Frequently asked questions

HP ProLiant Gen9 Servers

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General announcement

What is the Compute vision HP is announcing?

The New Style of IT is driving a tectonic shift in the industry. Industry analysts report that the server is being commoditized. They’re right. The server as we know it, and the incremental, generational approach will no longer suffice to address today's and tomorrow’s business problems.

A new model for Compute is needed. One that allows exponential utilization of data, and the dynamic ability to turn on and off applications and services on a per user basis, while keeping operational costs flat, or declining. The “generational” approach that has characterized the server industry for the last few decades is no longer appropriate. It is an incremental and linear solution to an exponential problem.

A new approach is needed—one that breaks traditional, generational thinking and delivers a new innovation curve—one that provides end-to-end Compute power from edge-to-core, up and down an integrated workload stack, and with an advanced set of economics and automated operational approaches.

A new Compute platform is needed: In order for enterprises to succeed, the Compute platform has to deliver several key attributes:

• An end-to-end portfolio, from edge to core, that delivers the right compute scaled for the business requirements.
• Workload flexibility and optimization, where the right compute, delivered in flexible and dynamic blocks of capacity and capability are automatically provisioned to deliver the right compute, storage, and networking capacities to address dynamic workload needs.
• A quantum-leap performance improvement across the entire portfolio, and up the workload stack, advancing computing across the spectrum, and delivering the lowest cost per performance, while significantly improving and automating operations.

We have to think beyond discrete servers and instead reimagine Compute—pools of resources, virtualized and converged with networking, storage, and management. We have to synthesize traditional IT with the cloud and move from pockets of automation to truly software-defined enterprises. We have to reimagine servers and think Compute. Only then can we realize tantalizing business results—lowering cost, reducing time to service, and increasing business value.

Today's infrastructure has two high level attributes—it is functionally defined and purpose-built. Servers are servers, networking is networking, and storage is storage. Based on those definitions, purpose-built devices are created and deployed, with little ability to change the function as needs change. In the future, infrastructure needs to be more transformative, taking the shape of business demands.

It needs to change to be more:

• Converged: In the future, all Compute resources will be converged, allowing a business to define, move, expand, or scale back the resources without having to deal with the physical attributes of a system. The future state of virtualization will allow for resources to be allocated at a very granular level, improving efficiencies and ensuring optimal performance as workload demands change.
• Software-defined: Instead of hardware defining the functions, software takes over. With software-defined functions, a server could be utilized for processing, storing, or communicating information. The system could change over time as the business’ needs evolve. This future state will require the capability to provide an intelligent orchestration of infrastructure resources in real time, as applications and user needs change.
• Cloud-ready: Delivering the benefits of cloud—economics and agility, always on, on-demand, paying for only what you need—in your data center, under your control.
• Workload-optimized: Optimizing for application performance for business needs, SLAs, and TCO.
To speed IT service delivery, lower costs, and create more business value, IT must **reimagine servers and think Compute**—the vast pool of processing resources that can be located anywhere, scaled to any workload and available at all times to fuel business growth. IT must shift from yesterday’s cost-bound server silos to cost-efficient convergence, spanning storage, networking, management, and services. IT must synthesize traditional IT and cloud environments and move from pockets of automation to a truly software-defined enterprise.

**About one-third of the world’s IT runs on HP.** That has given us unique experience and insight into what is driving our customers, the challenges they’re facing and the industry trends. We take the time to truly understand our customers’ needs, their challenges and constraints, and proactively partner to overcome them. We are invested in our customers’ businesses, and their success, now and into the future.

As we celebrate the 25th anniversary of HP delivering the market’s first x86 server, we want to thank our customers and partners. This industry-first, and many others such as OneView, BladeSystem, Moonshot, and Apollo, come from working closely with you to overcome your challenges.

**Why isn’t IT able to successfully meet the needs of the business?**

CIOs face the challenge of straddling two eras of IT—moving from running IT like a business-within-a-business into a period characterized by deep innovation beyond process optimization, exploitation of a broader universe of digital technology and information, and more-integrated business and IT innovation.

Infrastructure and Operations (I&O) organizations consume roughly 50 percent of the overall IT budget. Of this, firms typically allocate 50 percent of IT spending to the costs of maintaining ongoing operations, systems, and equipment—rather than on new or innovative projects.¹ Today’s IT infrastructure is largely siloed, manual and technology-focused, resulting in inefficiency, inflexible and slow responses, and sub-optimal business performance. This makes it very difficult for IT to support the existing business needs let alone tackle the innovative business transformation opportunities unleashed.

**What is the shift that needs to happen in terms of the IT infrastructure?**

Now, more than ever, infrastructure matters. Meeting new expectations, fueling growth and innovation depends more than ever on IT infrastructure. Servers matter. Networking matters. Storage matters. In the early 2000s, Web-based architectures fueled the internet boom. In the earlier part of this decade, we moved to cost-optimized infrastructures to survive the global economic downturn.

“Status quo IT” is no longer an option. Today’s IT often perpetuates silos and complexity through an overload of products and tools that lack interoperability. A business and its applications can’t run fast enough in silos, and neither can IT. A rigid infrastructure makes it nearly impossible for IT to lead the transformation needed.

