



# HP ProLiant BL465c Gen8 Server

**Intuitive** technology, **intuitive** data centers.



Unique blend of core density and a broad memory footprint in a half-height form factor—delivering price and performance leadership for virtualized and high-performance computing environments

## Can server intelligence go beyond just a possibility?

The data center, as we knew it, has evolved. IT organizations today grapple with data explosion while facing constant pressure to be more efficient, cost-effective, and productive. Add to this the stress of IT sprawl, network bottlenecks, and the possibility of downtime that could lead to increased expenses in more ways than one, and you have one very complex IT situation at hand.

Data center management is much simpler when you have a conducive environment that intuitively knows how to make intelligent choices—one that allows you to focus more on your business and less on resolving IT problems, one that is designed to anticipate your evolving needs, and one that assists you in eliminating common issues that result in downtime. The ProLiant BL465c Gen8 Server, designed for midmarket and enterprise IT environments, can help you do all of this and more.

The ProLiant BL465c Gen8 Server supports the HP Integrated Lights-Out (iLO) Management Engine, with a complete set of embedded management features throughout the lifecycle of the server—from initial deployment, through ongoing management, including service alerting and remote support. HP iLO includes HP Intelligent Provisioning, HP Agentless Management, HP Active Health System, and HP Insight Remote Support.

An intelligent server environment can meet the needs of your growing business, while enhancing the performance of your applications and improving the computing power of your business.

The ProLiant BL465c Gen8 Server supports:

- HP SmartMemory, with built-in intelligence that improves performance while reducing downtime and energy costs, which offers:
  - 25 percent higher bandwidth with up to 20 percent less power without impacting performance<sup>1</sup>

- Advanced memory-error detection to reduce unplanned downtime
- Future enhanced support through HP Active Health System
- The HP Smart Array P220i Controller that provides:
  - Integrated 6G SAS controller with RAID 0 and 1
  - 512 MB flash-backed write cache (FBWC)
  - Performance improvement over the G7 Smart Array P410i Controller
- The HP SmartDrive hot-plug drive carrier that enables:
  - Improved drive-status indication with intuitive icon-based display
  - Reduced data loss and improved serviceability with the “do not remove LED” feature
- HP I/O mezzanine expansion slots that deliver:
  - Increased bandwidth with up to 200 percent bandwidth per slot<sup>1</sup>
  - Future-proof technology for today and tomorrow
- The iLO management engine, with core lifecycle management functions for instant availability, that offers:
  - HP Intelligent Provisioning for “ready to deploy and update” convenience without the need for HP discs or downloads
  - HP Agentless Management for base hardware health monitoring and alerting without OS agents
  - HP Active Health System for continuously running diagnostics to lower downtime
  - HP Insight Remote Support for rapid phone-home support setup and configuration

<sup>1</sup> Source: “HP Proprietary Software Test,” HP, September 2011

## HP ProLiant Gen8 and Gen7 server comparison

	BL465c Gen8 Built on HP ProActive Insight Architecture	BL 465c Gen7
<b>Compute</b>	AMD Opteron 6200 Series, 4/8/12/16 cores PCIe Gen2	AMD Opteron 6100 or 6200 Series, 4/8/12/16 cores PCIe Gen2
<b>Memory</b>	(16) DDR3, up to 1600 MHz (512 GB max)	(16) DDR3, up to 1600 MHz (512 GB max)
<b>HP SmartMemory</b>	√	×
<b>Storage</b>	HP Smart Array P220i Controller with 512MB FBWC	HP Smart Array P410i Controller
<b>HP SmartDrive Carrier</b>	√	×
<b>FBWC</b>	√	×
<b>Networking</b>	2x10GbE Flex-10/FlexFabric, (4x1GbE, and 2x10GbE)	2x10GbE FlexFabric
<b>HP Flexible Lan-On-Motherboard (FlexibleLOM)</b>	√	×
<b>HP FlexFabric</b>	√	×
<b>Embedded management</b>	iLO 4	iLO 3
<b>HP Intelligent Provisioning</b>	√	×
<b>HP Active Health System</b>	√	×
<b>HP Agentless Management</b>	√	×
<b>Cloud-based management</b>	HP Insight Management 7	HP Insight Management 6
<b>HP Insight Control (agentless)</b>	√	×
<b>HP Insight Online</b>	√	×
<b>Power and cooling</b>	Enclosure based (94 percent platinum)	Enclosure based
<b>HP 3D Sea of Sensors</b>	√	×

