroups, remote sites and high-performance computing environments

**HP ProLiant 300 series**—Midrange rack and tower servers with increased expansion to support virtualization, e-mail and database applications

**HP ProLiant 500 series**—High-end rack and tower servers help companies run compute-intensive and mission-critical applications requiring advanced high availability features

**HP ProLiant 700 series**—Highly-scalable rack server ideal for enterprise-class databases, consolidation, and virtualization environments

HP ProLiant 100, 300, 500 and 700 Server Series		
ProLiant series	Ideal environment	Workload examples
100 series—Powerfully simple	<ul style="list-style-type: none"> <li>• Simple workloads in small business and office environments</li> <li>• Single-tier architectures</li> </ul>	<ul style="list-style-type: none"> <li>• Networking, shared Internet access, file and print sharing</li> <li>• Simple HPC clustered environments</li> </ul>
300 series—Versatile, general-purpose	<ul style="list-style-type: none"> <li>• Front-end and basic infrastructure computing in multi-tiered enterprise environments</li> <li>• Distributed workgroup application server</li> <li>• Remote/branch office usage</li> <li>• Sophisticated small/medium businesses with LAN's, Email, groupware, file/print, small database</li> <li>• Shared internet access</li> </ul>	<ul style="list-style-type: none"> <li>• Small mail and messaging, database and applications</li> <li>• Director, DNS, security, firewall file/print, domain servers, web services, caching, proxy, media streaming</li> <li>• Advanced HPC clustered environments</li> </ul>
500 series—Scalable, workhorse	<ul style="list-style-type: none"> <li>• Mid-tier and back-end application and data space in multi-tiered enterprise environments</li> <li>• Business critical task</li> </ul>	<ul style="list-style-type: none"> <li>• Large mail and messaging, databases and applications, data warehousing and mining</li> <li>• Back-end for ERP, CRM and Business Intelligence</li> <li>• Microsoft SQL, Oracle</li> </ul>
700 series—Outstanding scalability and performance	<ul style="list-style-type: none"> <li>• Data intensive environments</li> <li>• Scale-up, consolidation and virtualization environments</li> </ul>	<ul style="list-style-type: none"> <li>• Enterprise-class database,</li> <li>• Business Intelligence</li> <li>• ERP, SAP &amp; other business processing applications</li> </ul>



# Why HP ProLiant G6 Servers

## ProLiant DL Servers

As requirements for performance, availability, versatility and control continue to increase in today's space-constrained IT environments, HP offers density-conscious ProLiant servers to make every inch of space productive. Ideal for multi-server deployments, ProLiant DL servers offer customers the latest technologies, while providing more control and performance in space-saving form factors.

## ProLiant ML Servers

HP offers a comprehensive line of ProLiant servers specifically optimized for internal storage and I/O expansion. Beyond traditional HP performance, availability and product quality, the ProLiant ML line of servers offers broad choices to meet growing needs for capacity and in-chassis flexibility. This all-inclusive server/storage solution is ideal for YOU's remote and branch-office environments.

## HP BladeSystem

The HP BladeSystem is specifically engineered to address the needs of space- and power-constrained enterprises and service providers for increased server density, rapid deployment and provisioning and centralized remote management.

HP BladeSystem solutions enable YOU to cut costs and increase productivity by pooling and sharing infrastructure resources such as networking, power and cooling, storage and management. HP BladeSystem allows the flexibility to mix and match components in the same enclosure—ProLiant, Integrity, and Integrity NonStop server blades, StorageWorks storage blade and Ultrium tape blade, ProLiant blade workstation and PCI Expansion blade. This combination provides YOU with the ability to build an infrastructure that is right for any business environment.

## Common Components

Offering the highest degree of component commonality in the industry, HP's universal design approach allows YOU to reuse hard drives, memory, power supplies and other components efficiently and cost-effectively across a number of server designs. This approach reduces the need for spare parts and lowers inventory costs.

## Performance

HP ProLiant servers offer outstanding price: performance with the choice of Intel Xeon, Pentium, Celeron, and Itanium processors or AMD Opteron processors, with quad-core, dual-core or single-core processor technology. Other leading performance technologies include increase front side bus (FSB), larger cache, Hyper-Threading, HyperTransport, Multi-function Gigabit NICs and (peripheral component interconnect extended) PCI-X/PCI-Express.

