

# HP ProLiant BL680c Generation 5 Server Blade

Data sheet



The all new HP ProLiant BL680c Generation 5 Server Blade offers outstanding 4P processing power and expansion capabilities, enterprise-class availability features, and industry-leading management tools that make it easy to deploy and maintain.



Buying a server blade can be frustrating. How do you choose between more power or more expansion? Is memory more important than I/O? What about hot plug drives? A lot of other blade designs cut features to try and save space or power. They demand compromises you just don't want to make.

We don't believe you should compromise the trusted technologies you rely on today just to gain the advantages of blades. With HP BladeSystem, you can run the same applications and operating systems you want today and tomorrow, connect with everything in your environment and never sacrifice on performance, reliability or efficiency.

Our server and storage blades match our traditional rack/tower servers feature for feature. You can build and configure each one to order exactly what you need; all together in one architecture. Our choices are built for virtualization from the start—with proven performance and reliability for your virtual machines.

The all new HP ProLiant BL680c Generation 5 (G5) Server Blade offers outstanding 4P processing power and expansion capabilities, enterprise-class availability features, and industry-leading management tools that make it easy to deploy and maintain. Designed to keep pace with enterprise-tough computing demands, the BL680c G5 is ideal for hosting large database applications and many virtual machines. It delivers no-compromise performance and expansion in the densest 4P server blade form-factor available.

## Key features and benefits

### **No-compromise performance and expansion**

With quad-core processors, extensive memory capacity and best-in-class networking, the ProLiant BL680c G5 delivers exceptional technical performance.

### Performance

- Up to four quad-core Intel® Xeon® 7300 sequence processors
- Up to 64 GB fully buffered DDR2 memory via 16 PC2-5300 fully buffered DIMM slots
- Embedded HP Smart Array P400i controller with optional battery-backed write cache

The all new HP ProLiant BL680c Server Blade delivers no-compromise performance and expansion in the first quad-core 4P BladeSystem server.

### Expansion

- With up to two SAS or SATA drives and a Smart Array RAID controller, you get quicker access to data and increased storage bandwidth for cutting edge storage performance. Multiple drive technologies provide unique price/performance configuration options.
- Four embedded Gigabit Ethernet NICs (two are multi-function Gigabit NICs with TCP/IP offload engine (TOE) and RDMA/iSCSI) enable you to save mezzanine slots, optimize server performance, improve network communications and increase your flexibility.
- Three mezzanine expansion slots support a wide variety of I/O mezzanine cards simultaneously to give you the flexibility you need to support external connectivity with multiple paths of redundancy if needed.

### Design and availability

The BL680c G5 has proven ProLiant design and availability features you can depend on, utilizing the same drives, memory and RAID controllers as traditional ProLiant servers. Plus, you gain the additional benefits of HP BladeSystem like cable reduction, greater density and lower power and cooling costs. You can also choose the drives you want for the greatest availability: battery-backed write cache option for fault tolerance and multifunction Gigabit NICs, standard Gigabit NICs, 4Gb Fibre Channel interconnects and InfiniBand switches.

### Industry-leading management and configuration tools

The BL680c G5 has excellent remote administration, superb lifecycle management and outstanding resource utilization. Our tools centralize and simplify management functions to help you conserve valuable IT resources and time.

- **Integrated Lights-Out 2 (iLO 2) Standard Blade Edition**, which comes standard with the BL680c G5, delivers industry-leading, high-performance, out-of-band remote management solutions.
- **Thermal Logic** technology displays an instant thermal dashboard for system diagnostics and power and cooling control.
- **Insight Control Data Center Edition** simplifies the provisioning and management of BladeSystem infrastructures (available as a free evaluation and/or full purchase).
- **HP Power Regulator** included in the blade ROM, provides smart power and thermal management along with industry-exclusive power meter reporting capability to log actual power usage.
- **Customers can upgrade to Integrated Lights-Out Select Pack**, which offers Power Regulator reporting, command line and scripted multi-server virtual media, and enterprise security, including directory services and two-factor authentication.

### Power that equals your demands

Designed to keep pace with enterprise-tough computing demands, the ProLiant BL680c G5 comes with outstanding 4P processing power and expansion capabilities, enterprise-class availability features, and industry-leading management tools that make it easy to deploy and maintain.

Problem	Traditional rack servers	HP ProLiant BL680c G5
<b>Cost</b>	High cost to buy, even higher costs to run and maintain	Industry-leading price/performance-per-watt
<b>Time</b>	Low productivity and slow reaction to new opportunities	Little network downtime with optional battery-backed write cache
<b>Change</b>	Inflexible and hard-wired with complex processes	Remote manageability lets you respond quickly to server issues
<b>Energy</b>	Inefficient, power-hungry systems increase electricity costs	Thermal Logic dashboard controls power and cooling

