ProLiant BL680c G5 upgrade shows increased performance advantage on VMmark benchmark

HP Leadership

»The HP ProLiant BL680c G5 delivers no-compromise performance and expansion for a 4-core to 6-core 4P BladeSystem server. Designed to keep pace with strenuous computing demands, the BL680c G5 now supports the high performance Intel® Xeon® E7458 processor featuring 6-cores at 2.40GHz and 16MB of L3 cache utilizing only 90 watts.

Customer Value

What are the customer benefits of using the HP ProLiant server blades as a virtualization platform?

HP ProLiant servers and VMware provide organizations with a robust and reliable platform for virtualization.

The ProLiant BL680c G5 server blade is ideal for hosting larger databases, applications, and many virtual machines all in a compact 4P server blade form-factor.

Today's IT economy needs VMware virtualization technology for server and application consolidation, less power and maintenance, and less real estate across the board.

HP contributes with its NEW Dynamic Power Capping that enables customers to limit the power consumption of the blade enclosure by setting an enclosure-wide Dynamic Power Cap, thus saving customers huge costs in power and cooling. And with the NEW Virtual Connect Flex-10 Ethernet technology available on the ProLiant BL680c G5, customers can also enjoy increased performance, infrastructure cost savings, and power savings.

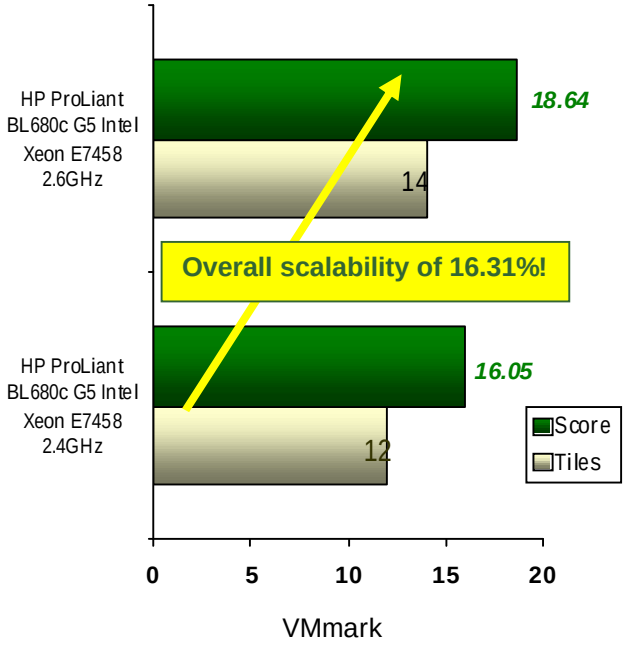
Together, through the VMware benchmark, HP and VMware demonstrate that upgrading the ProLiant BL680c G5 server on a virtualization platform also is a BEST CHOICE for anyone who needs fast-to-deploy virtualization for server blades while being mindful of the tight economy.

Key Points

- Upgrading to the next HP ProLiant BL680c G5 server with the latest Intel Xeon server processor shows a VMmark performance advantage of over 16%.
- HP ProLiant servers also extend the savings from virtualization to a lower ongoing cost of ownership via HP Thermal Logic Technology.
- ONLY HP offers the most choice with the Intel 7000 sequence blade offerings.

HP realizes the economy is a big source of unpredictability at the moment. That is why we are working even harder to ensure our customers that HP ProLiant servers have the most innovative time-saving, cost-saving, and energy-efficient features for all of your critical needs. The HP ProLiant BL680c G5 server using the latest Intel Xeon s processor shows a 16.13% performance increase with a 2-tile advantage in a recent VMmark benchmark as shown in Figure 1.

Figure 1. VMmark results for Intel-based blade servers.



Test results as of 03-30-09.

Technology for better business outcomes.

The ProLiant Advantage

HP ProLiant BL680c G5 server blade

The HP ProLiant BL680c G5 server blade delivers no-compromise performance and expansion for a 4-core to 6-core 4P BladeSystem Server. With two or four Intel Xeon 7200, 7300 or 7400 series processors, support for 128GB of fully buffered memory, two hot-plug serial attached SCSI (SAS) or serial ATA (SATA) hard drives, four embedded Gigabit Ethernet adapters and three I/O expansion slots, the HP ProLiant BL680c G5 delivers the density you want with the performance you need to handle the most demanding enterprise class applications.