To lead the transformation, IT must start at the heart of IT infrastructure: Compute—the vast pool of processing resources that can be located anywhere, scaled to any workload and available at all times to run the world’s businesses. Compute requires new measures for cost of service, time to deliver IT service and business value of service. The old school benchmarks of “speeds and feeds” and “incremental updates” won’t cut it. Workload-optimized compute must step in alongside multi-purpose servers. Server silos must become converged infrastructure. System management tasks must become software-defined and automated.

**What is HP’s vision for IT infrastructure?**

We have to reimagine traditional server models and think Compute instead. We have to think beyond discrete servers and think instead about pools of compute resources, virtualized and converged with networking and storage. We have to synthesize traditional IT with the cloud and move from pockets of automation to truly software-defined enterprises. Only then can we realize transforming business outcomes.

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**What role do servers play in this shift, and why does it matter?**

Servers do matter and that’s why HP is putting those principles into action and marking another milestone on our server innovation journey. We’re introducing a bold new server portfolio for the compute era—HP ProLiant Gen9—helping you:

- Turn red to black with triple compute capacity per watt than Gen8 with Sandy Bridge processors. Up to 62 percent TCO savings over three (3) years including initial acquisition cost. The new HP ProLiant Gen9 Servers offer a host of features to drive down the cost of IT service while providing more compute capacity to run core applications. With more processing capacity, storage, and flexibility in configurations, networking, and power—all coupled with less energy and less floor space consumption—you get more capacity at a lower cost of IT service.

- Deliver services in seconds—When combined with HP OneView, you can clone virtual machines in seconds and speed infrastructure provisioning by up to 66X. It’s IT service delivery at the speed of cloud.

- Fast-forward success by boosting up to 4X read and write workload acceleration with HP SmartCache, which accelerates performance so customers can get to their data faster. HP ProLiant Gen9 Servers do more than provide a service—they speed up the applications that run the business and help fuel growth. Faster workloads allow core business applications to keep pace with business mandates to grow revenue, margin, and customer satisfaction. ProLiant Gen9 performance boosts span memory, I/O, storage, and networking.

**What is Compute? How does it impact my infrastructure and my business outcomes?**

HP is articulating a new Compute approach within the server industry. HP and its customers are rethinking the server and focusing on Compute. “Compute” = vast pool of processing resources that can be located anywhere, scaled to any workload, and available at all times to fuel business growth.

**What are the key design principles of Compute?**

These compute-era products are all based on three unwavering design principles for servers, networking, and storage. We design infrastructure that is: converged, software-defined/cloud-ready, and workload-optimized.

- Convergence helps you optimize Compute for speed, efficiency, and performance. With a common modular architecture and converged management across servers, storage, and networking, HP’s unique approach to infrastructure reduces IT complexity and accelerates time-to-value. Converged infrastructure breaks down technology silos and brings together all IT resources into flexible pools of assets that can be shared by many applications and managed as a service.

- Software-defined/cloud-ready design enhances agility, efficiency, productivity, and accuracy. Only HP offers the software-defined capabilities to orchestrate and manage all IT resources optimally across their lifecycle with almost no administration overhead. HP’s cloud-ready design helps eliminate costly manual device-by-device configurations and speeds time-to-scale for the hybrid world.

- Workload-optimized design delivers superior business performance—it’s often about tuning and optimizing every element of infrastructure for a specific workload. For optimal workload performance that translates into business performance and value, HP builds servers, networking, and storage in workload-optimized designs with a common modular architecture to operate at the pace needed to stay ahead of your competition.

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3 HP Internal analysis: 100 DL380 G6 servers consolidated down to 16 DL380 Gen9 enabling 62 percent TCO savings over 3 years including initial acquisition costs. There is also a potential reduction in monthly OPEX expenditure of over 80 percent. Includes Software support for vSphere and Windows. Also includes a 25 percent discount on Hardware. August 2014.

4 Based on HP internal testing as of January 2014 comparing HP OneView v1.05 vs. traditional HP management tools.

5 66X faster to build and deploy infrastructure—Anonymous customer results. Customer was able to reduce the time to build and deploy infrastructure for 12 call centers from 66 days to 1. Total of 2,000 servers were deployed. IDC white paper sponsored by HP, “Achieving Organizational Transformation with HP Converged Infrastructure Solutions” January 2014, IDC #246385.

6 HP SmartCache Performance done with equivalent controller in a controlled environment. HP Smart Storage engineers, Houston, Texas, as of 18 May 2014 posted on internal SmartCache wiki page.


How does ProLiant Gen9 move the needle on the Compute journey?

Compute is about making traditional, siloed servers more converged, software-defined, cloud-ready, and workload-optimized to help to lower the cost of services, reduce time to services, and increase the value of services. HP ProLiant Gen9 Servers and HP's Compute portfolio extend the principles of convergence, software-defined, cloud-ready, and workload optimization. To learn more visit hp.com/go/proliantgen9.

What is the value of Compute? What are some customer examples?