Through its proven track record of industry-standard benchmark results, HP has consistently demonstrated leadership in the performance and value of its servers. For benchmark results on ProLiant servers please visit: <http://h18004.www1.hp.com/products/servers/benchmarks/index.html>




# Why HP ProLiant G6 Servers

## Continuity and Availability

HP offers a broad range of business continuity and high-availability solutions to address YOUR need for stable and continuous operation across the entire infrastructure. ProLiant servers have built-in redundancy, hot-plug components, fault-tolerant technologies and management tools such as Systems Insight Manager for increased availability. ProLiant servers can be cost-effectively grouped into clusters and combined with a range of HP shared-storage products to provide capabilities ranging from highly available clusters to massively parallel clusters.

### High-availability Infrastructure



<b>Integrated management</b>	<ul style="list-style-type: none"> <li>• HP System Insight Manager for proactive notification and resolution of problems before downtime occurs</li> <li>• Integration with HP Software for system to service level uptime and control</li> <li>• HP Insight software, a portfolio of modular, flexible tools</li> <li>• Integrated Lights-out remote management</li> </ul>
<b>Cluster solutions</b>	<ul style="list-style-type: none"> <li>• Departmental, infrastructure, enterprise and disaster-tolerant</li> <li>• Clustering technology</li> </ul>
<b>Systems and architectures</b>	<ul style="list-style-type: none"> <li>• Build out, consolidate</li> <li>• Rack, tower and BladeSystem infrastructure</li> <li>• Multiple configurations with a wide range of server, storage and interconnects</li> </ul>
<b>Embedded fault-resilient and redundant technologies</b>	<ul style="list-style-type: none"> <li>• Advanced memory protection</li> <li>• SmartArray controllers with battery-backed write cache</li> <li>• Multi-function Gigabit NICs with TOE, RDMA, iSCSI</li> <li>• Hot-plug memory, drives, PCI, power, fans</li> </ul>

## Unified Infrastructure Management

HP offers a comprehensive set of integrated tools for seamless management of HP servers. This broad portfolio of management tools enables YOU to reduce costs, exceed service-level expectations, better utilize resources and gain control of complex distributed computing environments. These tools include HP Software, HP Systems Insight Manager, HP Insight Control, HP Insight software and HP Insight Dynamics VSE for ProLiant. This portfolio enables faster deployment, proactive system monitoring and provides key benefits that enhance IT staff's productivity, increase end-user satisfaction and reduce IT costs.



# Why HP ProLiant G6 Servers

## HP Software

HP software offers an enterprise-level solution, allowing YOU to manage an entire network of hardware, software and services from a single pane of glass. The HP portfolio encompasses numerous products and solutions that can monitor the health and performance of the network and systems infrastructure, applications and business processes, and servers and storage systems. The solution-ready architecture of HP Software combines readily with smart plug-ins, third-party software and internal software. HP applications allow your organization to increase the performance of its infrastructure, anticipate and correct problems before they become critical, and automate and manage change in real time.

## HP Systems Insight Manager

HP Systems Insight Manager (SIM) is the foundation for the HP unified infrastructure management strategy. HP Systems Insight Manager delivers a single tool for comprehensive fault, configuration, performance and asset management and warranty and contracts retrieval and reporting across ProLiant, BladeSystem, and Integrity servers operating in a Windows®, Linux, HP-UX, OpenVMS and NonStop environment. Systems Insight Manager can also be extended to deliver unparalleled breadth of device management with plug-ins for HP clients, storage, power and printer products.

## HP Systems Insight Manager and Insight Control Management



Automation  
Management

### iLO 2

- Remote Administration
- Virtual KVM access



Component

### Onboard Administrator

- Simplified enclosure setup
- Integrated enclosure mgt
- Power measurement and control



### Insight Control Software

- Provisioning and Recovery
- Monitoring & Performance
- Security Scan and Patch
- Migrate and Virtualize



Environment

## HP Insight Control Management Suites

YOU can use Insight Control Environment and Insight Control Environment for Linux to increase data center efficiency and consistency, achieve faster time to production, and realize tangible savings in time and cost for its specific platform of choice.



# Why HP ProLiant G6 Servers

- **HP Insight Control Environment**—based on HP SIM and HP Insight software—covers all of the management bases from server health and performance monitoring to OS-independent remote control, to unattended deployment and inventory management. It enables security vulnerability scanning and patching in concert, and delivers power and thermal tracking as well as power regulation and capping to enable optimal usage of existing data center facilities through an integrated installation package and streamlined licensing.
- **HP Insight Control Environment for Linux (ICE-Linux)**—provides comprehensive imaging and deployment, monitoring and management for Linux-based HP BladeSystem and ProLiant server platforms. Built on the HP Systems Insight Manager framework, this solution integrates open source technology with experience leveraged from HP's Linux products in HP Insight Control Linux Edition (ICLE) and HP XC Clusters—to provide robust management capabilities today and access to tomorrow's innovations.

