08/3 бр. 404-1-82/15-
30.12.2015. године

ДОДАТНО ПОЈАШЊЕЊЕ И ИЗМЕНА КОНКУРСНЕ ДОКУМЕНТАЦИЈЕ

ПРЕДМЕТ: Додатно појашњење и измена конкурсне документације у вези са припремом понуде у поступку јавне набавке: Набавка кластер сервера са софтвером за потребе Републичког фонда за здравствено осигурање, редни број набавке: 404-1-105/15-93

Дана 29.12.2015. године заинтересовано лице обратило се за појашњењем у поступку јавне набавке: Набавка кластер сервера са софтвером за потребе Републичког фонда за здравствено осигурање, редни број набавке: 404-1-105/15-93, сходно члану 63. Закона о јавним набавкама („Службени гласник РС", бр.124/12, 14/15, 68/15).

Питања заинтересованог лица и одговори Комисије:

Питање бр. 1:
„У делу III Техничка спецификација молимо да појасните да је потребно обезбедити и RAID 10, 5, 50, 6, 60, с обзиром да је у питању 4-процесорска серверска машина изузетно снажних перформанси и карактеристика."

Питање бр. 2:
„Захтеване карактеристике за процесоре (v2), меморију (DDR3), NIC 1G, HBA FC 8G су застареле, технолошки превазиђене, те би понуда са v3 Intel процесорима, DDR4 меморијом и сл. вероватно била прихваћена (предложена конфигурација са техничким описима у прилогу)?"

Одговор на питања бр. 1 и 2:
У техничкој спецификацији конкурсне документације наведени су минимални захтеви карактеристика кластер сервера, (Напомена на стр. 6/30 КД). Све понуде са бољим или технички напреднијим карактеристикама сматраће се прихватљивим.

Питање бр. 3:
„На исти начин предлажемо и прихватање спецификације слотова:
тражено: serial 1, video 1, usb 4 (min 1 USP 0.3)
прихватљиво: serial 1, video 2, usb Ports 8 (8xUSB 2.0)."

Одговор на питање бр. 3:
Мења се тачка 9 Техничке спецификације, стр. 5/30 КД, тако да уместо "Interfejs serial 1, video 1, usb 4 (min1 USB 3.0)", сада стоји "Interfejs serial 1, video 1, usb 4".

Наручилац ће објавити пречишћен текст конкурсне документације на Порталу Управе за јавне набавке и интернет страници.
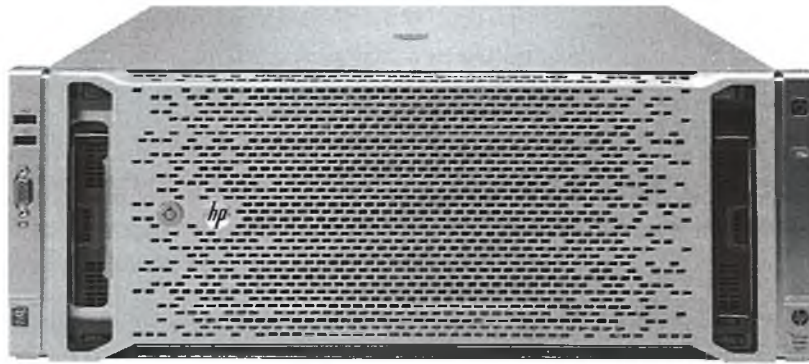
КОМИСИЈА ЗА ЈАВНУ НАБАВКУ

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HP ProLiant DL580 Gen9 Server

The four-socket standard for data-intensive workloads

The ideal choice for your most demanding and data-intensive resources, plus virtualized workloads:

- Business processing (enterprise resource planning, customer relationship management, human capital management, etc.)
- Business intelligence
- Databases, including large memory databases
- Consolidation and virtualization
- High-performance computing (HPC)

Addresses key technology trends

- In-memory computing for accelerating data analytics
- In-server flash storage for accelerating data processing
- Coprocessors and GPUs for accelerating technical computing
- Maximum memory and I/O scalability for application consolidation
- Advanced error recovery techniques for even greater levels of uptime
- Automated system management for faster time-to-value and shifting focus from maintenance to innovation

Answer key business challenges

While each organization has a unique set of drivers, every company must define a plan of action for handling today's biggest challenges.