HP customers are reaping the rewards. While the products are new, this milestone is part of a longstanding journey by HP and its customers. As the first to commit to convergence, hybrid cloud computing, and software-defined technologies, along with the industry's broadest portfolio for workload-optimized solutions, HP has been helping customers thrive in Compute for years. Here are some ProLiant Gen8 customer examples:

- VelociData leveraged the HP ProLiant DL580 platform to crunch 24 hours of Twitter data (over 400 million tweets) in under two minutes to deliver actionable insights for their financial services industry customer. VelociData, one of the largest Big Data solution providers in the industry, was able to make decisions and execute business actions that helped to enhance customer engagement, loyalty, and retention. Prior to the HP ProLiant platform, this financial services industry customer required days to process this information and was unable to make timely business decisions. HP's workload optimized Compute capabilities were able to deliver transformative business outcomes for VelociData and their customer.

- Eshgro, an "HP Innovative Partner of the Year" winner in the Netherlands, pioneered a new hosting model, reducing IT costs up to 50 percent for customers and up to 30 percent for service providers. This new Infrastructure-as-a-Service (IaaS) with HP ProLiant BladeSystem and other HP infrastructure solutions enabled Eshgro to avoid capital expenditures and gain an 8-fold increase revenue with a 30 percent TCO reduction and a 50 percent increase in customers with only a 12 percent increase in power needs.9

- When UPS needed to modernize IT and stay one-step ahead of an ever-evolving business, long-time partner HP knew Converged Infrastructure was the answer. UPS didn't just slash IT maintenance needs and power usage. It also freed up their resources to make UPS even more responsive. Results? Processing power more than doubled using 40 percent less energy. All told, UPS will be saving over 3,000,000 kWh a year. UPS knows they need to innovate every day. Easy expansion of IT capabilities, flexibility of resources and speed to value is key. That's why a Converged Infrastructure works so well. Importantly, it also frees up resources to power even more growth. HP did all this with "strategic replacement"—taking the best of what UPS had, combining it with the best of what HP offers. Now new distribution centers can be set up in hours, not days, without disruptive "rip and replace." Resources dedicated to the old process are now tackling other projects.10

- Redstone Federal Credit Union is a member-owned, community-focused financial institution dedicated to helping local businesses thrive. They are experts at turning red to black using HP ProLiant servers to help fuel business growth. Redstone is counting on HP to power their critical workloads and infrastructure as they expand their business to new regions.11

- ConRes needed a real-time in-memory database platform that drives fast access to operational and strategic information. While the competition pitched oversized solutions, ConRes selected the right-sized HP HANA Edge with HP ProLiant ML350p Servers. With the new solution in place, they can generate a report compiling large amounts of data in eight seconds; all the alternative methods available would have taken four to five minutes. They got onsite IT at cloud speed.12

- NASCAR teamed with HP to develop the NASCAR Fan and Media Engagement Center (FMEC). The FMEC leverages multiple information management and analytics solutions from HP (software, hardware, and services) to enable the racing body to better serve the industry, media, and fans through a solution that facilitates near real-time response to traditional, digital, and social media. Further, HP innovations in social business help NASCAR analyze and determine the right voice, tone, and message to reach critical new audiences and increase the fan experience. By working with HP, NASCAR was able to transform data into meaningful and actionable business information across its enterprise—almost with the speed of one of its race cars.13

9  HP Case Study—Eshgro is a source of inspiration for cloud-based services, January 2014, h20195.www2.hp.com/v2/GetPDF.aspx%2F4AA5-0182EEW.pdf
12 HP Case Study, “Continental Resources (ConRes) VAR leverages HP SAP® HANA solution for internal use and customer offering.” February 2014.
13 HP Case Study, “NASCAR. HP and NASCAR team up.”
How does HP ProLiant Gen9 fit into HP’s Compute vision and portfolio?

HP ProLiant Gen9 is yet another successful milestone in HP’s Compute journey, following on the heels of recent revolutionary Compute innovations like HP Moonshot and HP Apollo. ProLiant Gen9 is an integral part of HP’s Compute portfolio, embodying the key Compute principles of convergence, software-defined, cloud-ready, and workload optimization. Specifically, it delivers better software-defined and cloud-ready capabilities with HP OneView enhancements, UEFI and RESTful API and integrations with Microsoft® and VMware® software tools. It advances convergence with storage virtualization enhancements with StoreVirtual VSA, Smart Storage, and SmartMemory solutions. It delivers improved workload optimization capabilities with PCIe Workload Accelerators.

HP ProLiant Gen9 in this Compute era delivers on the promise of the lowest cost, fastest time, and highest value of IT service delivery. HP is redefining compute economics by delivering more compute and storage capacity, right-sized compute with flexible choices and lower compute energy and floor space consumption to meet the growing demands of business.

What new products are being announced in this launch?

HP is announcing a new portfolio of next-gen HP ProLiant Gen9 Servers.

- **HP BladeSystem**
  - HP ProLiant BL460c Gen9—The world’s leading server blade accelerates service delivery with advanced Compute performance that’s truly optimized for core IT workloads.