## Key features and benefits

Features	Benefits
<b>New FlexibleLOM options</b>	Offering a flexible, cost-efficient, future-proof choice of 2x10GbE NIC adapters
<b>HP SmartStorage solution</b>	Up to 3X more performance <sup>2</sup> through new SmartDrives and Smart Array controllers
<b>Next-generation iLO Management Engine and cloud-enabled Insight Management</b>	Fourth generation of iLO manageability
<b>HP Active Health</b>	Always-on diagnostics, enabling faster diagnosis of root cause

## Redefine your server experience

- Anticipate server needs with user-inspired features, such as HP SmartDrive that addresses common issues resulting in downtime
- Utilize embedded provisioning tools, Active Health monitoring, and other system maintenance capabilities built using the industry-leading iLO management engine.
- Enable smarter data protection with dynamic workload acceleration for ever-increasing drive capacities, real-time workload-aware analysis to enhance and adapt to storage performance, and 6X faster solid-state performance vs. the previous generation<sup>2</sup>
- Improve visibility and control over the energy efficiency of your data center with automated energy optimization
- Identify server location and inventory through Insight Control for enhanced workload efficiency across your entire data center

## Do away with tedious, time-consuming tasks

- Draws on products like HP SmartStart, HP Smart Update Manager, and HP Care Pack Services for ProLiant as part of HP Intelligent Provisioning and places them where you can use them instantly—on the system board
- Enables agentless hardware monitoring and alerting capabilities that are built into the server with HP Agentless Management; starts working the moment that a power cord and an Ethernet cable are connected to the enclosure
- Provides 24x7 continuous health monitoring with the Active Health System, 100 percent configuration change logging, and faster problem analysis with HP Support Center; it starts problem analysis 5X faster using unified diagnostic tools with secure data transfer to the Support Center<sup>2</sup>

<sup>2</sup> Source: HP lab testing, 2012.

## Improve application, storage, and I/O performance

- Delivers superior performance, quality, and manageability advantages with HP SmartMemory; Supports RDIMM and LRDIMM with up to 512 GB capacity
- Enables quick visibility to issues or blades that need to be located and serviced with the health status LED on the server blade and the location LED on HP SmartDrives
- Supports HP SmartStorage and HP SmartDrives with HP Smart Array P220i RAID Controller with 512 MB FBWC; provides choice of two 2.5-inch small form factor (SFF), serial attached SCSI (SAS), serial ATA (SATA), solid-state drives (SSD).

- Enhances I/O bandwidth improvements of up to 200 percent in comparison to ProLiant BL465c G7 Server,<sup>2</sup> with the server's 1x8 and 1x16 PCIe 2.0 I/O expansion slots supporting high-performing mezzanine option cards
- Provides the ability to customize server networking today with the ability to meet future needs without overhauling server hardware with HP FlexibleLOM
- Provides choice of bandwidth and fabric (Ethernet, FCoE, and InfiniBand), supports Wake on LAN, and provides a shared iLO port for ease of use
- Improves access to mezzanine cards, and enables quicker removal and easy access to the new FlexibleLOM card; the FlexibleLOM has been designed with easy lift and remove handles

<sup>2</sup> Source: HP lab testing, 2012.

Entry models	Base models	Performance models
<ul style="list-style-type: none"> <li>• 1 AMD Opteron 6238 processor</li> <li>• 16 GB DDR3 RDIMM Memory</li> <li>• 1 FlexibleLOM: 2x10GbE FlexFabric</li> <li>• 2 PCIe (1x8; 1x16) advanced mezzanine slots</li> <li>• 2 SFF hot-plug drive bays</li> <li>• Smart Array P220i Controller with 512 MB FBWC</li> <li>• iLO 4 (embedded)</li> </ul>	<ul style="list-style-type: none"> <li>• 1 AMD Opteron 6272 processor</li> <li>• 16 GB DDR3 RDIMM memory</li> <li>• 1 FlexibleLOM: 2x10GbE FlexFabric</li> <li>• 2 PCIe (1x8; 1x16) advanced mezzanine slots</li> <li>• 2 SFF hot-plug drive bays</li> <li>• Smart Array P220i Controller with 512 MB FBWC</li> <li>• iLO 4 (embedded)</li> </ul>	<ul style="list-style-type: none"> <li>• 1 AMD Opteron 6276 processor</li> <li>• 16 GB DDR3 RDIMM memory</li> <li>• 1 FlexibleLOM: 2x10GbE FlexFabric</li> <li>• 2 PCIe (1x8; 1x16) advanced mezzanine slots</li> <li>• 2 SFF hot-plug drive bays</li> <li>• Smart Array P220i Controller with 512 MB FBWC</li> <li>• iLO 4 (embedded)</li> </ul>