Real-time insight

Today, there's no time to wait for quarterly reports or even monthly reviews. You need easy access to real-time insight gleaned from complete, accurate, up-to-date information.

Always-On expectations

The global marketplace never sleeps. Companies of all sizes need highly reliable IT infrastructure that keeps systems and apps up and available, no matter what.

Accelerated innovation

Every company is looking for "the next best thing" before the competition discovers it. Defining the next best product, service, solution, or system requires dedicated think-time from workers. Freeing them from mundane tasks is a business imperative.

Commanding performance and rock-solid resiliency at a lower total cost of ownership

The HP ProLiant DL580 Gen9 Server is the ideal choice for the mission-critical enterprise, business intelligence, and database applications you rely on to answer these key business challenges. This enterprise-class four-socket (4S) x86 server offers rock-solid reliability and availability, breakthrough performance, and compelling consolidation and manageability efficiencies.

Key features and benefits

Commanding performance
- Four sockets with up to 72 processor cores
- 96 DDR4 DIMM slots (up to 6 TB)
- Nine PCIe Gen3.0 FL/FH slots
- 12 Gbps SAS RAID Controller
- 10 internal 2.5 inch HDD/SSD bays

Rock-solid reliability
Enjoy cutting-edge reliability, availability, and scalability (RAS) features:
- HP Advanced Error Recovery
- HP Memory Quarantine
- HP Advanced Error Containment
- HP Advanced Fault Resiliency
- HP Advanced Event Detection and Reporting
- HP Qualified Options

Cost-efficiency
- Lower power and cooling costs
- Enhanced management and serviceability features

Management simplicity
- Class-leading manageability for exceptional time- and cost-saving benefits

Commanding performance and breakthrough scalability for your most demanding applications
- Speed up your mission-critical enterprise, business intelligence, and database applications with up to 39 percent faster processor performance and 20 percent more cores than the previous generation[1] with up to four sockets and 72 cores with Intel® Xeon® E7-4800/8800 v3 processors.
- Get up to 16 percent performance gain[2] for in-memory computing and large-scale virtualization with support for up to 6 TB of memory capacity with 96 HP DDR4 SmartMemory slots with speeds of up to 1,866 MHz.
- Adapt and grow to meet changing business needs with nine FL/FH PCIe 3.0 slots (standard) for GPGPUs and choice of HP FlexibleLOM or PCIe standup, and 1GbE, 10GbE, or InfiniBand Adapters.
- Support for HP NVMe Mixed Use and Write Intensive PCIe Workload Accelerators, ideal for Database and virtual desktop infrastructure (VDI) workloads or online transaction processing (OLTP) and Business Intelligence workloads.
- Access data faster with the redesigned HP Flexible Smart Array and HP Smart SAS host bus adapter (HBA) Controllers, with the flexibility to choose the optimal 12 Gbps controller for your environment.

Leading x86 availability and rock-solid reliability your business can depend on
- Enjoy increased system availability and lower service requirements with comprehensive fault management and diagnostics.
- Improve reliability and data protection with HP Smart Array Controllers featuring HP Secure Encryption, Advanced Data Mirroring, and backup power protection with the HP Smart Storage Battery.
- Increase security with four new levels of Secure Boot with support for Unified Extensible Firmware Interface (UEFI) mode.[3]
- Integrate performance, uptime, and productivity into a personalized, simplified support experience with HP Proactive Care Support Services.

Compelling agility and efficiencies for scale-up environments
- Reduce your cooling expenses with supported ASHRAE A3 and A4 configurations.[4]
- Lower power costs with high-efficiency redundant HP Common Slot Power Supplies providing up to 94 percent efficiency (Platinum Plus), and infrastructure power efficiencies with -48 VDC input voltages and support for HP Power Discovery Services.
- Enhance efficiency with customer-inspired features such as front-access processor/memory drawer for ease of serviceability, hot pluggable fans and drives, optional SID for health and monitoring of components, and Quick Reference Code for quick access to product information.

