

# HP ProLiant Servers

Featuring the  
AMD Opteron™ Processor



## AMD Opteron™ Processors

*Setting the new standard for performance, scalability, and efficiency*

With two processing platforms designed to address specific parts of the market, AMD has robust server solutions to address the key workloads in the server market.

### Both the AMD Opteron™ 6100 and 6200 Series processors offer:

- Straight-through computing to help ensure that there are no bottlenecks or compromises – when the workload grows up to 16 tasks, each has a dedicated core, with maximum memory and I/O speed available on every processor SKU regardless of the price.
- AMD Turbo CORE technology that turns unused power headroom into up to 1 GHz+ of added clock speed for “elastic” demands and also to quickly complete tasks and return the processor to a low power state.
- AMD-V™ features that reduce virtualization overhead and minimize latency for improved virtualization performance.
- AMD-P features that optimize performance per watt at load/idle.
- FlexFP for more flexible technical processing with the ability to execute two SSE or AVX (128-bit) instructions simultaneously or one AVX (256-bit) instruction per module, as well as schedule floating point operations independently of the integer scheduler.



## AMD Opteron Platforms

*The architecture of the future that delivers unparalleled performance and value today*

### The AMD Opteron 6000 Series Platform



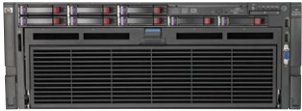


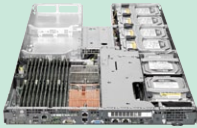


The AMD Opteron 6000 Series platform is the server platform you can count on as real-world workloads become increasingly complex and demanding. Featuring the world's first 16-core x86 processor, the AMD Opteron 6200 Series processors deliver a rich mix of performance, scalability, and efficiency for today's highly threaded computing environments. The modular design features up to 33% more cores<sup>1</sup> and up to 35% greater performance<sup>2</sup>, bringing high performance throughput for scalable computing environments such as virtualization, HPC, Web 2.0/cloud computing, and database applications.

### 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 space<sup>3</sup>
- Up to 73% more memory throughput to scale as your workloads grow<sup>4</sup>
- Low cost per VM<sup>5</sup>, 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 Servers featuring the AMD Opteron™ processor

|   | Platform  | Description   | Key Features   | Target Workloads                                    |
|---|---|---|--|---|
|    | <b>HP ProLiant DL165 G7</b><br>2P/1U Rack             | <b>AMD Opteron 6200 Series processors</b><br>256GB DDR3 | Powered by up to (2) 8-, 12- or 16-core AMD Opteron 6200 Series processors<br><br>(24) DIMM slots – Up to 256GB of DDR3 memory; 16MB L3 cache (per socket) | Cloud<br>HPC  |
|    | <b>HP ProLiant DL385 G7</b><br>2P/2U Rack             | <b>AMD Opteron 6200 Series processors</b><br>512GB DDR3 | Powered by up to (2) 8-, 12- or 16-core AMD Opteron 6200 Series processors<br><br>(24) DIMM slots – Up to 512GB of DDR3 memory; 16MB L3 cache (per socket) | Database<br>Virtualization<br>Infrastructure        |
|    | <b>HP ProLiant DL585 G7</b><br>4P/4U Rack             | <b>AMD Opteron 6200 Series processors</b><br>1TB DDR3   | Powered by up to (4) 8-, 12- or 16-core AMD Opteron 6200 Series processors<br><br>(48) DIMM slots – Up to 1TB of DDR3 memory; 16MB L3 cache (per socket)   | Database<br>Virtualization<br>Infrastructure        |
|    | <b>HP ProLiant BL465c G7</b><br>2P Half-Height Blade  | <b>AMD Opteron 6200 Series processors</b><br>512GB DDR3 | Powered by up to (2) 8-, 12- or 16-core AMD Opteron 6200 Series processors<br><br>(16) DIMM slots – Up to 512GB of DDR3 memory; 16MB L3 cache (per socket) | Database<br>Virtualization<br>Infrastructure<br>HPC |
|   | <b>HP ProLiant BL685c G7</b><br>4P Full-Height Blade  | <b>AMD Opteron 6200 Series processors</b><br>1TB DDR3   | Powered by up to (4) 8-, 12- or 16-core AMD Opteron 6200 Series processors<br><br>(32) DIMM slots – Up to 1TB of DDR3 memory; 16MB L3 cache (per socket)   | Database<br>Virtualization<br>Infrastructure        |
|  | <b>HP ProLiant SL165s G7</b><br>2P/1U Full-Width Tray | <b>AMD Opteron 6100 Series processors</b><br>256GB DDR3 | Powered by up to (2) 8- or 12-core AMD Opteron 6100 Series processors<br><br>(24) DIMM slots – Up to 256GB of DDR3 memory; 12MB L3 cache                   | Web/Cloud<br>HPC                                    |
|  | <b>HP ProLiant SL165z G7</b><br>2P/1U Full-Width Tray | <b>AMD Opteron 6100 Series processors</b><br>288GB DDR3 | Powered by up to (2) 8- or 12-core AMD Opteron 6100 Series processors<br><br>(24) DIMM slots – Up to 288GB of DDR3 memory; 12MB L3 cache                   | Web/Cloud<br>HPC                                    |
|  | <b>HP ProLiant SL335s G7</b><br>2P/1U Half-Width Tray | <b>AMD Opteron 4100 Series processors</b><br>128GB DDR3 | Powered by up to (2) 6-core AMD Opteron 4100 Series processors<br><br>(12) DIMM slots – Up to 128GB of DDR3 memory; 6MB L3 cache                           | Virtualization<br>Web/Cloud                         |

For more information visit [www.amd.com/hp](http://www.amd.com/hp)

- 1 Comparison of 12-core AMD Opteron 6100 Series processors versus 16-core AMD Opteron 6200 Series processors. SVR-5.
- 2 Based on AMD internal engineering performance estimates comparing 12-core AMD Opteron 6100 Series processor with 16-core AMD Opteron 6200 Series processors. SVR-16.
- 3 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.
- 4 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.