HP ProLiant BL620c G7 Server Blade

Data sheet

The HP ProLiant BL620c G7 Server Blade provides an ideal combination of scalability, virtualization, and performance in an economical Intel® Xeon® multiprocessor server. Packed with advanced features, this two-processor server blade is the latest entrant into the HP ProLiant family, which is known for redefining server economics.

Redefining scalability in a two-processor (2P) architecture, the BL620c G7 server blade provides a fully balanced server platform that supports the top-performing Intel Xeon 6500/7500 Series processors, a half terabyte of memory, integrated HP 10 Gb FlexFabric adapters, and hot-plug internal storage—helping you expand your business and improve performance significantly. All these features are ideal for your virtualization and compute-intensive database workloads such as SAP, larger virtualization consolidation projects, and scale-up applications.

Now with superior technology, provided in a single-wide server blade, the BL620c G7 comes with 32 DIMM slots, supporting a half terabyte of memory, four integrated HP 10 Gb FlexFabric adapters, two hot-plug drives bays with up to 1.2 TB of internal storage, and three mezzanine expansion slots for 96 Gb of total I/O bandwidth. It also includes an integrated 6 Gb P410i Smart Array Controller with advanced cache

back-up options, HP Integrated Lights-Out 3 (iLO 3) remote management software, and an extensive list of system-wide reliability, availability, and serviceability (RAS) features. Additionally, it gives you a competitive advantage by offering 4x greater memory capacity—helping you do more with virtualization and other memory-demanding applications.[1]

Designed for a balanced architecture, the BL620c G7 comes with 2 two-socket (2S) Intel Xeon 6500 or 7500 series processors, which allow all subsystems of your server to be used effectively with a broad range of enterprise applications and workloads—making it an extremely unique and economical 2P multiprocessor server blade.

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[1] 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.

Beyond the traditional dual core processor

The BL620c G7 is a multiprocessor (MP) server blade, which is a better alternative for 2P applications requiring high performance, I/O bandwidth, and features greater than traditional dual processor (DP) offerings. An MP server often gives you considerably more than a typical DP—making the BL620c G7 server blade ideal for applications that require higher performance features and scalability. The BL620c G7 is an ideal choice for virtualization, supporting up to 133 virtual machines (VMs), which in turn is up to four times the number when compared to competitive Intel Xeon 6500/7500 2S server blades.[2]

Reinvent high-performance computing

With powerful MPs and a half terabyte of memory, you can defy the barriers of server consolidation and get superior compute power for your compute-intensive database and higher-density virtualization applications. Transform your IT infrastructure by implementing the new class of balanced and scale-up servers—such as the BL620c G7—which offers the reliability and performance you need to handle demanding workloads.

Key features and benefits

Unmatched 2P scalability

Seamlessly scale up to 512 GB of registered DDR3 RAM to 1066 MHZ in a 2S configuration with the BL620c G7. 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 BL620c G7 server blade provides:

- Two Intel Xeon 6500/7500 processors of up to 130 watts each deliver higher computing power for a 2S server blade.
- 32 DIMM slots for up to 512 MB 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.
- Per each processor socket, two memory controllers connect to four Intel Scalable Memory Buffers for improved memory capacity and bandwidth as well as overall 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 0/1 and flash-backed and battery-backed write cache options up to 1 GB.
- Up to two hot-plug small form factor (SFF) SAS, SATA, or SSD drives with up to 1.2 TB of internal storage for versatile configuration and deployment options.

Redefining server economics

The 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 4x of memory capacity and enhanced performance compared to the competing 2P Intel Xeon 6500/7500 server blades[3] with twice the number of RAS features.[4]
- Up to 5x of memory capacity, 20x embedded Ethernet bandwidth, and 50 percent more onboard I/O slots than traditional 2P Intel Xeon 5500 and 5600 Series processor blade servers available today.[5]
- 2 eight-core processors provide up to the same performance as 4 four-core 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 6500 Series processors for performance matching their more expensive 7500 series counterparts.

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 6500/7500 Series architecture offer more robust RAS features than Intel Xeon 5500/5600 dual processor technology.

Advanced networking technology

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

- 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
- Reduce infrastructure costs and simplify management by converging LAN and SAN traffic over the same flexible connection
- Provide up to 16 connections to network and storage without the need for add-in mezzanine cards
- Divide and fine-tune network and storage bandwidth to match application requirements

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[2] Based on competitive 2S Intel Xeon 6500/7500 server blades that support no more than 20 Gb of total I/O bandwidth and 128 GB of memory.

