

AMD and HP are proven in business.

A decade of industry-leading technology innovation



For more than a decade, AMD and HP have collaborated to deliver an outstanding technology portfolio – from the desktop to the datacenter – that continues to grow more robust every year. The product line now features an ever-broadening portfolio of trusted systems based on the entire family of AMD processors, including rack-mount servers, server blades, MicroServer, desktops and notebooks. Together, we're delivering forward-thinking computing solutions for businesses of all sizes.

Today, HP is a leading provider of servers based on AMD Opteron™ processors. This portfolio of HP ProLiant G7 servers based on AMD Opteron processors is always evolving to address the ever changing needs and challenges in the datacenter. Whether customers need performance and scalability or are focused on power and budget efficiency, together, HP and AMD deliver technology solutions that help businesses address these needs and meet their goals.

These days, doing what's comfortable with your business technology could actually be risky. All the rules have changed. "What's your advantage?" now presents a unique opportunity to one-eighty your thinking about technology investments.

Everything's going virtual, fluid, and toward the cloud, with no room for waste – budget or energy. Take servers. Ample processing muscle is the bare minimum. Efficiency – space, energy, and cost – is the new game changer. And the new kind of processing for efficiency is here: the new AMD Opteron 6200 Series processor.

We designed AMD Opteron processors for this precise moment. No worries about overinvestment or underinvestment – it's the right investment. Efficiency, performance, and scalability – you know the stuff that really matters to your business – balanced perfectly for competitiveness and ROI.

Shake off the mindset that you have only one choice. Expect your processing to serve your business, not the other way around. There's a better option for the new hyper-efficient, virtualized, cloud-ready world. Time to buck the status quo and join the future of server processing: the AMD Opteron 6200 Series processor.



AMD Opteron™ Platforms

Processors delivering efficiency, performance, and scalability

The AMD Opteron 6000 Series Platform

The AMD Opteron 6000 Series platform is the server platform you can count on as real-world workloads become increasingly complex and demanding. Featuring the world's first 16-core x86 processor, the AMD Opteron 6200 Series processors deliver a rich mix of performance, scalability, and efficiency for today's highly threaded computing environments. The modular design features up to 33% more cores¹ and up to 35% greater performance², bringing high performance throughput for scalable computing environments such as virtualization, high-performance computing (HPC), Web 2.0/cloud computing, and database applications.

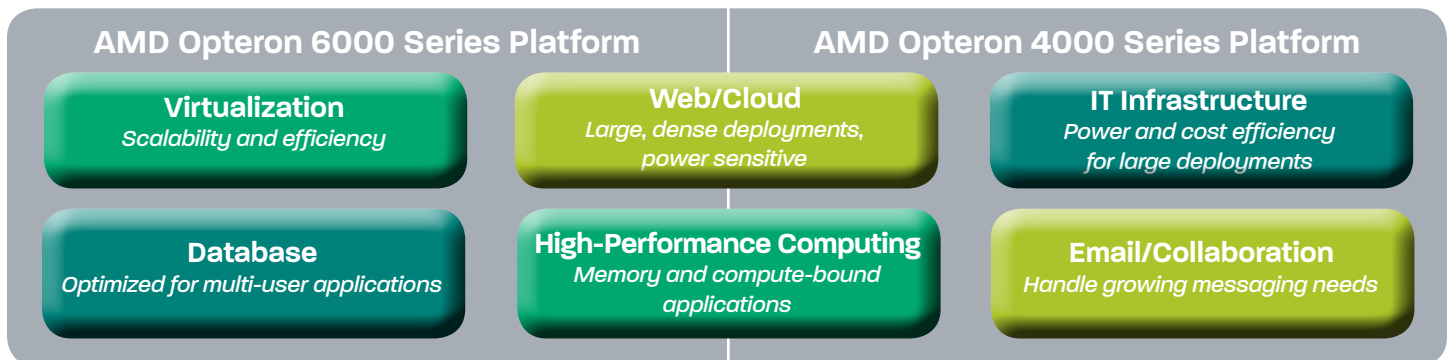
The AMD Opteron 4000 Series Platform

The AMD Opteron 4100 Series processor allowed you to double the number of servers within the same power budget, compared to previous generations.³ With the AMD Opteron 4200 Series, AMD has leapfrogged its own leading edge power efficient server processor designs by being the first to break the five watt/core barrier.⁴

The AMD Opteron 6200 Series Processor

The AMD Opteron 6200 Series processor delivers the world's highest core density, lets users host more virtual machines per server, handle more database users, and solve more complex HPC applications with fewer nodes and less power.