- **Rack and tower servers**
  - HP ProLiant DL160 Gen9—Right-sized performance for space- and budget-constrained environments
  - HP ProLiant DL180 Gen9—The new standard for growing data center needs
  - HP ProLiant ML350 Gen9—High-performance server with unmatched capacity and reliability in a rack or tower form factor
  - HP ProLiant DL360 Gen9—Dense performance for multi-workload compute in the data center
  - HP ProLiant DL380 Gen9—The no-compromise data center standard for multi-workload compute, and the most popular server model in the world’s best-selling ProLiant server family

- **Two new server models for the HP Apollo Family**
  - HP ProLiant XL230a Server—Apollo 6000 System server, density optimized performance for rack-scale workloads
  - HP ProLiant XL730f Server—Apollo 8000 System server for high performance computing workloads

A unique HP Management portfolio that has been enhanced for ProLiant Gen9 Servers:

- **HP OneView**
- **HP Insight Online**
- **HP embedded management enhancements to HP Integrated Lights-Out (iLO), HP Intelligent Provisioning, HP Smart Update Manager (SUM), and HP Service Pack for ProLiant (SPP) in addition to a new BIOS interface, UEFI, and a new scripting tool, HP RESTful Interface Tool.**

How does Moonshot fit into the Compute era?

Moonshot is not part of this launch however Moonshot is an integral part of the HP Compute portfolio and a compelling proof point for the revolutionary compute innovations at HP. It embodies the Compute principles of convergence and workload optimization and delivers dramatic improvements in data center efficiency by delivering the right compute for the right set of targeted workloads with very attractive economics.

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15 HP OneView support for ProLiant Gen9 in DL and BL servers is expected later in 2014.
What's new with the HP ProLiant Gen9 portfolio?

HP ProLiant servers are the data center gold standard, and they continue to solve real-world business challenges. Today’s ProLiant Gen9 portfolio is redefining Compute economics by delivering more compute and storage performance using less energy and space to meet the growing demands of your customers’ businesses.

HP OneView, our single, software-defined management platform, accelerates IT service delivery through automated configuration and lifecycle management of blade and rack servers\(^{16}\) and faster virtual machine provisioning. With software-defined templates and a centralized automation hub, HP OneView delivers immediate benefits. These benefits include more efficient management and financial savings of daily operations that expedites the delivery of IT services and speeds the transition to Infrastructure-as-a-Service (IaaS) and hybrid cloud.

HP OneView will deliver support for HP ProLiant Gen9 Servers before the end of 2014. You can purchase an HP OneView license today and use HP Insight Control via “integrated licensing” (and HP iLO Advanced if it was included in your HP OneView purchase), and transition to HP OneView at a time of your choosing, at no additional cost.

The HP ProLiant Gen9 portfolio helps to boost business performance, helping you grow your revenue, margin, and market share. Additionally it will help you improve your business results with better compute, memory, and I/O performance and increase your storage and networking performance while lowering latency at a lower TCO. Whatever the workload, the HP ProLiant Gen9 Server portfolio delivers the right compute for the right workload at the right economics, every time.

How does my data center and my business benefit from deploying HP ProLiant Gen9 Servers along with HP Networking solutions?

It’s no secret that in enterprise data centers, servers are deployed as nodes of the network that keeps data centers and businesses humming. When deploying HP data center networking solutions, you benefit in many ways:

- **Simplified networking architecture that drives lower total cost of ownership.** HP FlexFabric helps you deploy two tier networks that reduce infrastructure costs and simplify management by about 75 percent\(^{17}\) through switch virtualization.

- **Business and IT agility.** HP innovative switch virtualization technology, IRF, enables networks to re-converge within less than 50 milliseconds.\(^{18}\) The superfast re-convergence reduces downtime and keeps your business up and available to serve your customers.

- **Faster workload mobility for VMware vMotion.** You can speed up the execution of workload mobility with vMotion by up to 80 percent.\(^{19}\) The ultra-fast execution enables you to better respond to your customers’ needs.

- **Recover significant blocks of valuable IT time.** You can take advantage of software-defined networking (SDN) to automate time-consuming tasks such as network provisioning. HP’s own testing shows that you will be able to reduce provisioning tasks that would normally take two long weeks to about five minutes.\(^{20}\) These valuable time savings allow you to focus on innovation and aligning IT with your business needs, and your customers’ expectations.

For which workloads are HP ProLiant Gen9 Servers a good fit?

For virtualization, high-performance computing (HPC) and cloud environments, the HP ProLiant Gen9 portfolio is optimized for multiple workloads, such as IT infrastructure (file/print), Web (Web serving), business applications (enterprise resource planning [ERP]/customer relationship management [CRM]), collaboration (email, analytics, and Big Data [scientific/engineering], etc. Whatever your environment, workload, or workload size, there is an ideal HP ProLiant server for you. With the ProLiant Gen9 portfolio, customers have the ability to either optimize the performance across all these workloads with a single platform to minimize TCO, or use dedicated platforms targeted to specific workloads.

When can I order HP ProLiant Gen9 Servers?

HP ProLiant Gen9 Servers are available to order through HP and worldwide channel partners starting September 9, 2014.