Designed to keep pace with strenuous computing demands, the latest HP ProLiant BL680c G5 server blade supports the Intel Xeon 7400 series featuring up to 6-cores, 2.40GHz speed, and 16MB L3 cache. Both 90W and low voltage 65W and 50W options are available. Optimized for virtualization, the HP ProLiant BL680c G5 blade maximizes the number and performance of VMs that you can deploy per blade – up to 120% performance increase with an eight tile advantage over other blade competitors on the VMmark benchmark!

More choices

The HP ProLiant BL680c provides an extensive list of Intel Xeon 7200, 7300, and 7400 processor offerings. Currently, neither IBM nor Dell offers Intel 7000 sequence blade servers. And, the ProLiant BL680c blade gives customers 225% and 63% more Intel 7000 sequence processor choices than the Sun Blade X8450 and X6450, respectively.[1]

What makes it work

For this benchmark, the system tested was the HP ProLiant BL680c G5 operating VMware's ESX 3.5.0 Update 3. The system contained four 2.6GHz 6-core Intel Xeon E7458 processors configured with 96GB (12 x 8GB) total memory. Storage was provided with 9 x HP StorageWorks MSA 2000 each with 12 x 15K rpm 146GB hard drives.

HP Thermal Logic Technology

HP offers HP Thermal Logic Technology, a portfolio of embedded technologies, for an energy-efficient data center to enable customers to:

- REDUCE total energy consumption.
- RECLAIM trapped data center or power and cooling resources without sacrificing performance with HP ProLiant servers using HP Dynamic Power Saving.
  - HP Dynamic Power Saving – Only HP can provide the opportunity with this unique technology solution to triple data center capacity
- EXTEND the life of the data center.

1 As of March 16, 2009 per ibm.com, dell.com, and sun.com

Dynamic Power Capping only from HP

Exclusively on ProLiant servers, customers enjoy HP Dynamic Power Capping that enables customers to limit the power consumption of the enclosure by setting an enclosure Dynamic Power Cap within the Onboard Administrator. This will optimize the performance of the servers while ensuring that the enclosure stays below the Dynamic Power Cap value. Individual server caps are set and managed by the Onboard Administrator, providing power to those servers that need it and lowering power for those that don't, but making sure the aggregate load stays below the enclosure cap.

HP proven performance

Proven performance is part of the reason that HP is a leader in server shipments. HP has posted hundreds of benchmark results on the most commonly used benchmarks on hundreds of ProLiant servers and blades, helping customer to identify reasons to be confident in HP.

Table 1. VMmark configuration for system results.

System Description	VMmark Version	Score	Publish Date
HP ProLiant BL680c G5 Intel Xeon E7458 processor, 6-core 2.6GHz, 16MB L3 cache 96GB (12 x 8GB) memory 4 sockets/24 total cores/24 total threads	VMmark v1.1 VMware ESX v3.5.0 Update 3	18.64 @ 14 tiles	03/30/09
HP ProLiant BL680c G5 Intel Xeon X7450 processor, 6-core 2.4GHz, 12MB L3 cache 128GB (16 x 8GB) memory 4 sockets/24 total cores/24 total threads	VMmark v1.1 VMware ESX v3.5.0 Update 2	16.05 @ 12 tiles	09/23/08

Test results as of 03-30-09. For more details, please visit: http://www.vmware.com/products/vmmark/results.html

For more information

- HP ProLiant BL680 G5 server blade: http://www.hp.com/servers/bl680c
- HP BladeSystem virtualization solutions : http://www.hp.com/go/bladesolutions/vmware
- HP virtualization with VMware: http://www.hp.com/go/vmware
  ProLiant server VMware support matrix: http://h71028.www7.hp.com/enterprise/cache/505363-0-0-0-121.html
- HP VMmark highlights: http://www.hp.com/go/vmware/vmmark
- HP BladeSystem benchmarks: http://h18004.www1.hp.com/products/blades/benchmarks/index.html
- HP VMware support & services: http://h18004.www1.hp.com/products/servers/vmware/services.html
- HP Virtual Connect Flex-10: http://www.hp.com/go/virtualconnect