[3] 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.

[4] Compared to the HP ProLiant BL680c G5 Server Blade.

[5] 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	1 or 2 (up to 130 watts each)
Maximum number of cores	Up to 8 per processor
Processors supported	Intel Xeon 6500 Series Intel Xeon 7500 Series
Cache	Up to 24 MB L3 per processor
Low-wattage processor offerings	Intel Xeon L7555
Processor speed	Up to 2.26 GHz

Memory	
Memory type	DDR3 Registered DIMM (RDIMM) to 1066 MHz
Standard memory	8 GB (2 x 4 GB DIMMs) (with preconfigured models only)
Maximum memory	512 MB (32 x 16 GB DIMMs)
Advanced memory protection	Advanced ECC/Chip Spare/SDDC Intel SMI Clock Fail Over Intel SMI Packet Retry Demand Scrubbing Patrol Scrubbing Intra-socket Memory Mirroring Memory Failover Rank Sparring (Online spare) Failed DIMM Isolation Data Bus ECC protection DIMM Address/Control Bus Parity Protection
Memory slots	32 DIMMs

Networking and I/O	
Network adapter	4 HP embedded 10 Gb NC553i FlexFabric CNAs
I/O expansion slots	3 PCIe Gen2
Standard/maximum I/O bandwidth	40 Gb/96 Gb
Networking and I/O options	Multiple, redundant port 10 Gb FlexFabric,10 GbE Flex-10, 10 Gb, 1 Gb Ethernet, and QDR (40 Gb) InfiniBand HP BladeSystem PCI Expansion Blade allowing off-the-shelf PCI-X or PCIe cards

Storage	
Storage type	Hot-plug SFF SAS Hot-plug SFF SATA Hot-plug SFF SSD
Maximum internal storage	2 hot-plug SAS/SATA/SSD bays supporting up to 1.2 TB of internal storage
Storage controller	Integrated 6 Gb Smart Array P410i Controller with RAID 0 and 1; optional BBWC and FBWC options up to 1 GB
Storage options	4 Gb and 8 Gb Fibre Channel mezzanine adapters (Brocade, Emulex, and QLogic options) StorageWorks P700m Controller with 512 MB cache and optional BBWC for connection to external directed attached or shared storage I/O accelerator cards for high-performance I/O HP StorageWorks Ultrium Tape Blades for an integrated direct attached data protection solution

Deployment	
Form factor	Full-height, single-wide server blade 8 server blades per 10U enclosure 4 server blades per 6U enclosure
System management	HP Integrated Lights-Out 3 (iLO 3) HP Insight Foundation BladeSystem enclosure Onboard Administrator with KVM Internal USB 2.0 port Internal microSDHC slot for future use

Other	
Power supply and fans	Redundant hot-plug high efficiency enclosure-based power supplies Redundant hot-plug Active Cool fans HP Thermal Logic Technology HP Dynamic Power Saver
Warranty	3-year parts/3-year labor/3-year onsite

For additional technical specifications, please visit: **http://h18000.www1.hp.com/products/quickspecs/13747_div/13747_div.pdf**

Why choose the 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:

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

The BL620c G7 server blade can help you achieve all of these goals. With advanced server features, 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 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**

HP Services

When technology works, business works

The challenge of virtually every IT organization is similar: to develop and maintain an agile, efficient server infrastructure that delivers the service levels your business needs.

Recommended services

3-year HP Hardware Support Onsite Call-to-Repair (CTR) Service—6- or 24-hour: Provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 or 24 hours of the initial service request to the HP Global Solution Center.

3-year HP Support Plus Service: For a higher return on your server and storage technology, our 3-year combined reactive support service delivers integrated onsite hardware/software support services available 24x7x365, including access to HP technical resources, 4-hour response onsite hardware support, and software updates.

HP ProLiant Server Hardware Installation: HP Installation Service provides for the basic installation of HP branded servers, storage devices, and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

Related services

3-year HP Proactive 24: Provides improved stability, availability, and operational effectiveness with an integrated hardware and software support service that combines industry-leading reactive technical assistance for proactive account services—giving your IT infrastructure the support from a team of service specialists.

3-year HP Hardware Support Onsite Service, 4-hour response, (24x7): Provides you with an HP authorized representative who will arrive at the customer site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

For more information, contact your HP sales representative or HP-authorized Channel Partner or, visit: **www.hp.com/hps**

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

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

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