Does the introduction of HP ProLiant Gen9 Servers mark the end of life for my Gen8 Servers?

No. HP ProLiant Gen9 is a multi-year roadmap that will refresh the entire line of HP x86 servers. Sales and support for ProLiant Gen8 Servers will continue (usually up to five years after the servers are no longer orderable) so your customers can plan and budget their technology refreshes.

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16 HP OneView support for ProLiant Gen9 in DL and BL servers is expected later in 2014.
17 75 percent management simplification based on our 4:1 switch virtualization where we manage four devices using one IP address instead of four.
18 This is a public product specification that has also been substantiated by Network Test, a reputable third party.
19 80 percent workload acceleration with vMotion. This was jointly tested along with VMware (owner of vMotion software). We use the tests performed by a reputable third party to substantiate the 80 percent claim. “Higher Speed, Lower Downtime, With HP IRF Technology,” Network Test, August 2011.
20 Based on HP Internal testing, 1H 2013.
**HP ProLiant Gen9 differentiation**

Only HP is advancing the compute journey in a comprehensive manner with the innovation, commitment, and capabilities to help customers leverage their infrastructures to deliver differentiated business outcomes to transform their business. Only HP is helping customers make IT services oriented to lower cost of service, reduce time to service and increase the business value of services. HP is accomplishing this very uniquely by executing on the key design principles of Compute—software-defined, cloud-ready, workload-optimized, and converged. HP ProLiant Gen9 is another milestone for HP in the compute journey following on the heels of the revolutionary compute innovations like HP Moonshot and HP Apollo that have had a transformative impact on the data center and compute. HP ProLiant Gen9 Servers are based on the compute principles that deliver the scale, agility and economics and are designed to help customers optimize their business in the New Style of IT; the competition is focused on optimizing their server technologies based on industry standards.

**What makes the new HP ProLiant Gen9 Servers different from previous generations?**

- Redefines compute economics—3X compute capacity per watt\(^2\). Up to 62 percent TCO savings over three (3) years including initial acquisition costs\(^2\)
- Accelerates IT service delivery—66X faster service delivery with simple automation for a competitive advantage, improving SLA performance\(^2\)
- Boosts business performance—Up to 4X read and write workload acceleration with HP SmartCache, which accelerates performance so customers can get to their data faster\(^2\)

**Why should I choose HP ProLiant servers over Cisco, Dell, IBM, and Lenovo?**

Only HP is advancing the Compute journey in a comprehensive manner with the innovation, commitment, and capabilities to help customers leverage their infrastructure to deliver differentiated business outcomes to transform their business. Only HP is helping customers make IT services oriented to lower cost of service, reduce time to service and increase the business value of services. HP is accomplishing this uniquely by executing on the key design principles of Compute—software-defined, cloud-ready, workload-optimized, and converged. HP ProLiant Gen9 is another milestone for HP in the Compute journey following on the heels of the revolutionary compute innovations like Moonshot and Apollo that have had a transformative impact on the data center and compute. HP ProLiant Gen9 Servers are based on the Compute principles that deliver the scale, agility and economics and are designed to help customers optimize their business; the competition is focused on optimizing their server technologies based on industry standards.

Customers choose HP ProLiant servers over Dell PowerEdge servers, IBM System X servers, Lenovo ThinkServers, and Cisco UCS servers for a variety of reasons. HP ProLiant servers provide you with the right compute, for the right workload, at the right economics, every time.

Only HP offers you a complete portfolio to meet your unique Compute needs. Each ProLiant server—from the entry-level server to the most scalable servers in the portfolio—is engineered to provide meaningful and cutting-edge benefits to simplify your increasingly complex environments. Our customers have peace of mind about their IT infrastructure.

HP is an innovative partner with a deep commitment to the market, the broadest portfolio, and leading systems management. Our global service and support capabilities, together with the most engaged channel and technology partner ecosystem, provide you with a stable, proven leader you can trust for your needs of today and tomorrow—HP is the right choice.

As a strong and stable company, HP continues to invest in research and development (R&D). Sustained market leadership for 18 years is a hallmark of HP ProLiant innovation.\(^2\) With the introduction of the HP ProLiant Gen9 portfolio, HP continues to deliver on our vision of industry-leading Compute innovation. HP ProLiant Gen9 is the one platform that you can rely on to run virtually any workload at the cost, speed, and reliability your enterprise demands.

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21 This number is based on HP internal calculations. The already announced HP ProLiant XL220a server (Apollo) is 4x better in performance per $/per watt when compared to a competing Dell Blade M620 for a single threaded application per server. The number was reduced to 3X to be more indicative of the remainder of our ProLiant Gen9 portfolio. August 2014.
22 100 DL380 G6 servers consolidated down to 16 DL380 Gen9 enabling 62 percent TCO savings over 3 years including initial acquisition costs. There is also a potential reduction in monthly OPEX expenditure of over 80 percent. Includes software support for vSphere and Windows. Also includes a 25 percent discount on Hardware. August 2014.
24 Based on HP internal testing, HP SmartCache Performance compared with equivalent controller in a controlled environment in Houston, Texas, 18 May 2014.
What is new with the HP ProLiant Gen9 portfolio? What has changed since the ProLiant Gen8 launch?

