Business white paper

Boost productivity

Increase productivity for small and midsize businesses with HP ProLiant Gen9 servers

Today, business executives are seeking ways to become more productive so that they can deliver new products and services faster, increase operational efficiencies, grow revenue, increase margin and gain market share. Increasing the productivity of IT resources and staff is critical for their success. New innovations now make it possible for small and midsize businesses (SMB) to leverage the performance and efficiencies that were once only affordable by large enterprises.

Table of contents

Business and technical challenges

Businesses and organizations of all sizes face similar issues as they look to grow their business efficiently. Typically they want to:

- Adapt to rapidly changing marketplaces
- Leverage and analyze large amounts of data
- Enable mobile work teams to work collaboratively
- Respond to competitive pressures
- Improve productivity of IT resources and operations

Organizations understand the need to leverage technology efficiently to solve these issues and are seeking ways to achieve it. For example, over 86% of CEOs believe that advanced information technologies will play a substantial role in transforming their business over the next 5 years.[1] At the same time, many do not believe that their IT organizations are able to deliver services rapidly enough for their desired business outcomes and that confidence continues to erode. Further, today, only 13% of IT managers believe that their organizations are completely or very effective at introducing new technologies faster than their competitors; down from 22% in 2012.[2] Thus, the gap between business demand for simple, fast, cost effective, value-added services and the ability for IT to supply it continues to grow. This current model is not sustainable.

To deal with this gap between business expectations and IT capabilities, requires a complete, new dynamic information infrastructure. The traditional server platforms must transform to not only address current needs but seamlessly handle future workloads while lowering costs. Beyond performance, these new servers must be able to provide new services quickly, increase productivity and be able to scale resources without intrusive business interruption.

Management tools need to be implemented that enable the IT staff to deploy platforms more quickly and manage them more easily. This shift will increase performance, reliability and productivity. It will allow small and midsize businesses to quickly respond to new opportunities and gain a competitive advantage.

There are also changes in the technology landscape that are causing SMBs to re-think their IT platform investments.

- **Microsoft discontinuing support for Windows Server 2003**. Microsoft announced that they will soon no longer provide upgrades, patches or fixes for WS2003. Many small and midsize businesses still have servers that are running this version of Windows Server operating system. Most of these older servers cannot realistically be upgraded to run newer versions of the operating system. However, the impact of ignoring the need to upgrade can be very expensive due to potential of application downtime or security breaches. This risk should encourage SMBs to consider new server alternatives that include the power for server consolidation and simplified management tools to ensure productivity.

[1] PWC Good to Grow 2014 US CEO Survey. pwc.com/us/en/ceo-survey-us/2014/assets/2014-us-ceo-survey.pdf

[2] IT under pressure: McKinsey Global Survey results March 2014

- **Adopting Virtualization**. The adoption of virtualization technologies continues to grow and now offers benefits to customers with just a few servers. Small and midsize businesses prefer more powerful and low cost servers that will allow them to consolidate more applications and increase productivity. They also require solutions that are flexible and scalable. They want to be able to meet changing business conditions without replacing IT assets that may have been recently acquired. Virtualization can help to enable these capabilities.

Executive overview

Business advantage of IT

SMB's who leverage technology had 11 points higher revenue growth than SMB's who used little technology.

Source: Huffington Post, "For Small Business, Technology is Creating, Not Costing Jobs", April 16, 2014

As decision makers deal with choosing a new advanced information technology to meet the new challenges, they should consider several factors that can boost the productivity of the organization and the IT staff:

- Can the new infrastructure scale performance easily as business needs grow?
- Will new hardware solutions simplify operations rather than add complexity?
- Can the solutions be deployed rapidly to support new business applications and requirements?
- Does the solution provide a bridge to cloud resources?

Competitive and market pressures are changing small and midsize businesses' expectations for the technology products and services they buy. They want solutions that can increase productivity, are affordable, improve reliability and simplify management. SMBs want an enterprise-grade infrastructure that is sized for their organization and can deliver the desired results without the up-front capital investments or ongoing management costs usually associated with these solutions.

This infrastructure should optimize the applications and infrastructure software investments around business Intelligence (BI)/analytics, CRM, ERP, mobility and office/personal productivity that are moving small and midsize businesses forward.

Four megatrends are driving these infrastructure investments: Mobility, Big Data, Virtualization and Cloud.