Agile infrastructure management for accelerating IT service delivery
- Enjoy faster, lower-cost infrastructure management and a single integrated view of your IT infrastructure with HP OneView.
- Monitor infrastructure health and manage support more easily with HP Insight Online.
- Configure in UEFI boot mode, provision local and remote with HP Intelligent Provisioning and Scripting Toolkits.
- Deploy, monitor, and support your server remotely, out of band with HP Integrated Lights-Out (iLO) embedded management.
- Optimize firmware and driver updates and reduce downtime with HP Smart Update.

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[1] Intel® measurements. Up to 39 percent top-bin performance increase based on OLTP Warehouse Oracle 11g R2 database workload comparing 4X Intel Xeon processor E7-8890 v3 (18C, 2.5 GHz) with 2 TB to similarly configured E7-4890 v2 (15C, 2.8 GHz) with 1 TB. Twenty percent more cores comparing E7-8800/4800 (15 cores) v2 vs. v3 (18 cores), January 2015.

[2] Based on HP internal calculations. Based on comparing the difference of DDR4 DIMMs of 1,866 vs. 1,600 MHz on gen-to-gen HP servers, May 2015.

[3] Secure Boot authentication inclusive of all UEFI drivers, any UEFI applications, OS Bootloaders, and Linux® Kernel Modules. HP Labs, Houston, TX, July 2014.

[4] See hp.com/servers/ASHRAE for more details.

Technical specifications

In the following table, **bold italic** text designates a new or improved feature, as compared to the HP ProLiant DL580 Gen8 Server.

HP ProLiant DL580 Gen9 Server

Compute	Two, three, or four Intel Xeon *E7 4800/8800 v3* processors; 4/8/10/12/*14/16/18* cores; up to 3.2 GHz and 45 MB L3 cache
Memory	HP SmartMemory (96) *DDR4* DIMM slots and 6 TB maximum memory with 64 GB DIMMs (supports both R-DIMMs and LR-DIMMs up to *1,866 MHz*)
Storage	HP Smart Array P830i 12 Gbps SAS Controller
Flash-Backed Write Cache (FBWC)	2 GB or 4 GB FBWC
HP SmartDrive	Up to *10* SFF max, HDD/SSD (*20 TB max*), and *optional 5 NVMe PCIe SSD support*
I/O expansion	Nine PCIe Gen3.0 FL/FH slots standard (four x8 and five x16 lanes slots); FlexibleLOM and Embedded SAS RAID Controller provide two additional I/O devices for a total of 11 PCIe devices per system. **Note:** Slot availability is dependent on the number of processors installed.
Networking	FlexibleLOM; choice of 4 x 1GbE, 2 x 10GbE, or 2 x 10 Gbps CNA or 2 x FDR InfiniBand
VGA/USB/SD ports/Optical	Two video (1f, 1r); eight USB (2f, 2i, 4r); 3/5 NIC; one microSD; **Dual microSD** (optional); external USB optical drive (optional)
GPU support	Up to five double-wide GPGPUs
System ROM	UEFI and Legacy BIOS
Converged management	HP OneView with HP iLO Advanced
Support management	HP Insight Online with enhanced mobile app
Embedded management	HP iLO 4, HP Intelligent Provisioning, HP System Update Manager (SUM), *HP RESTful Interface Tool*, HP Scripting Tools for Microsoft' Windows' PowerShell
Power supplies	Up to four 1,500 W or 1,200 W (N+N redundant), 94 percent efficient (Platinum Plus); common slot 1,200 W power supplies: max power consumption—120 VAC–1,012 VA, 3,408 BTU, 230 VAC–1,332 VA, 4,447 BTU 1,500 W power supplies: max power consumption—230 VAC–1672 VA, 5,637 BTU
Fans	Four hot plug (eight rotors with N–1 redundancy); front accessible
Security	Secure Boot, Intel Secure Key, and TPM option
System RAS features	HP Advanced Error Recovery, HP Memory Quarantine, HP Advanced Error Containment, HP Advanced Fault Resiliency, HP Advanced Event Detection and Reporting, and HP Qualified Options
Industry compliance	*ASHRAE A3 and A4 configurations supported*
Power discovery services	Supported
Location discovery services	Supported
Form factor/chassis depth	Rack (4U), 29"
Serviceability—easy install rails	Standard with CMA
Warranty (parts/labor/onsite support)	3/3/3