HP ProLiant Gen9 enhances software-defined, cloud-ready, converged infrastructure, and workload-optimization capabilities to help lower the cost of services, reduce time to services, and increase the value of services.

To improve cost efficiencies in the data center, HP is redefining Compute economics with modular architecture and converged infrastructure. This delivers improvements in power and cooling efficiency and storage capacity while lowering TCO. For example, ProLiant Gen9 offers 3X more Compute/watt than its ProLiant Gen8 predecessor primarily driven by new processors, HP DDR4 SmartMemory, 12 Gb/s Smart Array Controller and HP PCIe Workload Accelerators. StoreVirtual VSA delivers more storage capacity while reducing energy costs via storage virtualization. The ProLiant Gen9 portfolio with HP OneView enhancements, Insight Online enhancements, iLO Federation and UEFI BIOS increases IT admin productivity in terms of configuration, provisioning, life cycle management and support through automation and simplification of management processes and tools.

To help deliver faster service, HP continued to refine its management stack, highlighted by HP OneView. This single, software-defined management platform, accelerates IT service delivery through automated configuration and lifecycle management of blade and rack servers and faster VM provisioning. HP OneView integrates capabilities from 18 different tools into a single tool and delivers the management and capabilities from 26 different screens and tabs on a single pane of glass. An upcoming release of HP OneView will deliver new infrastructure management capabilities as well as support for HP ProLiant Gen9 Servers before the end of 2014. Integrations with IT Operations software platforms VMware vCenter and Microsoft Hyper-V for HP OneView deliver one-click capabilities for integrated monitoring and management of physical and virtual environments for on-premise and cloud deployments. iLO Federation and HP SUM deliver management at scale and speed for firmware updates, HP SUM while HP CloudSystem delivers cloud orchestration for IaaS.

And finally, with HP SmartCache, HP PCIe Workload Accelerators, HP DDR4 SmartMemory and other performance enablers, HP is able to boost application performance through workload optimization. For example, HP ProLiant Gen9 provides 4X faster infrastructure and core business workload performance using HP SmartCache and 12 GB/s SSD Drives. With HP SmartCache, PCIe Accelerator, 12 Gb/s SAS Expander cards and 12 Gb/s Smart Array Controllers, ProLiant Gen9 delivers storage optimization to enhance security and performance. PCIe Workload Accelerators and HP SmartCache also deliver improved in-memory performance and security. HP Virtual Connect enhancements and HP FlexFabric Adapters enhancements increase networking performance for application workloads.

HP Systems Management

Does HP OneView support HP ProLiant Gen9 Servers?

Yes. HP OneView will support HP ProLiant BL and DL Gen9 Servers. The release of HP OneView delivering this support is planned to be available before the end of 2014. You can purchase an HP OneView license today and use HP Insight Control via “integrated licensing” (and HP iLO Advanced if it was included in your HP OneView purchase), and transition to HP OneView at a time of your choosing, at no additional cost.

What are the benefits of HP OneView?

HP OneView is a converged management platform that mitigates infrastructure complexity with automation simplicity. This modern management architecture is designed to accelerate your IT operations for managing servers, storage, and network resources in physical and virtual environments. It features a software-defined approach to converged management that shifts the focus from “how devices run” to “how people work.” HP OneView reduces operational expense (OPEX) and improves agility, so you can free up resources to focus on new initiatives that will help grow your business.

Our customers and partners are recognizing that HP OneView delivers on the promise of a more efficient and productive IT organization—one that is primed for growth. HP OneView offers a truly integrated and automated, lights-out IT approach to infrastructure management, unified across server, storage, and networking. Clients are drawn to the ease with which a new infrastructure can be provisioned and with more of the features that they have been requesting.

As your converged management foundation, HP OneView allows you to transition from your current infrastructure, tools, and processes to your vision of IT-as-a-Service (IaaS). Learn more at hp.com/go/oneview.

How is HP OneView licensed?

HP OneView management software is licensed per physical server, regardless if the server is virtualized or not. Each physically-managed node will require a license.
**Does the HP OneView license provide the right to use HP Insight Control?**

Yes, the new “integrated license” capability provides the right to use HP Insight Control from the purchase of HP OneView licenses to aid you in your transition. License keys for both HP OneView and HP Insight Control are provided for use on the same system, in the same purchased quantity, but not for use at the same time. For example, HP Insight Control can be licensed for use for a year, and then HP OneView can be licensed for use afterwards on the same system.

This “integrated license” capability applies to all HP OneView license purchases except upgrade licenses. This capability is also available retroactively to previous purchasers of HP OneView. New customers will need to take your “entitlement order number” to the HP software licensing portal to receive your license keys. Existing HP OneView customers will receive an email when your licenses are ready. At that time, existing customers will need to take your “Support Agreement ID” (SAID) to the HP my software updates portal to receive your license keys. (An HP Passport account will be required, or a new account can be created at these websites.)

HP OneView comes with three years of technical support and updates, which can be applied to either or both license types up to a combined maximum term of three years. HP iLO Advanced license keys are not provided with the HP Insight Control license keys, but the HP iLO Advanced license keys contained in the HP OneView license can be used (if purchased).