Mobility

Mobility
Mobile enabling technologies can improve workforce productivity by connecting users to data and to social networks to share ideas. Employees want to be able to access company applications anytime, from any device and from anywhere. Small and midsize businesses also need to provide access to their products and services to customers and suppliers. Implementing mobile and collaborative applications have become critical to business success.

Big Data

Big Data
Small and midsize businesses need business intelligence (BI) and Customer Relationship Management (CRM) systems that can produce results in real time about customer buying patterns which helps them to understand the mix of products relative to market demand. The sources for this data have evolved from just the organization's application data to include information received via click-thru data, social networks, blogs and other external sources. Organizations that can best harness, synthesize, and take action upon all this disparate data will be positioned to fuel growth and win in new markets.

Virtualization

Virtualization
By making better use of new and existing compute resources, SMBs can lower cost and improve IT staff utilization. Existing virtualization solutions from VMware, Microsoft and Red Hat all offer methods to allow applications to share modern server-based compute resources. They also provide a method to assign virtual servers and resources to each business unit to run their own applications. The IT staff remains responsible for virtualization control, ensures security and monitors the overall infrastructure with fewer servers. Applications can be deployed more quickly and both IT and business staff are more productive.

Cloud

Cloud
Small and midsize businesses are using the cloud to extend their computing resources, source new applications and gather market data. The cloud model allows them to use less capital and increase productivity. IT productivity can be further increased when the on premise infrastructure can be leveraged to interact seamlessly with the resources in the cloud.

How modern servers can boost productivity

Most studies continue to show that up to 80% of IT budgets are consumed by keeping legacy system running with only 20% of budget available for innovation. In order for organizations to be successful, they will need to find ways to become more productive and focus time on innovation. With limited budgets and small IT staffs, small and midsize businesses find this transition even more difficult. The answer is to build new IT infrastructures that are more cost effective and improve the productivity of IT.

Modern servers are designed to provide better performance, streamline operations, improve operational productivity and automate processes to increase productivity.

Redefine compute economics

Increase productivity with high performance infrastructure
More powerful infrastructure is required to enable modern applications. Accelerated performance is more than a faster processor. The server, storage and network must be coordinated to maximize performance. These servers must also provide the scalability and security that SMBs require for mobile and cloud implementations. Big Data and Virtualization require powerful, high performing systems to process large quantities of data and to consolidate smaller systems. Better performance also increases the number of virtual machines that can run on a single system. Fewer servers to manage save time.

Small and midsize businesses can now invest in platforms that can scale non-disruptively or with minimal downtime. The ability for a platform to grow in-place can increase the productivity of both the IT staff and the entire business. Migration to a new server platform is time consuming and causes application interruption, both of which negatively impact productivity.

Accelerate service delivery

Streamline operations
In order to maximize productivity, new modern systems require management tools that can provide monitoring, configuration and performance analysis across server, storage and network components. These simplified management tools boost productivity and reliability.

Improve operational productivity
The next steps to improving operational productivity are proactive health and performance monitoring, power management and performance analysis. Downtime can be reduced and less time will be spent on maintaining the environment. With the implementation of virtualization, the integration of hardware management and virtual machine management is critical. A single-console that can integrate with Microsoft® System Center and VMware vCenter Server™ with hardware management tools improves deployment times and increases application availability.

Boost business performance

Automate operations
As the number of servers grow, the small and midsize business benefits be adding automation to IT operations. Building repeatable server templates that can be deployed on other devices reduces mistakes and increases productivity. The ability to integrate with on premise and external cloud infrastructures provides a future growth path.

Innovative HP ProLiant Gen9 servers increase productivity

HP ProLiant Gen9 servers are a new generation of servers built and designed as compute resource platforms with the speed, ease of management and reliability that small and midsize businesses need. Designed to scale as you grow, HP ProLiant Gen9 servers deliver lower total cost of ownership (TCO), simple management and more business value by helping IT staff work smarter while expediting service delivery demanded by the business. These new servers can deliver 4x faster workload performance compared to prior generation.[3] HP ProLiant Gen9 servers also offer 3x more compute capacity per watt than Gen8 with Sandy Bridge processors which provides a better TCO and meets the demands of increasing workloads.[4]

New HP Insight Control and HP OneView management tools improve efficiencies by reducing the time to deploy and provision a server while increasing application availability with enhanced monitoring.

