



## AMD and HP: A Powerful Business Advantage for Virtualization Environments



AMD has led the industry in developing the features for x86-based computers that enable fast and efficient virtualization, such as energy efficient multi-core processors, advanced memory handling capabilities, and hardware-based virtualization technologies. The AMD Opteron™

6100 Series processor has just received one of *InfoWorld's 2011 Technology of the Year Awards* and was noted as being "ideally suited for dense computational work, such as virtualization hosting." And HP solutions have taken full advantage of the powerful technology AMD delivers.

### Real Cores to Handle the Real Demands of Virtualization

The AMD Opteron™ 6100 Series processor was designed to handle increasingly complex and demanding virtualization environments. Based on the next-generation AMD Direct Connect Architecture 2.0 with up to 48 total cores in a 4P configuration, this platform more than doubles the memory bandwidth<sup>1</sup>.

The platform also provides nearly 2x the I/O bandwidth of previous generation 2P and 4P servers<sup>2</sup>, helping your business tackle virtualization with greater throughput, exceptional value and readiness to scale.

More real cores means you can run more single-core Virtual Machines on a physical server, increasing your consolidation rate, or you can run more robust multi-core Virtual Machines on a server to handle resource intensive workloads like database or business intelligence applications.

HP servers based on AMD Opteron 6100 Series processors deliver excellent performance with exceptional value, low total cost of ownership, and generational consistency.

### Award-Winning HP Solution Built on the AMD Opteron™ 6000 Series Platform

The AMD Opteron processor-based HP ProLiant DL585 server series has been a mainstay for VMware customers since its introduction in 2004. The latest in the series, the DL585 G7, featuring up to four AMD Opteron 6100 Series processors, received a five star rating from PCPro, which stated that the DL585 G7 "suits businesses looking for a server consolidation and virtualization platform with massive expansion potential, the best remote management tools and good storage options<sup>3</sup>."

In terms of 2 socket servers, the HP ProLiant DL385 G7 has been highlighted as a solid platform for database consolidation with VMware in the "Improving Database Consolidation Efficiency with DL385 G7" white paper<sup>4</sup>. The HP ProLiant DL385 G7 server received the *SmallBizWindows Server of the Year Award* for 2010 from AbsolutelyWindows<sup>5</sup>. This server also earned a five star rating from PCPro for the number of cores and true value brought to virtualization.





## Outstanding Performance-per-watt for Virtualization and Cloud Computing

The AMD Opteron™ 4100 Series processor is the world's lowest power per core server processor<sup>6</sup>, setting the foundation for cloud computing workloads and affordability for mainstream virtualization servers. AMD has leapfrogged its own leading-edge power efficient server processor designs by being the first processor to break the 6 watt/core barrier – allowing you to double the number of servers, within the same power budget, compared to previous generations<sup>7</sup>.

The HP ProLiant SL335s G7 is optimized for scale-out customers to greatly reduce costs and maximize power efficiency, delivering outstanding scale, energy efficiency and performance with maximum compute density. The HP ProLiant SL335s G7 is ideal for environments needing high density computing at a low cost.

The HP ProLiant BL465c G7 and BL685c G7 server blades combines best-in-class features to help reduce network sprawl and lower infrastructure costs. These blades deliver cost-effective, scalable performance for virtualization and compute-intensive database applications.

## AMD and HP – Technology Innovation Partners

For 15 years AMD and HP have collaborated to deliver outstanding technology innovations – from the data center to the desktop. By maintaining our joint commitment to open platform technologies, HP and AMD continue to provide server platforms that are easy to integrate into businesses and that help businesses achieve more.

## Learn More!

For more information on HP ProLiant servers with AMD Opteron™ processors, listen to what Greg Huff, CTO of Industry Standard Servers and Pat Patla, General Manager and Corporate VP of AMD's server division, have to say about the technology in HP ProLiant G7 servers.

[Please click here](#)

For more information on AMD solutions for virtualization and cloud computing please check out the following resources:

### Optimal Virtualization with the AMD Opteron 6000 Series Platform

[Please click here](#)

### AMD and VMware Deliver Trusted Virtualization Solutions

<http://www.amd.com/vmware>

### Your Virtual Infrastructure: finding the right fit with HP/AMD/VMware

<http://www.yourvirtualinfrastructure.techweb.com/>

1 Based on quad channel DDR3-1333 for AMD Opteron™ 6100 Series processor vs. dual channel DDR2-800 for Six-Core AMD Opteron™ processor.

2 I/O comparison based on 3x HyperTransport™ technology links @ up to 4.8 GT/s (up to 14.4 GT/s total bandwidth) for Six-Core AMD Opteron™ processor vs. 4x HyperTransport technology links @ up to 6.4 GT/s (up to 25.6 GT/s total bandwidth) for AMD Opteron™ 6100 Series processor.

3 December 20, 2010: <http://www.pcpro.co.uk/reviews/servers/363838/hp-proliant-dl585-g7/2>

4 <http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-1779ENW.pdf>

5 February 6, 2011: <http://absolutelywindows.com/blog/2011/2/6/the-smallbizwindows-server-of-the-year-2010-hp-proliant-dl38.html>

6 As of March 15, 2010, AMD Opteron™ processor Models 4162 EE /4164 EE have the lowest known power per core of any server processor, at 5.83W (35W/6 = 5.83W/core). Intel's L5609 is 10W/core (40W/4 cores) see [http://www.intel.com/p/en\\_US/products/server/processor/xeon5000/specifications](http://www.intel.com/p/en_US/products/server/processor/xeon5000/specifications)

7 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.