See hp.com/servers/ASHRAE for more details.

Resources

QuickSpecs

HP x86 Scale-up servers

HP Server Performance Benchmarks

Customize your IT lifecycle management, from acquisition of new IT, management of existing assets, and removal of unneeded equipment. **hp.com/go/hpfinancialservices**

HP Factory Express provides customization and deployment services along with your storage and server purchases. You can customize hardware to your exact specifications in the factory—helping speed deployment. **hp.com/go/factoryexpress**

HP Services

Let HP help guide you to the New Style of Business. HP Technology Services delivers confidence, reduces risk, and helps you realize greater agility and stability.

• Our consulting services provide advice and guidance to safely move your workloads to newer technologies.

• HP Implementation and Installation Services enable faster, more reliable startup of your new ProLiant Gen9 servers, and our support portfolio allows you to get connected and back to business fast.

• We recommend HP Proactive Care for ProLiant Gen9 servers to prevent issues and resolve problems quickly and efficiently.

• HP Foundation Care provides a choice of coverage levels and response times for hardware and software support.

• HP Datacenter Care enables you to operate and evolve your IT environment at a lower cost and with more agility, including our Flexible Capacity Service to acquire IT without impacting capital budget.

• Our support technology lets you tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Learn more at
hp.com/servers/dl580gen9

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hp.com/go/getupdated

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New HP ProLiant DL580 Gen9 Server attains #1 overall 4P performance results on SPEC OMP2012 benchmark

Server is also #1 overall peak performance result
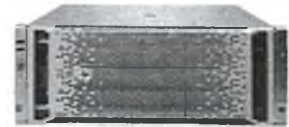
May 2015

Executive summary

A new HP ProLiant server. A new HP ProLiant leadership result. The latest generation of the HP ProLiant DL580 Server sets an overall world record for peak results on the SPEC OMP2012 benchmark with a score of 21.5 SPECompG_peak2012. In addition, the server holds the #1 overall 4P base result with SPECompG_base2012. The ProLiant DL580 Gen9 Server delivers the scalability and economics for the converged data center in the new era of compute at the lowest cost and fastest time to value with its latest innovations.

The SPEC OMP2012 benchmark focuses on compute-intensive performance, which means it measures the performance of the computer processor (CPU), the memory architecture, the parallel support libraries, and the compilers.[1]

Since the HP ProLiant DL580 Gen9 Server is positioned as the four-socket enterprise standard for resource and data-intensive workloads, these results are proof points that this new ProLiant Gen9 system delivers above and beyond what other x86 servers offer.