**Do HP Systems Insight Manager (SIM), HP Insight Control, and HP Virtual Connect Enterprise Manager (VCEM) support HP ProLiant Gen9 Servers?**

Yes, the initial release of HP ProLiant Gen9 Servers will be supported with HP Systems Insight Manager 7.4, HP Insight Control 7.4, and HP Virtual Connect Enterprise Manager 7.4.

**How long can we expect support for HP SIM, HP Insight Control, and HP VCEM?**

At this time, there is no End of Life date set for HP SIM, Insight Control, and VCEM. It is expected that HP SIM, Insight Control, and VCEM will support all ProLiant Gen9 Servers.

**Do HP Insight Online and the direct connect feature support HP ProLiant Gen9 Servers?**

Yes, HP ProLiant Gen9 is supported today.

**Does HP Insight Remote Support 7.1 support HP ProLiant Gen9 Servers?**

HP will provide support for the initial release of HP ProLiant Gen9 Servers with the Insight Remote Support 7.1 Patch 1 release. Check the Insight Remote Support release notes found in the document library for the latest product support list.

**Does HP Insight Remote Support Advanced (RSA) v5.8 support HP ProLiant Gen9 Servers?**

No. Insight RSA 5.8 is no longer available for download and will not support HP ProLiant Gen9 Servers. We recommend that customers using Insight RS 5.x versions upgrade to the latest version of Insight RS 7.x.

**How do automated support tools work with HP OneView?**

HP’s automated support tools co-exist with HP OneView, so you can solve problems faster and stay informed of your IT infrastructure status. You can use the HP Insight Online dashboard or the new mobile dashboard in the HP Support Center Mobile App to remain up-to-date on what’s happening with your IT environment, whether you’re in the office or on the road.

**What ROM (BIOS) settings will be supported on Gen9 Servers?**

All HP ProLiant Gen9 Servers will ship with UEFI by default. Legacy boot mode is still supported and can be switched within the UEFI System Utilities menu. For more information visit hp.com/go/proliant/uefi.
What operating systems (OS) are supported for ProLiant Gen9 Servers?

HP supports ProLiant Gen9 Servers with the following operating systems in legacy or UEFI mode:

- Microsoft Windows® Server 2008 R2 (x64 only)
- Microsoft Windows Server 2012
- Microsoft Windows Server 2012 R2
- Red Hat® Enterprise Linux® 6.5 and later
- SUSE Linux Enterprise Server 11 SP3 and later
- Ubuntu Server 14.04 and later
- VMware vSphere 5.1 U2 and later (recommend using custom image at hp.com/go/esxidownload)
- Solaris 11.1 and later (support started in November 2012)

To ensure compatibility, ensure your OS is in the image (Legacy or UEFI) you are deploying on your server. To find the latest operating system support information, visit hp.com/go/ossupport.

What is HP iLO?

HP Integrated Lights-Out (iLO) is an embedded intelligence built into every HP ProLiant server, so that it can function out-of-the-box without additional software installation, and it provides essential remote management and control regardless of the servers’ state of operation. To learn more about HP iLO visit hp.com/go/ilo.

What is new with HP iLO?

HP iLO has the following new features for ProLiant Gen9 Servers:

- HP iLO Federation, a key enablement feature within iLO 4 lets you discover and manage numerous servers as easily as one, through rapid discovery and the creation of security groups.
- HP RESTful API is now implemented into iLO’s architecture.
- HP iLO Reboot Switch allows you to reset the iLO or HP ProLiant hardware via the UID button in a case where iLO may not be responding.
- Pre-Boot Health Summary is a simple diagnostic screen that allows you to troubleshoot and view iLO diagnostic information through the server’s external monitor prior to powering on.
- 1 GB Embedded User Partition is accessible for additional utilization or storage with a 4 GB iLO NAND installed in the server.
- New agentless data is now visible through the iLO GUI.
- To learn more about these features, visit the HP iLO QuickSpecs.

What is Intelligent Provisioning and what does it do?

HP Intelligent Provisioning is ideal for small- to medium-sized business (SMB) customers as the initial configuration and OS deployment tool for ProLiant Gen8 and Gen9 Servers. Customers can also use Intelligent Provisioning for system maintenance. To learn more about HP Intelligent Provisioning, visit hp.com/go/intelligentprovisioning.

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26 iLO Federation management capabilities require an iLO Advanced or iLO Scale-Out license.
27 Backwards compatible with iLO 4 in ProLiant Gen8 and Gen9 Servers.
28 Backwards compatible with iLO 4 in ProLiant Gen8 and Gen9 Servers.
29 Backwards compatible with iLO 4 in ProLiant Gen8 and Gen9 Servers.
What is new with Intelligent Provisioning?
HP Intelligent Provisioning offers a new simplified GUI and opt-in access to download the HP Virtual Storage Appliance (VSA) software and take advantage of the free 1 TB storage program.