## HP ProLiant BL680c Generation 5 Server Blade



<b>Number of processors</b>	2–4
<b>Maximum number of cores</b>	16
<b>Processors supported</b>	Dual-Core Intel Xeon processor: E7220: 2.93 GHz, 2x4M 80W  Quad-Core Intel Xeon processors: E7340: 2.40 GHz, 2x4M 80W E7330: 2.40 GHz, 2x3M 80W E7320: 2.13 GHz, 2x2M 80W E7310: 1.60 GHz, 2x2M 80W QC 2P kit L7345: 1.86 GHz, 2x4M 50W* (low voltage)
<b>Processor cache</b>	Up to 8 MB L2 cache (2 x 4 MB)
<b>Maximum memory</b>	64 GB
<b>Expansion slots</b>	Up to 3 mezzanine choices: multifunction NICs or standard NICs, 4Gb Fibre Channel and IB; 10 GbE will be available in the future
<b>Drives supported</b>	Up to 2: Hot plug small form factor SAS 10K 36/72/146 GB Hot plug small form factor SAS 15K 36/72/146 GB Hot plug small form factor SATA 5.4K 60/120 GB
<b>Maximum internal storage</b>	292 GB
<b>Drive controller</b>	Smart Array P400i controller
<b>NICs</b>	4 integrated NICs (2 multifunction and 2 gigabit)
<b>Power</b>	Enclosure-based power
<b>Form factor</b>	10U enclosure (8 server blades per enclosure)
<b>Warranty (parts/labor/on-site)</b>	3-year/3-year/3-year

\* Factory-integrated only

For additional technical specifications, please visit the ProLiant BL680c QuickSpecs at [http://h18000.www1.hp.com/products/quickspecs/12773\\_div/12773\\_div.PDF](http://h18000.www1.hp.com/products/quickspecs/12773_div/12773_div.PDF).

### Why HP over other blade choices?

#### Our unique innovations solve your biggest challenges.

HP has the good stuff built in from the start. We combined the best technology from across HP to make our blades easy to use and useful to you.

- **Thermal Logic technologies:** Smart technology saves you energy every second and lightens the load on your air conditioners, saving 30 percent in power.<sup>1</sup>
- **Virtual Connect architecture:** Wire once, then add, replace or recover blades on the fly, without impacting networks and storage or creating extra steps.
- **Insight Control management:** Simple, single package provide all the tools to streamline operations and increase administrator productivity up to tenfold.
- **NonStop midplane:** The same million-dollar reliability that helps run Wall Street is built in to keep your business up and running.
- **Onboard Administrator:** Wizards get you up and running fast, paired with useful tools to simplify daily tasks, warn of potential issues and assist you with repairs.

#### No-compromise compatibility

Share the same components with other HP BladeSystem devices to make it fast and easy to create, customize and grow.

- **Run your same business applications** with industry standards to support your operating systems and thousands of application choices.
- **Trust the same server and storage blades.** ProLiant, BladeSystem, Integrity, StorageWorks and more can be mixed and matched in a single box.
- **Connect to your same networks.** Use the latest Ethernet, Fibre Channel and InfiniBand standards and trusted brands.
- **Get more blades with more capability.** HP BladeSystem enclosures get more—two to four times more—features into each server blade.

<sup>1</sup>Sine Nomine Associates, "A Comparison of HP BladeSystem with Thermal Logic Technologies to Competitive Systems," February 2007.

## HP Services

HP Care Pack services for BladeSystem are easy-to-buy, useful packaged services that extend and enhance the warranty coverage on your HP BladeSystem solution.

To help deliver speedy project implementation, fast problem resolution and ongoing system performance optimization, we developed a portfolio of HP Care Pack services to support the full lifecycle of your BladeSystem solution. Service options include:

- **VMware Capacity Planning Assessment service**—supports migration planning and provides assessment of your current IT infrastructure.
- **HP Thermal Quick Assessment for HP BladeSystem Environments**—leverages sophisticated modeling tools and techniques to determine the unique thermal conditions within your data center to help optimize your BladeSystem environment.
- **Installation and Startup for HP BladeSystem Infrastructure service**—helps get your BladeSystem up and running with less disruption to your IT operations.
- **Enhanced Network Installation and Startup service**—verifies correct implementation of network protocols and provides access to advanced features that can enhance the performance, scalability and reliability of your network.
- **BladeSystem hardware support services**—provide fast, reliable problem resolution and are available for the enclosure, ProLiant BL server blade, BladeSystem SAN switches and StorageWorks tape blades.
- **Proactive BladeSystem service**—delivers the reliability and operational efficiency your business needs to simplify management and enhance performance.

Experienced HP Services professionals work with you to:

- Align the performance, reliability and asset utilization of your HP blade technology with your IT operational objectives
- Simplify IT operational procedures by leveraging HP best practices
- Enable cost-effective management of your HP blade solution with ongoing advice from HP technical experts
- Improve your IT staff skills through targeted HP technical or training services

Service coverage spans all of your BladeSystem equipment including enclosures, power supplies, server blades (ProLiant and Integrity), storage blades, and blade SAN and network switches.

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

## The smartest way to invest in IT

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 on these services, contact your HP sales representative or visit [www.hp.com/go/hpfinancialservices](http://www.hp.com/go/hpfinancialservices).

## For more information

For more information about the HP ProLiant BL680c G5 Server Blade, please contact your local HP representative, or visit [www.hp.com/servers/bl680c](http://www.hp.com/servers/bl680c).

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To learn more, visit [www.hp.com/servers/bl680c](http://www.hp.com/servers/bl680c)

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