- Up to 160% more cores to handle more virtual machines per platform and minimize datacenter space⁵
- Up to 73% more memory throughput to scale as your workloads grow⁶
- Low cost per VM⁵, deploy fewer physical servers as business needs scale up
- No compromise on feature set, every AMD Opteron processor features highest memory and I/O throughput, regardless of the price



HP ProLiant G7 Servers Featuring AMD Opteron 6200 Series Processors

Since 1996, HP and AMD have been delivering superior quality, variety, and value in computing technology. This collaboration provides end customers with technology innovation and performance-per-watt competitiveness while helping to drive a balanced computing market. The addition of HP ProLiant G7 servers powered by AMD Opteron 6200 Series processor technology extends this collaboration with affordable, energy-efficient solutions designed to give businesses of all sizes a competitive advantage.

HP's next-generation ProLiant G7 servers with AMD Opteron 6200 Series processors help customers

improve business efficiency and consolidate many servers down to one.⁷ HP provides unique capabilities and technologies such as Thermal Logic, Common Power Supplies, Smart Arrays and HP ProLiant Insight Control to deliver servers that meet customers' ever-changing business demands. HP ProLiant G7 servers based on AMD Opteron 6200 Series processors deliver the key technology advancements that customers need to take control of their business. And with an ROI payback in as little as 30 days⁸, it's time to upgrade to the newest HP ProLiant G7 servers with AMD Opteron 6200 Series processors.

HP ProLiant G7 Rack-Mount Servers

HP ProLiant DL165 G7 Server

The HP ProLiant DL165 G7 is a high-performance, low-cost, ultra-dense rack server designed for memory-intensive high-performance computing (HPC) environments, web serving and memory-intensive applications.

- Form factor: 2P; 1U rack optimized
- Powered by up to two (2) eight-, twelve- or sixteen-core AMD Opteron 6200 Series processors
- (24) DIMM sockets – Up to 256GB of DDR3 memory; 16MB L3 cache (per socket)

HP ProLiant DL385 G7 Server

The HP ProLiant DL385 G7 is designed with virtualization in mind with up to 24 DIMMs and 4 NIC ports, yet flexible and expandable to support any business need in many environments from corporate datacenters to sophisticated SMBs.

- Form factor: 2P; 2U rack optimized
- Powered by up to two (2) eight-, twelve- or sixteen-core AMD Opteron 6200 Series processors
- (24) DIMM sockets – Up to 512GB of DDR3 memory; 16MB L3 cache (per socket)



HP ProLiant DL585 G7 Server

The HP ProLiant DL585 G7 server provides outstanding performance and reliability as well as industry-leading management solutions, making it an ideal solution for virtualization/consolidation environments and corporate datacenter infrastructure.

- Form factor: 4P; 4U rack optimized
- Powered by up to four (4) eight-, twelve- or sixteen-core AMD Opteron 6200 Series processors
- (48) DIMM slots – Up to 1TB of DDR3 memory; 16MB L3 cache (per socket)
- ROI payback in as little as 30 days⁵

HP ProLiant G7 Server Blades

HP ProLiant G7 server blades feature the latest eight-, twelve- and sixteen-core AMD Opteron 6200 Series processors, integrated HP Virtual Connect FlexFabric architecture, and HP Integrated Lights-Out 3 (iLO3) remote management, helping to simplify network connections, minimize infrastructure costs, and deliver the performance that you expect for demanding application workloads.

These enhanced server blades come with an HP Smart Array Controller, support for hot-plug drives, double the memory over previous generations and Virtual Connect FlexFabric networking. The servers deliver an ideal combination of performance, networking capability, and memory capacity – all while providing good value for your money – giving you and your business a competitive advantage.



HP ProLiant BL465c G7 Server Blade

The HP ProLiant BL465c G7 has the processing power needed to drive virtualization and mainstream business applications with up to 16 DIMMs and two 10Gb Ethernet ports with converged network support.

- Form factor: 2P half-height server blade
- Powered by up to two (2) eight-, twelve- or sixteen-core AMD Opteron 6200 Series processors
- (16) DIMM slots – Up to 512GB of DDR3 memory; 16MB L3 cache (per socket)

HP ProLiant BL685c G7 Server Blade

The HP ProLiant BL685c G7 is a dense four-processor server blade with the processing power needed to drive virtualization and compute-intensive database workloads with up to 32 DIMMs and four 10Gb Ethernet ports with converged network support.

- Form factor: 4P full-height server blade
- Powered by up to four (4) eight-, twelve- or sixteen-core AMD Opteron 6200 Series processors
- (32) DIMM slots – Up to 1TB of DDR3 memory; 16MB L3 cache (per socket)

HP ProLiant SL Scalable System

Driven by business growth, scale-out computing is gaining momentum with businesses striving to build economics into their datacenters. The all-new HP ProLiant SL6500 Scalable System is designed for such scale-out deployments. It comes with a highly flexible s6500 chassis, which enables reduced overall IT expenses and enhanced power efficiency by adopting a shared power and cooling architecture. The HP ProLiant SL6500 Scalable System is designed for service providers and high-performance computing. The HP ProLiant SL6000 family is optimized for scale-out customers to greatly reduce costs, maximize power efficiency by sharing power supplies and fans, and maintain total flexibility.