## Technical specifications

<b>Processor</b>	<p><b>16-core processors</b></p> <p>AMD Opteron 6278 (2.4 GHz/16-core/16 MB/115 W) processor            AMD Opteron 6276 (2.3 GHz/16-core/16 MB/115 W) processor            AMD Opteron 6274 (2.2 GHz/16-core/16 MB/115 W) processor            AMD Opteron 6272 (2.1 GHz/16-core/16 MB/115 W) processor            Low-power AMD Opteron 6262HE (1.6GHz/16-core/16 MB/85 W) processor</p> <p><b>12-core processors</b></p> <p>AMD Opteron 6238 (2.6 GHz/12-core/16 MB/115 W) processor            AMD Opteron 6234 (2.4 GHz/12-core/16 MB/115 W) processor</p> <p><b>8-core processors</b></p> <p>AMD Opteron 6220 (3.0 GHz/8-core/16 MB/115 W) processor            AMD Opteron 6212 (2.6 GHz/8-core/16 MB/115 W) processor</p> <p><b>4-core processors</b></p> <p>AMD Opteron 6204 (3.3 GHz/4-core/16 MB/115 W) processor</p>
<b>Cache memory</b>	16 MB level-three cache memory
<b>Chipset</b>	AMD SR5690 and SP5100
<b>Upgradeability</b>	Upgradeable to (2) processors
<b>On-system management</b>	Firmware: HP iLO 4
<b>Memory protection</b>	Advanced ECC Online spare mode
<b>Memory type</b>	HP SmartMemory DDR3 load reduced (LRDIMM) or registered (RDIMM)
<b>Expansion slots</b>	(2) I/O expansion mezzanine slots
<b>Storage controller</b>	O(1) HP Smart Array P220i Controller with 512 MB FBWC, (RAID 0 and 1)
<b>Maximum internal storage</b>	Hot-plug SFF SAS 2.0 TB 2 x 1.0 TB Hot-plug SFF SATA 2.0 TB 2 x 1.0 TB Hot-plug SFF SAS SSD 1.6 TB 2 x 800 GB
<b>Graphics</b>	Integrated Matrox G200 video standard
<b>Form factor</b>	ProLiant BL465c Gen8 Server is a half-height server blade that plugs into the HP BladeSystem c3000 and c7000 enclosures
<b>Warranty</b>	This product is covered by a global limited warranty and supported by HP Technology Services and a worldwide network of HP authorized channel partners. Hardware diagnostic support and repair is available for three years from the date of purchase. Support for software and initial setup is available for 90 days from the date of purchase. For more information, visit: <a href="http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html">h18004.www1.hp.com/products/servers/platforms/warranty/index.html</a>
<b>QuickSpecs URLs</b>	<a href="http://h18000.www1.hp.com/products/quickspecs/14325_div/14325_div.html">h18000.www1.hp.com/products/quickspecs/14325_div/14325_div.html</a>

## For more information

Take a step toward making data center intelligence an integral part of your IT environment, by leveraging the HP ProLiant BL465c Server series. Visit [hp.com/servers/bl465c-gen8](http://hp.com/servers/bl465c-gen8).

## Services and support

**HP Technology Services** offers a set of consultancy, deployment, and support solutions designed to meet the lifecycle needs of your IT environment.

**HP Care Pack Services** for industry-standard servers includes support for qualified options at no additional cost.

**HP Foundation Care Services** delivers scalable support packages for HP industry-standard servers and software. You can choose the type and level of service that is most suitable for your business needs. New to this portfolio is **HP Collaborative Support**, which offers a single point of contact for server problem diagnosis, hardware problem resolution, basic software problem diagnosis, fault isolation, and resolution if available to HP. In case the issue cannot be resolved by applying known fixes, HP contacts the third-party vendor and creates a problem incident on your behalf.

If you are running business-critical environments, you can choose **HP Proactive Care** or **Critical Advantage**. These services help you deliver high levels of application availability through proactive service management.

All service options include HP Insight Remote Support for secure remote monitoring, diagnosis, and problem resolution. You can also leverage our Support Center to access the information, tools, and expertise required to support your HP business products.

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

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