[3] HP internal testing of SmartCache. Performance done with equivalent controller in a controlled environment. HP Smart Storage engineers, Houston, TX as of 18 May 2014

[4] HP Internal analysis. Comparison between DL380 Gen9 vs. DL380p Gen8 with Sandy Bridge processors. Source for system wattage was IDC Qualified Performance Indicator. Calculation: Performance/Watt. August 2014 hp.com/servers/benchmarks

HP ProLiant DL 60 Gen9

HP ProLiant DL80 Gen9

HP ProLiant DL120 Gen9

HP ProLiant ML150 Gen9

HP ProLiant DL 160 & 360 Gen9

HP ProLiant DL180 & 380 Gen9

HP ProLiant ML350 Gen9

HP ProLiant BL460c Gen9

[5] According to the IDC WW x86 Server tracker from CQ1'1996 to CQ1'2014 (Compaq and Hewlett-Packard vendors)
[6] HP internal calculations
[7] Based on Fusion-io testing of the HP ProLiant DL580 Gen8 Server with HP Light Endurance (LE) or Value Endurance (VE) PCIe Workload Accelerators running Microsoft SQL Server 2014
[8] Results at spec.org/virt_sc2013 as of 09-08-2014. Standard Performance Evaluation Corporation (SPEC) hp.com/servers/benchmarks
[9] Benchmark ran16,101 SAP SD benchmark users and 87,880 SAPS running Red Hat Enterprise Server 6.5, SAP Adaptive Server® Enterprise (SAP ASE) 16.0 SP01, and SAP enhancement package 5 for the SAP ERP 6.0 application. (certification #2014032)

HP ProLiant x86 servers are the preferred choice for customers. As evidence, HP ProLiant continues to lead as #1 in x86 revenue share—72 quarters and counting[5] with over 32 million servers shipped.[6] The integration of the latest processing technologies with HP storage and networking components provides the most powerful and reliable platform for organizations of all sizes.

HP ProLiant Gen9 servers for small and midsize businesses
The HP ProLiant Gen9 rack and tower portfolio provides simple, cost-efficient right-sized IT solutions optimized to increase capacity by meeting changing business workloads and needs. There are four families of servers that are designed to meet the needs of small and midsize businesses.

- **HP ProLiant 10 Series Gen9**—simple, easy to deploy, affordable rack servers designed for first time workload deployment at small and midsize businesses. The HP ProLiant 10 series Gen9 rack servers are the DL60 and the DL80.
- **HP ProLiant 100 Series Gen9**—optimized with the right balance of storage, performance, efficiency and manageability to address multiple workloads for growing small and midsize businesses. The HP ProLiant Gen9 rack and tower models in this server family include the DL120, DL180, DL160 and ML150.
- **HP ProLiant 300 Series Gen9** tailored with flexible choices for compute intensive workloads requiring high system performance, manageability, expansion and security for SMB, Enterprise and HPC businesses. The HP ProLiant ML350, DL360 and DL380 models are part of this family.
- **Blade Servers** offer customers with larger server environments a method to consolidate servers into an enclosure that provides shared power, cooling, and connectivity which is inherently more efficient. They are designed for workloads such as virtualization, IT and Web infrastructure, collaborative systems, and cloud computing. The **BL460C** blade server provides the flexibility to enhance your core IT applications with right-sized storage for the right workload—resulting in lower total cost of ownership.

Increase productivity with HP ProLiant Gen9 performance
Big Data, mobility and cloud applications demand performance that was not previously available in older servers. It is not enough to have the latest processor. It is critical that all the components (server, storage and networking interact to deliver this performance. The HP ProLiant Gen9 server can deliver up to 4X more transactions per server than previous generations.[7] As a result; HP ProLiant Gen9 servers have been able to achieve the best performance in the industry for small and midsize businesses.

- The HP ProLiant DL360 Gen9 Server has achieved the #1 2P performance and #1 overall performance/power results show that the server is ideally suited for running workloads in a virtualized environment.[8]
- The HP ProLiant ML350 Gen9 Server has achieved five records on the SPECjbb2013 benchmark.[8] This benchmark includes measurement of throughput-oriented performance as well as throughput under response time constraint.
- The HP ProLiant DL380 Gen9 server continues the leading performance tradition for business applications, achieving #1 overall two-processor performance for SAP Sales and Distribution benchmark.[9]

HP ProLiant server options
Application performance requires more than a faster processer. It also requires that associated components are utilized for the entire platform to reach its full potential. HP provides integrated server-centric components that complement the HP ProLiant Gen9 server and increase performance.

