



## HP ProLiant BL620c G7 Server Blade

Data sheet

**The HP ProLiant BL620c G7 Server Blade provides an ideal combination of extensive scalability, virtualization, and performance in an economical Intel® Xeon® multiprocessor server. Packed with advanced features, the BL620c G7 allows you to do more with a two-processor server than ever before.**

Redefining scalability in a two-processor (2P) architecture, the ProLiant BL620c G7 Server Blade provides a fully balanced server platform. Two models are now available, one optimized for the Intel Xeon processor E7-2800 product family (E7-2800 series) and the other optimized for the Intel Xeon 6500/7500 series. The servers support up to two top-performing Intel Xeon 130-watt processors and 32 DIMM slots for up to 1.0 TB (BL620c G7 E7-2800 models) and 512 MB (BL620c G7 6500/7500 models). The ProLiant BL620c G7 Server Blade also comes with two hot-plug drive bays plus four 10 Gb FlexFabric ports combined with the three mezzanine slots to yield an outstanding 96 Gb of I/O bandwidth. All these features work together to help you expand your business and improve performance significantly. The ProLiant BL620c G7 Server Blade is ideal for your virtualization and compute-intensive database workloads such as SAP, larger virtualization consolidation projects, and scale-up applications. It is also perfect for 2P applications requiring scalability, performance, and features greater than typical dual processor (DP) Intel Xeon 5500/5600 offerings.

### **Beyond the traditional dual core processor**

The ProLiant BL620c G7 Server Blade is a unique 2P blade that is fully balanced to ensure all subsystems are used effectively. Traditional multiprocessor (MP) server blades are typically unbalanced, providing processor performance and density at the expense of proportional memory capacity and bandwidth.

These unbalanced servers fail when faced with high-density virtualization applications and general data-intensive workloads.

Today, you have a better alternative. Unlike other traditional multiprocessor server blades, the ProLiant BL620c G7 Server Blade provides performance without compromising on proportional memory capacity and I/O bandwidth. Being one of the most robust 2P virtualization and scale-up servers, it is capable of handling x86 two-socket applications that require superior performance and scalability.



## Why RAS?

In a memory-intensive computing environment, RAS is paramount. Multiprocessor servers provide industry-leading RAS capabilities primarily in memory and chipset to protect data transfer points throughout the system. The Intel Xeon E7-2800 and 6500/7500 series architectures offer considerably more robust RAS features than Intel Xeon 5500/5600 dual processor technology.

## Key features and benefits

### Unmatched 2P scalability

Seamlessly scale up to 1.0 TB of registered DDR3 RAM to 1066 MHz in a 2S configuration with the ProLiant BL620c G7 Server Blade. By fully utilizing the design architecture of the Intel Xeon 7500 chipset, up to two top-performing 130-watt processors, you can now expand your business with confidence and also realize ultimate virtualization efficiency. The ProLiant BL620c G7 Server Blade provides:

- Up to two Intel Xeon E7-2800 or 6500/7500 processors, each up to 130 watts to deliver higher computing power for a 2S server blade.
- 32 DIMM slots for up to 1.0 TB of memory for high-threaded and memory-intensive applications and a variety of data-demanding workloads.
- Up to 133 VMs per server for large virtualization and consolidation projects.
- Two memory controllers, per each processor socket, connect to four Intel Scalable Memory Buffers for optimal memory capacity and bandwidth as well as overall improved system performance.
- 40 Gb of embedded FlexFabric ports and three I/O expansion slots bring the total I/O bandwidth to an outstanding 96 Gb.
- High-performance integrated Smart Array P410i Controller with RAID 0 and 1 with flash-backed write cache options up to 1 GB.
- Two hot-plug SAS/SATA/SSD drive bays supporting up to 2.0 TB of internal storage for versatile configuration and deployment options.

### Redefining server economics

The ProLiant BL620c G7 Server Blade is an industry-leading 2S, full-height blade server that offers excellent value for your money and superior performance in a high-density multiprocessor form factor. It provides:

- Up to 8x of memory capacity and enhanced performance compared to the competing 2P Intel Xeon server blades<sup>1</sup> with over twice the number of RAS features.<sup>2</sup>
- Up to 10x of memory capacity, 20x embedded Ethernet bandwidth, and 150 percent the onboard I/O slots than traditional 2P Intel Xeon 5500/5600 series processor server blades.<sup>3</sup>
- Up to 2 ten-core processors provide more performance as 4 four-core previous generation Intel Xeon 7400 series processors. This brings down the number of sockets by half—reducing licensing costs of software based on the number of sockets. In other words, the BL620c G7 server blade will give you a great price/performance ratio.
- 2S Intel Xeon E7-2800 and 6500 series processors offers the same performance as their matching more expensive E7-4800 and 7500 series counterparts, respectively.