What version of Intelligent Provisioning is compatible with ProLiant Gen9 Servers?
Intelligent Provisioning 2.x will support HP ProLiant Gen9 Server OS and options; Intelligent Provisioning 1.6x will continue to support HP ProLiant Gen8 servers.

What is the HP Smart Update Solution?
This is a breakthrough system maintenance tool that provides systematic and organized updates to HP ProLiant servers and HP BladeSystem infrastructures. It is composed of HP Service Pack for ProLiant (SPP) and HP Smart Update Manager (SUM). Learn more at hp.com/go/smartupdate.

What is HP Smart Update Manager (SUM) and what does it do?
HP Smart Update Manager (SUM) is the recommended deployment engine for updating firmware and drivers with SPP for HP ProLiant servers and blades infrastructure, Integrity Firmware Bundles for Integrity Servers, or Moonshot Component Pack for HP Moonshot System. To learn more about HP SUM, visit hp.com/go/hpsum.

What is HP SUM?
HP SUM has the following new features:

- Firmware update scalability capabilities with iLO Federation technology
- Baseline enhancements including validation, assigning baselines in guided mode, dynamic filtering, and the ability to download baselines from an http server
- Live logs to provide detailed information of target update process

What version of HP SUM is compatible with HP ProLiant Gen9 Servers?
HP SUM 7.1.0 will support HP ProLiant Gen9 Servers, OS and options, and beyond. HP SUM 6.x will support up to HP ProLiant Gen8 servers.

What is HP SPP, and what is new?
HP Service Pack for ProLiant (SPP) is a packaging and collection of firmware, drivers, and Smart Components for HP ProLiant servers and blades infrastructure. SPP incorporates multiple deliverables into one SPP ISO. For HP ProLiant Gen9, the SPP Maintenance Supplement Bundle helps you establish a cadence to update your server twice per year, in April and October. For more information on SPP, see the SPP FAQs or visit hp.com/go/spp.

What scripting tools can I use on HP ProLiant Gen9 Servers?
Scripting Toolkit (STK) for Linux and Windows and HP Scripting for Windows PowerShell (PS) will support HP ProLiant Gen9 Servers. With the HP ProLiant Gen9 Server portfolio, a new scripting tool called HP RESTful Interface Tool leverages HP RESTful API architecture. For more information, click here for STK, PowerShell, and HP RESTful Interface Tool.

30 This capability will require an iLO Advanced or iLO Scale-Out license.
HP Services

What services are available for the ProLiant Gen9 Servers?

HP Technology Services (TS) delivers confidence, reduces risk, and helps you realize agility and stability with services across the IT lifecycle. Our consulting services reduce risk and increase agility with advice to help transform and modernize IT environments and leverage the advanced features of today’s HP ProLiant server family while meeting realistic budget and timeline expectations. Our deployment services reduce startup complexity and accelerate time to operations while our support portfolio provides services to meet your ongoing needs. The simple choices offered in our TS support portfolio enable you to get connected to HP with Gen9 Servers using our innovative technology to stay informed and in control.

- Advise—An end-to-end approach to managing the transition—starting with transformation workshops that include needs definition, assessments, strategic planning and design, validated integration, and implementation—that leads to improved operations.
- Deploy—A range of factory and onsite services for hardware and software implementation. HP Education Services increases staff skills with hands-on training and minimal disruption.
- Support—Proactive services to stabilize IT with choices of hardware and software support coverage windows and response times.
- Flex—Deliver workloads without capital investment using HP Flexible Capacity.

What type of support services do you recommend for HP ProLiant Gen9?

We recommend Proactive Care Services for HP ProLiant servers to proactively address issues before they become problems, improve first-time fix rates, and reduce unplanned downtime. HP Foundation Care provides ongoing hardware and software support for the server and industry-leading third-party software. To cover your entire data center, HP recommends Datacenter Care services, which provides you with flexible, proactive services, and hardware and software support. We can tailor the service to your needs with the building blocks of additional features such as spare parts management, multi-vendor support, and the innovative capacity management of Flexible Capacity Service.

What is the value of “Connecting to HP” with Proactive Care?

Customers who connect to HP understand the value of staying informed and in control using our automated support tools and HP Insight Online. HP Proactive Care takes this convenience even further with the capability to prevent problems. This service level enhances system stability with proactive reports and consultation to help avoid problems as well as providing rapid access to technical specialists who manage the call from start to finish.

Windows Server 2003 End of Support

What do you recommend we do with the thousands of servers running Windows Server 2003 in our shop now that Microsoft has announced its End of Support?

As Microsoft ends support for Windows Server 2003, many customers are turning to HP Channel partners for help assessing, planning, and implementing their migration. With the HP Microsoft Windows Server 2003 Migration Program, HP and our partners can rapidly and safely meet your needs with reduced risk and cost, increased return on investment, and fast implementation. HP and our channel partners can help you ease the required migration.
Available resources

**What tools and additional resources are available for more information?**

The following are some of the top resources for information:

- HP ProLiant Servers
- HP Services
- Enterprise business blogs
- HP Qualified Options
- Server buying guide
- HP Project SmartChoice

**Learn more at**

[hp.com/go/proliantgen9](http://hp.com/go/proliantgen9)