HP ProLiant SL335s G7

The HP ProLiant SL335s G7 server is part of the HP ProLiant SL6500 family, optimized for scale-out customers and designed to greatly reduce costs and maximize power efficiency while providing an infrastructure that is easy to access and service. The HP ProLiant SL335s G7 server is ideal for environments needing high-density compute at a low cost such as Web hosting and Web front end.

- Form factor: 2P, 1U half-width tray. Up to eight independent HP ProLiant SL335s G7 servers go into the 4U HP ProLiant SL6500 chassis
- Powered by up to two (2) six-core AMD Opteron™ 4100 Series processors
- (12) DIMM slots – up to 128GB of DDR3 memory; 12MB L3 cache



HP ProLiant SL165s G7

The HP ProLiant SL165s G7 server is part of the HP ProLiant SL6500 family, optimized for scale-out customers and designed to greatly reduce costs, maximize power efficiency (by sharing power supplies and fans), and maintain total flexibility. The HP ProLiant SL165s G7 is optimized for applications needing large amounts of memory and I/O expansion such as scale-out, Web 2.0, and high-performance computing (HPC) environments.

- Form factor: 2P, 1U full-width tray node. Four independent HP ProLiant SL165s G7 servers go into the 4U HP ProLiant s6500 chassis
- Powered by up to two (2) eight- or twelve-core AMD Opteron 6100 Series processors
- (24) DIMM slots – Up to 256GB of DDR3 memory; 12MB L3 cache



HP ProLiant SL165z G7 Server

The HP ProLiant SL165z G7 is optimized for applications needing large amounts of memory and I/O expansion. The HP ProLiant SL165z G7 server is part of the HP ProLiant SL6000 family, optimized for scale-out customers to greatly reduce costs, maximize power efficiency, by sharing power supplies and fans, and maintain total flexibility.

- Form factor: 2P; 1U. Two independent HP ProLiant SL165z G7 servers go into the 2U HP ProLiant z6000 chassis
- Powered by up to two (2) eight- or twelve-core AMD Opteron 6100 Series processors
- (24) DIMM sockets – Up to 288GB of DDR3 memory; 12MB L3 cache

For more information visit www.amd.com/hp

- 1 Based on 16-core AMD Opteron 6200 Series processor compared to 12-core AMD Opteron 6100 Series processors.
- 2 Based on AMD internal engineering performance for top bin 16-core AMD Opteron 6200 Series standard power processor compared to top bin 12-core AMD Opteron 6100 Series standard power processor.
- 3 Based on AMD internal measurements as of March 15, 2010, comparing of Supermicro 2021M-UR with 2x Quad-Core AMD Opteron processor Model 2380, 500 GB WD5000ABPS, 8x 2GB RDDR2 667 DIMMs vs. Tyan 8228 with 2x AMD Opteron processor Model 4162 EE (pre-production EVT), 128 GB MMCRE28G5MXP-0VB SATA SSD, 4x 4GB 1.5v RDDR3 1066 DIMMs, running server-side Java business operations at 100% load point. Power measurements taken at the wall. Any difference in system hardware or software design or configuration may affect actual performance.
- 4 As of April 13, 2011, AMD Opteron processor Models 4200 EE have the lowest known power per core of any x86 server processor, at 35W TDP (35W/8 = 4.375W/core). Intel's lowest power per core server processor, L5630, is 40W TDP (40W/4 = 10W/core). See <http://www.intel.com/Assets/PDF/prodbrief/323501.pdf>. Previous record held by AMD Opteron processor Models 4100 EE at 35W TDP / 6 cores = 5.83 W/core. SVR-58.
- 5 Comparison of 16-core AMD Opteron 6200 Series processor with 6-core Intel Xeon® 5600 Series processor and 10-core Intel Xeon E7 Series processor. SVR-30.
- 6 Based on STREAM benchmark results obtained by AMD Performance Labs as of October 2011. 73 GB/s: 2 x AMD Opteron processors Model 6276 in Supermicro H8DGT, 64GB (8 x 8GB DDR3-1600) memory, SuSE Linux® Enterprise Server 11 SP1 64-bit, x86 Open64 4.2.5-1 Compiler Suite. 42 GB/s: 2 x Intel Xeon processors Model X5670 in Supermicro X8DTT server, 24GB (6 x 4GB DDR3-1333) memory, SuSE Linux® Enterprise Server 11 SP1 64-bit, Intel Compiler v11.1.064.
- 7 Reduce number of physical 2p servers "23:1" Based on HP internal testing on 385 G7 compared DL380 G4. ROI for AMD Opteron 6200 Series-based server is expected to be similar or better. Actual ROI may vary.
- 8 Based on HP internal testing on 585 G7 compared to DL360 G4. ROI for AMD Opteron 6200 Series-based server is expected to be similar or better. Actual ROI may vary.