- **Storage** New PCIe Accelerators can deliver up to 4X more transactions per server.[7] Deploying the 12 Gb/s SAS Expander Card can help scale the storage capacity for multi-workload needs. In addition, the new 12Gb Smart Array Controllers improve recovery times by reducing the time to rebuild disk drives. Less downtime improves IT staff productivity because it reduces the time spent on maintenance. These disk controllers also incorporate HP SmartCache that provides 4x read and write workload acceleration[3].

- **Network** improvements include new Flex Fabric adapters that provide 4x increase in small packet performance improvement over previous generations.[10] For BL servers, the HP FlexFabric adapters Virtual Connect run both 10GbE and 8Gb FC on a single port at the same time and provide 2x increase in network bandwidth.[11]
- **HP SmartMemory** has proven to provide 14% better performance[12] than memory components from other sources.
- **HP Power Supplies** offer high-efficiency power options for HP ProLiant Gen9 servers, allowing users to "right-size" a power supply for specific server/storage configurations and environment.

Real productivity gains

Organizations that had deployed Insight Control showed on average reduced operational expenses by $73,482 over three years for every 100 users in their organization.

Source: IDC Technical Brief, "Gaining Business Value and ROI with HP Insight Control Management Software", March 2012

Accelerate service delivery with HP server management tools

HP provides a comprehensive set of server management tools to help small and midsize businesses simplify IT operations during every stage of their growth. The new tools improve staff efficiency through better system management. Customers have installed over 9 million copies of these tools,[13] a testament to the value received by IT administrators.

Streamline operations

Embedded management capabilities are included with every ProLiant server, increasing the productivity of the IT administrator. They support the complete lifecycle of the server, from initial deployment, through ongoing management, to service alerting and remote support without agents on the server. They simplify the process to update software and firmware to current versions which improves reliability, reduces downtime and allows IT administrators to be more productive. The result is improved application availability and better business outcomes. The following list highlights some of these capabilities.

- **System Insight Manager (HP SIM)** is a unified platform included with every HP server that provides device discovery, identification and asset management. It centrally manages servers, storage, and other infrastructure devices across heterogeneous operating systems.
- **HP Integrated Lights Out (HP iLO)** provides out of the box web access and monitors the health of the server and continuously runs diagnostics to minimize downtime.
- **HP Smart Update Manager (SUM)** provides a simple method to upgrade the software and the firmware on HP ProLiant servers through pre-tested Service Packs.
- **HP Intelligent Provisioning** simplifies the initial configuration and OS deployment tasks of HP servers by eliminating the need for disks or downloads.
- **HP iLO Advanced** is an option that adds to the functionality of HP iLO. It includes remote access to server power control, measurement and regulation, as well as event logs and virtual media for simple deployment of remote servers.

Improve operational productivity with HP Insight Control

For customers who want to take the next step in server management, HP Insight Control increases operational productivity by reducing the time to deploy servers, simplifying management and reducing downtime. It is a cost effective solution for an organization with several servers or several hundred servers. Included in Insight Control is:

- **HP iLO Advanced** license is included with the purchase of the Insight Control license.
- **Server Provisioning** extends the base startup provisioning to multiple servers and virtual environments. It automates the process of deploying and provisioning server software which reduces the time to build a server from hours to minutes.
- **HP Insight Online** allows customers to create a cloud-based personalized dashboard for monitoring IT operations from anywhere, at any time. This can result in a reduction of as much as 66 percent in time to resolve problems.[14] In addition, HP has been able to achieve an industry-leading first time fix rate of 95 percent, a full 10 percent above the industry average.[15]

[10] IT Brand Pulse. (2014, July). Test report: OCe14000 Performance. Retrieved from emulex.com/artifacts/228c3188-4e5a-494a-9b35-886b0a7f577f/elx_ar_all_ethernet_oce14000_performance_testreport_itbp.pdf\

[11] Based on Demartek testing. 10Gb previous vs 20Gb with HP Virtual Connect Flex Fabric 20/40

[12] HP internal testing on similar capacity DIMM running on HP server compared to a non HP server with DDR4

[13] HP internal calculations

[14] HP Insight Remote Support-initiated cases (hardware) vs. traditional phone support. Source: HP internal call center data, Q4'11. Calculation based on average of 7.1 hours for an Insight Remote Support initiated cases vs. 11.8 hours for phone-initiated cases

[15] According to data in a study done by the Technology Services Industry Association

- **Server Migration** improves IT productivity by making it easy to upgrade or replace an existing server, or to implement virtualization. HP Insight Control enables replication of a well-functioning, but older server to a new physical or virtual server in an automated, accurate and affordable way.