Key take-aways

- **#1 overall score on SPECompG_peak2012**
- **#1 overall 4P result on SPECompG_base2012**
- **HP, with SUSE Linux Enterprise Server 11 SP3 and Intel Xeon Processors E7-8890 v3, delivers a powerful performance solution**
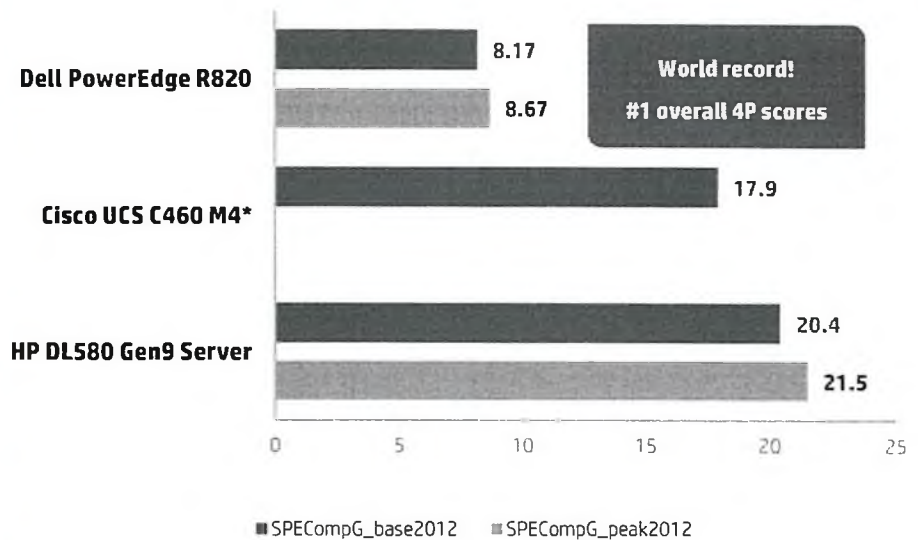
Only from HP
How we do it

HP ProLiant Gen9: Reimagine the server. Think compute. HP ProLiant Gen9 servers deliver the right compute for the right workload at the right economics every time. With ProLiant Gen9 servers, HP powers the next wave of transformation, bringing faster insight, new paths to revenue, smarter economics, and increased productivity.

Partnerships. HP works closely with Intel and SUSE to optimize platforms and operating systems for the ultimate performance.

Ability to execute. Delivering blazing fast results via increased processor performance, faster memory and leading I/O bandwidth, the HP ProLiant DL580 Gen9 Server has security, data protection, and resiliency features on which customers' businesses depend.

Figure 1. HP ProLiant DL580 Gen9 Server results compared to next-highest 4P competitors' results.

HP ProLiant DL580 Gen9 Server outperforms competitors for overall 4P record

Server	SPECompG_base2012	SPECompG_peak2012
Dell PowerEdge R820	8.17	8.67
Cisco UCS C460 M4*	17.9	
HP DL580 Gen9 Server	20.4	21.5

World record! #1 overall 4P scores

*Cisco did not publish a peak result

Customer value

The new HP ProLiant DL580 Gen9 Server

Unleashing the power of business data, the ProLiant DL580 Gen9 Server is the four-processor enterprise standard for resource and data intensive workloads. Rock-solid reliability, performance, and availability make it ideal for mission-critical enterprise, business intelligence, and database applications.

The HP ProLiant DL580 Gen9 delivers the following value:

- **Performance and scalability:** Greatest performance and scalability in a four-processor, x86 system with 72 cores, up to 6TB[2] of memory, and 9 full-length/full-height PCIe 3.0 slots all allowing customers to adapt and grow to changing business needs
- **RAS and robustness:** Top-of-the line resiliency features and support experience for the highest levels of uptime
- **Compelling TCO:** Breakthrough cost efficiencies using a scale-up model

SUSE Linux Enterprise operating system

The SPEC OMP2012 benchmark results were achieved running SUSE Linux Enterprise 11 SP3 operating system. As the leader in Linux revenue and units worldwide, HP has gained extensive experience deploying Linux solutions.[3] The partnership between HP and SUSE dates back over 20 years and leverages the best from both partners. HP is a worldwide leader of fully-supported industry-standard Linux solutions, and with SUSE as a premier HP Alliance partner, offers a scalable, open-source foundation for secure enterprise computing on HP Converged Infrastructure. SUSE Linux Enterprise on HP world class platforms provides joint customers with a broad choice, integrated solutions, and the confidence to deploy Open Source and Linux across the enterprise.[4]

Bottom line

HP advances the compute era with the HP ProLiant DL580 Gen9 Server. ProLiant Gen9 servers offer more compute capacity with lower TCO, faster deployment with simple automation, and accelerated workload performance that delivers better business results. All in all, ProLiant Gen9 servers augment prior innovation to deliver compelling business outcomes with a better business value. Leading the way for others on this compute-intensive benchmark is just one example.