### Advanced networking technology

With four embedded HP 10 Gb NC553i FlexFabric Converged Network Adapters (CNAs), the ProLiant BL620c G7 Server Blade delivers improved performance and cost savings of converged network connectivity. It helps to:

- Sustain sufficient bandwidth for network-intensive applications
- Streamline, simplify, and increase network and storage traffic with Fibre Channel over Ethernet (FCoE), hardware-based iSCSI acceleration, and stateless TCP/IP offloading
- Integrate FCoE and hardware-based iSCSI with iSCSI boot simplify management and lower infrastructure costs by converging LAN and SAN traffic over the same flexible connection
- Connect to network and storage, with up to 16 connections, without the need for add-in mezzanine cards
- Divide and fine-tune network and storage bandwidth to match application requirements

## HP Services

HP Technology Services has a robust portfolio of packaged lifecycle support solutions that enable you to optimize ProLiant support for better business outcome.

**Optimized Care:** Delivers optimum performance and continuous availability of crucial ProLiant systems through deployments and proactive management practices.

- HP Installation and Startup for HP BladeSystem c-Class Infrastructure plus HP Enhanced Network
- 3-Year HP Critical Advantage

**Standard Care:** Maintains high level of server availability along with expert help to cut the cost and complexity of implementing and supporting ProLiant servers.

- HP Installation and Startup for HP BladeSystem c-Class Infrastructure plus HP Enhanced Network
- 3-Year HP 6-hour Call-to-Repair Hardware Support
- 3-Year HP 24x7 Software Support for Insight Control

**Basic Care:** Delivers minimum recommended support service level with expert advice, implementation, and support.

- HP Installation and Startup for HP BladeSystem c-Class Infrastructure
- 3-Year HP 24x7 4-hour Response, Hardware Support
- 3-Year HP 24x7 Software Support for Insight Control

All come with Insight Remote Support, available at no additional cost, delivering remote monitoring, diagnosis, and problem resolution.

Only HP brings together deep expertise, proactive and business critical support, and a strong partner network.

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

<sup>1</sup> Compared to competitive Intel Xeon 6500/7500 Server Blades that support a maximum of 128 GB of memory in a single-wide, full-height form factor.

<sup>2</sup> Compared to the HP ProLiant BL680c G5 Server Blade.

<sup>3</sup> Based on dual-processor servers with 96 Gb of memory, two embedded 1 Gb Ethernet adapters, and two I/O slots.

## HP ProLiant BL620c G7 Server Blade

Processor	
Number of processors	• One or two, up to 130 watts each
Maximum number of cores	• Up to ten per processor
Processors supported	• Intel Xeon E7-2800 and 6500/7500 series
Low-wattage processors	• Intel Xeon E7-8867L and L7555
Cache	• Up to 30 MB L3 per processor
Processor speed	• Up to 2.26 GHz
Memory	
Memory type	• DDR3 Registered DIMM (RDIMM)
Memory slots	• 64 DDR3 RDIMM slots
Low voltage DIMM support	• 8 GB, 16 GB, and 32 GB (BL620c G7 Intel Xeon E7-2800 series models)
Standard memory	• 8 GB (2 x 4 GB DIMMs) (BL620c G7 Intel Xeon E7-2800 series preconfigured models) • 32 GB (4 x 8 GB DIMMs) (BL620c G7 Intel Xeon 6500 series preconfigured models)
Maximum memory	• 1.0 TB (32 x 32 GB DIMMs) (BL620c G7 Intel Xeon E7-2800 series models) • 0.5 TB (32 x 16 GB DIMMs) (BL620c G7 Intel Xeon 6500/7500 series models)
Advanced memory protection	<ul style="list-style-type: none"> <li>• HP Memory Quarantine (i.e. Intel MCA Recovery)*</li> <li>• Double Device Data Correction (DDDC)* (BL620c G7 Intel Xeon E7-2800 series preconfigured models)</li> <li>• Advanced ECC/Chip Spare/SDDC</li> <li>• Intel SMI clock failover</li> <li>• Intel SMI packet retry</li> <li>• Demand scrubbing</li> <li>• Intra-socket memory mirroring</li> <li>• Memory failover</li> <li>• Rank Sparring (Online Spare)</li> <li>• Failed DIMM isolation</li> <li>• Data bus ECC protection</li> <li>• DIMM Address/Control Bus Parity Protection</li> </ul>
Networking and I/O	
Integrated network adapter	• Four HP embedded 10 Gb NC553i FlexFabric Converged Network Adapter ports
I/O expansion slots	• Three PCIe Gen2
Standard/maximum I/O bandwidth	• 40 Gb/96 Gb
Networking options	• Multiple, redundant port 10 Gb FlexFabric, 10GbE Flex-10, 10 Gb and 1 Gb Ethernet, and QDR (40 Gb) InfiniBand
Storage	
Storage type	• Hot-plug SFF SAS • Hot-plug SFF SATA • Hot-plug SFF SSD
Maximum internal storage	• Two hot-plug SAS/SATA/SSD bays supporting up to 2.0 TB
Integrated storage controller	• 6 Gb Smart Array P410i Controller with RAID 0 and 1 with optional FBWC options to 1 GB
Storage options	<ul style="list-style-type: none"> <li>• 4 Gb and 8 Gb Fibre Channel mezzanine adapters (Brocade, Emulex, and QLogic options)</li> <li>• StorageWorks Controller mezzanines options with BBWC or FBWC to 1 GB for connection to external direct-attached or shared storage</li> <li>• I/O accelerator cards for high-performance I/O</li> <li>• HP StorageWorks Ultrium Tape Blades for an integrated direct-attached data protection solution</li> <li>• Optional HP StorageWorks Ultrium Tape Blades</li> <li>• Optional D2200sb PCIe Storage Blades for direct-attached and shared storage within the c-Class enclosures</li> <li>• Compatible with HP StorageWorks MSA, EVA, and XPHP, and select third-party SANs</li> </ul>
Flash media	• Internal USB 2.0 port • Internal MicroSDHC slot
Deployment	
Form factor	• Full-height, single, wide server blade • Eight server blades per c7000 10U enclosure • Four server blades per c3000 6U enclosure
System management	<ul style="list-style-type: none"> <li>• HP Integrated Lights-Out 3</li> <li>• HP Insight Foundation</li> <li>• BladeSystem enclosure Onboard Administrator (OA) with KVM (optional redundant OA)</li> <li>• HP Insight Control (optional)</li> <li>• HP Insight Dynamics for ProLiant (optional)</li> </ul>