Automate operations with HP OneView

HP OneView is the comprehensive, single platform designed from the ground up for automated management of the converged infrastructure. It can increase the productivity of every member of the IT staff, across servers, storage, and networking. HP OneView collapses infrastructure management tools into a single resource-oriented architecture that provides direct access to all logical and physical resources. HP OneView reduces platform configuration time by 96%.[16] When you add a device, HP OneView ensures that the server profile will successfully deploy to the allocated hardware based on detailed profiles and rules built for the server hardware type and enclosure group. HP OneView today supports only ProLiant rack and blade models.

Improve productivity with HP Technology Services

Accelerate your return on investment, reduce implementation time and improve application availability with HP services. HP and HP authorized channel partners can help you select the right level of personalized, proactive, and simplified support for your business.

- **HP Foundation Care** is system-level IT hardware and software support that delivers flexible coverage window and response time for more choice and simplicity.
- **HP Proactive Care** combines reactive and proactive services to provide easy-to-purchase, cost-efficient system-level support coupled with personalized expert advice and products connected to HP to help prevent problems and reduce downtime.
- **Installation service** is provided by HP and HP authorized channel partners to help you deploy the new servers quickly and begin to take advantage of these productivity gains sooner.

Why HP delivers the best productivity for small and midsize businesses

HP authorized channel partners provide the local sales presence to small and midsize businesses across the globe. These channel partners understand the in-country business conditions and market restrictions that may exist. Together with HP, we provide the guidance and expertise to assist you in the selection of the proven technologies that will best fit your needs.

HP has been developing SMB products and solutions to leverage new technologies for decades. By listening to customers' needs and working with HP authorized channel partners, HP designed products and services specifically for this market. For businesses that are just starting out, are gaining momentum or are more mature and expanding their business into new areas, these solutions are easy to purchase, implement and manage. Small and midsize businesses improve productivity by investing in proven systems that are designed to work together seamlessly.

Small and midsize businesses can gain both business and technical advantages by implementing HP ProLiant Gen9 servers.

ProLiant Gen9—Business advantages

- **Lower risk.** HP ProLiant Gen9 is a safe decision for small and midsize businesses. It provides the power of one infrastructure, one phone number to call, and one partner who can deliver servers, storage, networking management tools and services.
- **Faster time to market.** SMBs can set up an IT environment rapidly with HP ProLiant management tools, which allows the business to implement applications more quickly.
- **Higher application availability.** HP simplified management allows SMBs to securely monitor and restore their environment anytime, anywhere and from any device.

[16] Based on HP internal testing as of August 2013 comparing HP One View v1 vs. traditional management tools, each deploying 16 servers. Test was to configure the networks, enclosure, template, and profiles

ProLiant Gen9—Technology advantages

- **Better productivity.** HP ProLiant server management suite simplifies management and increase operational efficiency for IT staff.
- **More scalability.** ProLiant Gen9 servers provide functionality at an affordable price but also offer choice and options to increase memory, storage and network capacities as business needs evolve.
- **Build on leading technologies.** HP ProLiant continues to lead as #1 in x86 revenue share—72 quarters and counting[5] with over 32 million servers shipped.[6] The integration of the latest processing technologies with HP storage and networking components provides the most powerful and reliable platform to build your solutions.

Next steps

Contact your local HP sales representative or an HP authorized partner to analyze your current environment and identify ways to reduce cost and improve operations efficiency. They can also help design and implement a solution that will yield immediate advantage today and allow room for expansion as your business grows.

Find a local HP partner. **hp.com/go/locator**

Learn more about HP solutions for small and midsize businesses

To learn more about HP solutions for small and midsize businesses:
hp.com/go/justrightIT

To learn more about HP ProLiant Gen9 servers:
hp.com/go/ProLiant

Sign up for updates
hp.com/go/getupdated

Share with colleagues

Rate this document

4AA5-6723ENW, February 2015, Rev1.