For more information

HP leading performance results: **hp.com/products/servers/benchmarks**

HP ProLiant DL580 Gen9 Server: **hp.com/servers/dl580gen9**

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[1] Introduction/FAQ: spec.org/omp2012/
[2] 6TB support with 64GB DIMMs to be available mid 2015.
[3] Source: IDC Worldwide Quarterly Server Tracker for 4Q14, March 2015
[4] Source: suse.com/partners/alliance-partners/hp/

New HP ProLiant DL580 Gen9 Server achieves record performance on SPECvirt_sc2013 benchmark

4P virtualization leadership

June 2015

Executive summary

The new HP ProLiant DL580 Gen9 Server has achieved the #1 four-processor (4P) result on the SPECvirt_sc2013 benchmark. These results show that the server is ideally suited for running workloads in a virtualized environment. The server was configured with four Intel® Xeon® processors E7-8890 v3 series, 32 x 64 GB HP DDR4 2133 MHz LRDIMMs, two HP Smart Array P431 Controllers, and the Red Hat Linux Enterprise Server 7.1 operating system. The server was connected to two HP D3700 Disk Enclosures, each with 24 x 400 GB 12G SAS Mainstream Endurance Small Form Factor (SFF) SSDs.

The SPECvirt_sc2013 benchmark shows a server's capability to consolidate multiple servers running different applications onto a single system with multiple virtual machines. The benchmark provides four workloads based on real-world traffic faced by a web server, a Java application server, an IMAP server, and a batch server. It models multi-tiered applications and database environments that require enterprise-class virtual machines.[1]

Key take aways

- **#1 4P performance**
- **Defeats competitors Lenovo and Huawei with 13.7% and 44.7% higher performance scores respectively**
- **Defeats competitors Lenovo and Huawei with 21 and 47 more virtual machines respectively**
- **Outstanding performance with the Red Hat Linux Enterprise Server 7.1 operating system**
- **Performance proof point for new Intel Xeon processor technology**
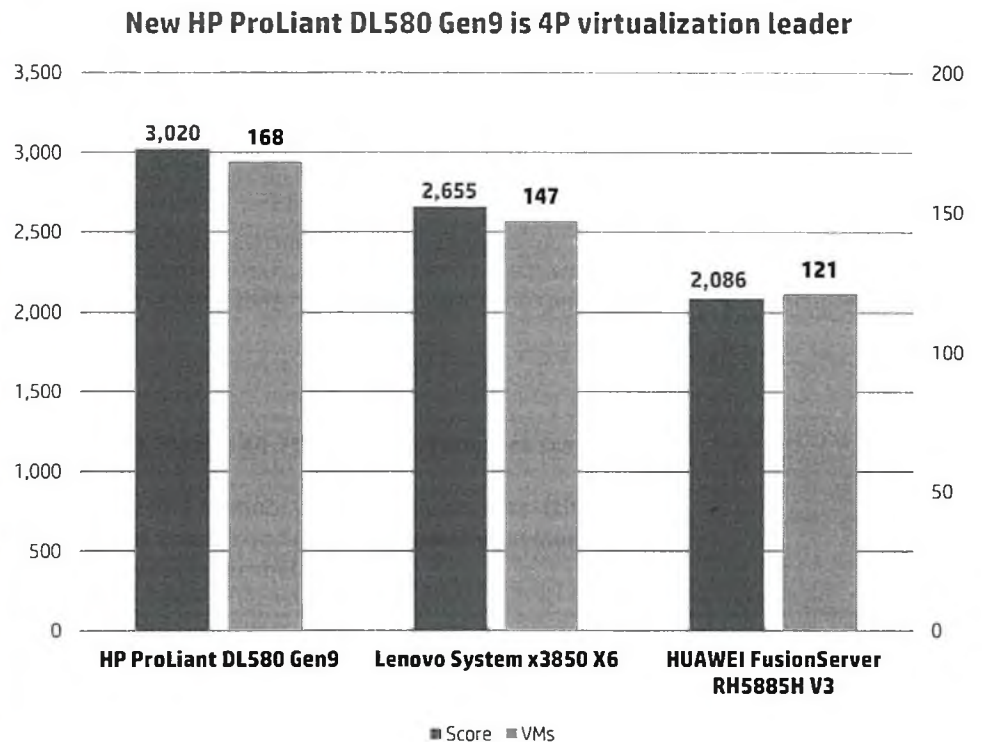
Only from HP
How we do it