\* This is a "ready" feature meaning the hardware is capable of supporting the feature with only a future planned software upgrade.

Other	
<b>Power and fans</b>	<ul style="list-style-type: none"> <li>• True N+N redundant hot-plug, high-efficiency, enclosure-based power supplies</li> <li>• Redundant hot-plug HP Active Cool fans</li> <li>• HP Thermal Logic Technology/Sea of Sensors</li> <li>• HP Dynamic Power Saver Mode</li> <li>• HP Power Regulator</li> <li>• Parallel Redundant Scalable Enclosure Cooling (PARSEC) design</li> <li>• Power workload balancing</li> </ul>
<b>RAS</b>	<ul style="list-style-type: none"> <li>• Nearly forty (40) system-wide reliability, availability, and serviceability features</li> </ul>
<b>Security</b>	<ul style="list-style-type: none"> <li>• Intel Trusted Execution Environment (TXT)* (BL620c G7 Intel Xeon E7-2800 series preconfigured models)</li> <li>• Trusted Platform Module 1.2 option</li> <li>• Intel AES-NI (BL620c G7 E7-2800 series models)</li> <li>• Power-on password</li> <li>• Administrator password</li> <li>• iLO 3 with 12 customizable user accounts</li> <li>• SSL encryption SSH v2</li> <li>• AES and Triple Data Encryption Standard on browser</li> <li>• CLP and XML scripting interface</li> </ul>
<b>Warranty</b>	<ul style="list-style-type: none"> <li>• 3-year parts/3-year labor/3-year onsite</li> </ul>

For additional technical specifications, please visit: [http://h18000.www1.hp.com/products/quickspecs/13747\\_div/13747\\_div.pdf](http://h18000.www1.hp.com/products/quickspecs/13747_div/13747_div.pdf)

\* This is a "ready" feature meaning the hardware is capable of supporting the feature with only a future planned software upgrade.

## Why choose the ProLiant BL620c G7 Server Blade?

The expansion needs of your business will determine your server choice. It is recommended that you consider what you need in order to:

- Increase the scalability performance of your compute-intensive workloads
- Realize your virtualization roadmap
- Get the right price/performance ratio
- Enable efficient remote manageability

The ProLiant BL620c G7 Server Blade can help you achieve all of these goals. With advanced features and extensive scalability in a two-socket server blade, it is an appropriate choice for organizations looking to make the most of their investment.

The HP iLO 3 is a standard component of the ProLiant BL620c G7 Server Blade that facilitates remote server manageability. It includes an intelligent microprocessor, secure memory, and a dedicated network interface. In addition to providing world-class remote management functionality, iLO 3 is also responsible for managing the health of your server. For more information about HP iLO 3 for ProLiant servers, visit [www.hp.com/go/insightcontrol](http://www.hp.com/go/insightcontrol)

## HP Financial Services

HP Financial Services provides innovative financing and financial asset management programs to help you cost-effectively acquire, manage, and ultimately retire your HP solutions. For more information, contact your local HP representative or visit:

[www.hp.com/go/hpfinancialservices](http://www.hp.com/go/hpfinancialservices)

The HP ProLiant BL620c G7 Server Blade can help you expand business with ease as it offers you unmatched scalability and reliability. To learn how industry-leading blade servers can redefine your server economics and enhance performance, visit [www.hp.com/servers/bl620c-g7](http://www.hp.com/servers/bl620c-g7)



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