## Increased Operational Efficiency

Getting timely access to updates and technical support is a key to YOU's operational efficiency. Insight Control suites and select Insight Essentials product licenses will now include one year of 24 x 7 Software Technical Support and Update service. This service provides

- Speedy access to trained technicians for rapid problem analysis and resolution
- Proactive management and planning for latest software updates
- Software download or media based delivery of updates
- Single portal for access to contract status and update services

## HP Insight Software

The Insight software suite consists of the HP ProLiant Essentials Foundation Pack together with optional HP Insight software. HP Insight software is a portfolio of modular, flexible software tools that expands the capabilities of ProLiant servers, extends the reach and breadth of server manageability, and enhances the build-out of an adaptive infrastructure.

- **HP ProLiant Essentials Foundation Kit**—ships standard with most ProLiant servers—contains the essential software tools YOU needs to install, configure and manage ProLiant servers.
- **HP Insight software**—offers optional software that selectively extends the functionality of YOU's infrastructure to address specific business challenges and requirements.

## HP Insight Dynamics – VSE Suite for ProLiant

HP Insight Dynamics – VSE suite for ProLiant (ID-VSE PL) is an integrated solution that allows YOU to continuously analyze and optimize physical and virtual resources in the same way. ID-VSE PL provides a single toolkit to accelerate complex technology projects, simplify daily operations and proactively manage data center capacity, including power utilization. It enables a change-ready infrastructure, with the freedom and flexibility of virtualization delivered across a physical infrastructure. ID-VSE PL is built directly on top of HP SIM, providing a familiar user interface and integrated tools for all aspects of infrastructure management.



# Why HP ProLiant G6 Servers

## HP ProLiant Solutions

### Energy Efficiency

HP addresses the challenges of increasing server density in data centers through product capable tools and services. The energy efficient capabilities in ProLiant servers and infrastructure products help reduce energy costs and balance power loading giving the control needed to save money. YOU can save energy without sacrificing performance with

- **HP Insight Power Manager (IPM)**—allows IT administrators to optimize server density and power utilization by accurately measuring power consumption and thermal output via policy-based power regulation. This OS-independent solution features centralized graphical reporting of power and cooling data and a detailed analysis of power and cooling costs for the BladeSystem c-Class enclosure and c-Class blade servers and selected ProLiant servers. IPM allows IT administrators to limit power consumption and centrally control power regulation settings to lower risk of power outage, reduce operational cost and increase rack density.
- **Power meter**—analyze actual power usage by accessing an integrated meter through iLO and external power management software such as HP Insight Power Manager (IPM).
- **Power Regulator**—enables server-level, policy-based power management providing industry-leading energy efficiency and savings on system power costs. This innovative operating-system-independent power-management technology improves server energy efficiency by giving CPUs full power for applications when they need it and enabling power savings without performance degradation when application activity is reduced.
- **Power cap**—Use the cap to set desired limits in watts or BTUs per hour for the amount of power consumed. Actual consumption is then checked against the power cap goal so you can adjust server performance if desired.
- **High-efficiency power supplies**—HP ProLiant Server power supplies offer efficiency, reliability, power, density, size, flexibility, cost and commonality. They exceed 90 percent efficiency under standard loads, and provide flexibility and commonality across both the ProLiant and BladeSystem platforms.
- **Power-efficient components**—Components includes low-power processor technology with options from Intel and AMD, low power DIMMs (dual inline memory modules) and reliable and energy-efficient hard drives.



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## Control

Remote management has become increasingly critical as companies globalize and demands for efficiency and responsiveness increase. Locally managed servers are no longer practical or cost-effective. To address these challenges, HP has developed powerful remote management technologies that deliver virtual presence and control, and fundamentally change the traditional hands-on server management approach. HP remote management technologies include