HP ProLiant Gen9: Reimagine the server. Think compute. HP ProLiant Gen9 servers deliver the right compute for the right workload at the right economics every time. With ProLiant Gen9 servers, HP powers the next wave of transformation, bringing faster insight, new paths to revenue, smarter economics, and increased productivity.

Partnerships. HP works closely with Intel and Red Hat to tune and optimize platforms and operating systems for the ultimate performance.

Power. HP's leading platforms, experience, and knowledge give customers the power needed to push the limits of performance.

Ability to execute. Delivering blazing fast results via increased processor performance, faster memory and leading I/O bandwidth, the HP ProLiant DL580 Gen9 has security, data protection, and resiliency features on which customers' businesses depend.

Figure 1. HP ProLiant DL580 Gen9 Server performance versus the top two competitors on the SPECvirt_sc2013 benchmark.

New HP ProLiant DL580 Gen9 is 4P virtualization leader

HP ProLiant DL580 Gen9: Score 3,020 / VMs 168
Lenovo System x3850 X6: Score 2,655 / VMs 147
HUAWEI FusionServer RH5885H V3: Score 2,086 / VMs 121

■ Score ■ VMs

Customer value

The new HP ProLiant DL580 Gen9

Unleashing the power of business data, the ProLiant DL580 Gen9 is the four-socket enterprise standard for resource and data intensive workloads. Rock-solid reliability, performance, and availability make it ideal for mission-critical enterprise, business intelligence, and database applications. The HP ProLiant DL580 Gen9 delivers the following value:

- **Performance and scalability:** Greatest performance and scalability in a 4S x86 system with 72 cores and up to 6 TB[2] of memory and 9 full-length/full-height PCIe 3.0 slots, all allowing customers to grow and adapt to changing business needs
- **RAS and robustness:** Top-of-the line resiliency features and support experience for the highest levels of uptime
- **Compelling TCO:** Breakthrough cost efficiencies using a scale-up model

The Red Hat Linux Enterprise operating system

These results were achieved running the Red Hat Enterprise Linux Server 7.1 operating system. Built for the modern datacenter environment, Red Hat Enterprise Linux anticipates shifts in the IT landscape that blur the lines between physical, virtual, and cloud computing. With long-standing market leadership and a 15-year partnership, HP and Red Hat actively collaborate to engineer and deliver solutions, reference architectures, and services supported by joint investment in business development and marketing. HP delivers Linux solutions that combine the security, dependability, value, and flexibility of open source with enterprise-quality management applications, services, communication tools, and hardware.[3] As the leader in Linux revenue and units worldwide, HP is a proven and trusted choice for Linux requirements.[4]

Bottom line

HP advances the compute era with the HP ProLiant DL580 Gen9 Server. ProLiant Gen9 servers offer more compute capacity with lower TCO, faster deployment with simple automation, and accelerated workload performance that delivers better business results. All in all, ProLiant Gen9 servers augment prior innovation to deliver compelling business outcomes with a better business value. Leading the way for others on this virtualization benchmark is just one example.

For more information:

HP ProLiant performance: **hp.com/servers/benchmarks**

HP ProLiant DL580 Gen9 Server: **hp.com/servers/dl580gen9**

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[1] Source: spec.org/virt_sc2013/press/release.html
[2] 6 TB support with 64 GB DIMMs to be available mid-2015.
[3] Source: hp.com/us/en/partners/red-hat/#tab=TAB1
[4] Source: IDC Worldwide Quarterly Server Tracker for 1Q15, May 2015. See hp.com/go/therealstory for details.