- **HP Integrated Lights-Out 2 (iLO 2)**—delivers the industry's most complete, high-performance, out-of-band, remote management solution. iLO 2 is a management processor and firmware that enables secure, standards based remote management capabilities including high performance Virtual KVM, Java-free Integrated Remote Console, power management, embedded system health and more.
- **Integrated Lights-Out Advanced Pack**—upgrades the iLO 2 processor with comprehensive remote control including Virtual KVM remote graphical console, power management capabilities such as power measurement, regulation, and capping, new iLO Text Console, automatic and on-demand video recording of server events, global team collaboration for up to four remote users, virtual media, virtual folders, and enterprise security.
- **iLO 2 Standard Blade Edition**—takes full advantage of the HP BladeSystem headless infrastructure to perform a wide variety of system administration tasks remotely. iLO 2 Standard Blade Edition provides all of the remote control capabilities typically offered as standard features on ProLiant servers plus the new high-performance, Virtual KVM remote console and browser based virtual media that are essential to administering HP BladeSystem servers. In addition, anytime access to system management information such as hardware health, event logs and configuration is available to troubleshoot and maintain blades.
- **Integrated Lights-Out Select Pack (iLO)**—provides Lights-Out management upgrades for selected ProLiant server environments. iLO Select Pack provides an easy upgrade to full Lights-Out functionality on iLO 2 Standard Blade Edition-enabled servers. It also provides a cost-effective upgrade to advanced Lights-Out functionality on ProLiant 300 and 500 series servers that are managed using iLO 2 Standard text-based remote consoles. This is typically found in Linux environments.
- **HP Lights-Out 100**—provides entry-level remote management capabilities over a LAN or the Internet for ProLiant 100 series servers. With HP Lights-Out 100, YOU has the control needed to re-boot a hung server in a remote branch office, watch the system console through the boot process and update system firmware from a diskette on a local client.



# Why HP ProLiant G6 Servers

## HP Instant Capacity Solutions

HP Instant Capacity offers an innovative alternative to solving the IT capacity challenge by providing a practical, cost-effective approach to utility computing that makes it simple to align IT resources with fluctuating business demand. With Instant Capacity solutions YOU can not only contain upfront procurement costs, but can also gain enhanced business agility.

The Instant Capacity ProLiant server and blade program automates and streamlines acquisition, deployment and billing with ready-to-run ProLiant servers and BladeSystem that are delivered to the data center and activated automatically as needed. The benefits of Instant Capacity solutions include

- Immediate access to additional capacity
- Align costs with service levels
- Zero downtime for upgrade activation
- Flexible finance options
- Predictable price and performance levels
- Lower overall IT costs
- Simplify IT architecture and delivery

## HP Factory Express—Integrated Solutions

HP Factory Express offers configuration, customization, integration and deployment services—all with a single point of contact and accountability. YOU can choose how its factory solutions are built, tested, integrated, shipped and deployed. The comprehensive portfolio of more than 50 services includes asset tagging, software image loading, rack integration, cable management, installation services and much more. HP commercial products supported through Factory Express include desktops, notebooks, workstations, handhelds, tablet PCs, thin clients, imaging and printing, servers and storage. By leveraging HP engineering and factory resources, YOU can lower business risk and accelerate return on IT investment.

## IT Consolidation

HP ProLiant servers are reliable, well-engineered systems that have become an attractive consolidation platform due to their small footprint, high levels of functionality and strong integration with other platforms. HP provides a highly reliable and cost-effective consolidation solution based on industry-standard HP ProLiant servers, storage, software tools, clustering options, and consulting and support services. ProLiant systems offer other important consolidation attributes—remote automated management, fault resilience and dynamic resource scaling. HP has the computing platforms, solutions and expertise to meet YOUR IT consolidation requirements.



# Why HP ProLiant G6 Servers

## Increased Server Utilization

HP offers a variety of specialized tools that virtualize, configure, control and dynamically allocate system resources enabling application consolidation and performance optimization. They help deliver maximum utilization, lower total cost of ownership and improved availability to IT environments. These tools include

- **Rapid Deployment Pack (RDP)**—delivers faster, easier and dramatically improved server deployment. Now the installation, configuration and deployment of high volumes of servers can be as easy as a single drag and drop operation, via a Windows-based or Web-based management console and using either scripting or imaging technology. Server configuration time is reduced, making it possible to scale server deployments to high volumes in rapid fashion.
- **Server Migration Pack – Universal Edition (SMP - Universal)**—provides an automated, accurate and affordable way to migrate existing servers and their content to the latest HP BladeSystem or ProLiant server technologies or the latest virtualization platforms from VMware, Citrix and Microsoft. Through an easy-to-use console, SMP - Universal meets all of YOUR physical and virtual migration requirements with support for physical to ProLiant (P2P), physical server to virtual machine (P2V) migration, virtual machine to virtual machine (V2V) and virtual machine to ProLiant (V2P).
- **Virtual Machine Management Pack**—provides central management, control and a unified view of virtual machines and associated host server resources, including virtual machine products from Microsoft, Citrix and VMware. This integrated approach provides the ability to manage both physical and virtual resources from a single management console.
- **VMware virtualization software**—provides a comprehensive suite of virtualization solutions designed expressly for mission-critical enterprise computing.



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