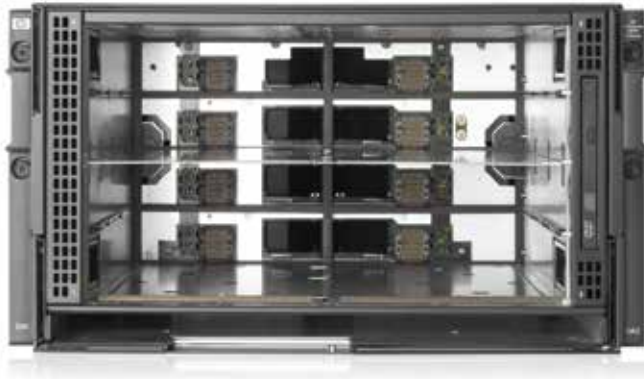


Family data sheet

# HP BladeSystem c-Class enclosures



Tackle your infrastructure's cost, time, and energy issues



**HP BladeSystem c3000 Platinum Enclosure  
(rack version)**

**HP BladeSystem c7000 Platinum Enclosure**



Choosing an HP BladeSystem can transform your infrastructure into something simpler and more useful for your business. The HP BladeSystem enclosure is the secret behind that transformation. By consolidating everything from the start, the BladeSystem enclosure tackles four big problems:

- **Cost:** Existing infrastructures are more expensive to purchase, run, and maintain. BladeSystem reduces purchase and operating costs.
- **Time:** BladeSystem is faster to deploy and can rapidly adapt to infrastructure changes with HP Virtual Connect technology.
- **Change:** It simplifies networking and storage connections so your infrastructure can adapt to your changing business needs.
- **Energy:** Reclaim trapped power and reduce energy consumption by up to 38 percent compared to traditional infrastructure.<sup>1</sup>

Today, HP offers two versatile enclosures to match the unique needs of large or small IT environments. They are:

- HP BladeSystem c7000 Platinum Enclosure, which is ideal for larger data centers with more dynamic environments and holds up to sixteen storage and server blades.
- HP BladeSystem c3000 Platinum Enclosure, which is built uniquely for small spaces without special power and cooling capabilities; it is available in a rack design that supports up to eight storage and server blades.

Each enclosure repackages the moving parts of your infrastructure cables, power supplies and fans, networking, and redundancy—for greater convenience during setup, maintenance, and daily operations. This means a BladeSystem is economical and adds useful features that save you time, hassles, and energy while still making change easy.

Each BladeSystem enclosure is easy to upgrade and customize. Inside, you can mix and match almost any combination of HP ProLiant, HP Integrity, and HP Storage blades to run your choice of thousands of applications. You can also connect to your same networks, but with up to 94 percent fewer cables.<sup>2</sup> You can share and swap the same blades and network options between other BladeSystem enclosures, and manage it all with the same tools.

#### **What's new?**

- 2650W hot plug power supply, boosted support for maximum enclosure configurations
- 40 percent increase in performance with FDR InfiniBand support
- End-to-end with native 40 Gb Ethernet fabric capability for bandwidth intensive applications
- 2x storage bandwidth with 16 Gb Fibre Channel capable
- Industry 1st location-based discovery and automated power intelligence across the data center

<sup>1</sup> "Business Value of Blades," Jed Scaramella, Randy Perry, IDC, April 2012.

<sup>2</sup> Comparing all cable requirements of 16 c-Class server blades vs. 16 standard 1U servers, August 2012.

### How to pick the right enclosure for you

Choose the BladeSystem c3000 Platinum Enclosure for small offices or remote sites without an IT staff.

The BladeSystem c3000 Platinum Enclosure is the right choice if:

- You only need between two and eight servers or storage blades per enclosure
- You purchase between two and eight servers gradually over time
- You require standard power connections, such as connecting to a UPS or wall outlets—100 Vac to 120 Vac

Choose the BladeSystem c7000 Platinum Enclosure for larger and dynamic data center environments.

The BladeSystem c7000 Platinum Enclosure is the right choice if:

- You need more than eight servers or storage blades per enclosure
- Your environment is growing rapidly, with frequent server purchases
- You are connecting to redundant rack-level power distribution units (PDUs) or a data center UPS
- You require the highest levels of availability and redundancy
- You want to attach the servers to multiple rack-based shared storage arrays

## Why HP over other blade choices?

HP combined its comprehensive technology to make BladeSystem not only easy to use, but also useful to you—regardless of whether you choose the BladeSystem c3000 or c7000 Platinum Enclosure.

- **Intelligent infrastructure support:** Power Discovery Services allows BladeSystem Enclosures to communicate information to HP Intelligent PDUs that automatically track enclosure power connections to the specific iPDU outlet to ensure redundancy and prevent downtime. Location Discovery Services allows the c7000 to automatically record its exact location in HP Intelligent Series Racks eliminating time consuming manual asset tracking.
- **HP Thermal Logic technologies:** Combine energy-reduction technologies such as the 80 PLUS Platinum, 94 percent-efficient<sup>3</sup> HP 2650W/2400W Platinum Power Supply, with pinpoint measurement and control through Dynamic Power Capping, to save energy and reclaim trapped capacity without sacrificing performance.
- **Virtual Connect architecture:** Wire once, then add, replace, or recover blades on the fly, without impacting networks and storage or creating extra steps.
- **HP Insight Control:** This essential infrastructure management software helps save time and money by making it easy to deploy, migrate, monitor, control, and enhance your IT infrastructure through a single, simple management console for your BladeSystem servers. Get more from every dollar, hour, and watt invested in the BladeSystem server infrastructure.

<sup>3</sup>80 PLUS Certified Power Supplies and Manufacturers, September 2012.

- **Dynamic Power Capping:** Maintain an enclosure's power consumption at or below a cap value to prevent any increase in compute demand from causing a surge in power that could trip circuit breakers.
- **Dynamic Power Saver:** Enable more efficient use of power in the server blade enclosure. During periods of low server utilization, the Dynamic Power Saver places power supplies in standby mode, incrementally activating them to deliver the required power as demand increases.
- **Power Regulator:** Dynamically change each server's power consumption to match the needed processing horsepower, thus reducing power consumption automatically during periods of low utilization.
- **HP NonStop midplane:** No single point of failure, to keep your business up and running.
- **Onboard Administrator:** Wizards get you up and running fast and are paired with useful tools to simplify daily tasks, warn of potential issues, and assist you with repairs.

## No-compromise capability

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

- **Run your same business applications:** Industry standards support your operating systems and thousands of application choices.
- **Trust the same server and storage blades:** ProLiant, Integrity, Storage, and other products can be mixed and matched in a single box.
- **Connect to your same networks:** Use the latest Ethernet, Fibre Channel, InfiniBand, and FCoE standards and trusted brands.
- **Get more blades with more capability:** That means less infrastructure for more capabilities.

## Technical specifications

	<b>HP BladeSystem c3000 Platinum Enclosure (rack version)</b>	<b>HP BladeSystem c7000 Platinum Enclosure</b>
<b>Device bays</b>	Up to 4 full-height Up to 8 half-height Mixed configurations supported	Up to 8 full-height Up to 16 half-height Mixed configurations supported
<b>Interconnect bays</b>	1 bay supporting Ethernet only 3 additional interconnect bays with support for any I/O fabric	8 interconnect bays with support for any I/O fabric
<b>Power</b>	Integrated in enclosure Single-phase (low-line or high-line) or –48 Vdc	Integrated in enclosure Single-phase (low-line or high-line), or 3-phase, or –48 Vdc
<b>Cooling</b>	Centralized redundant fans	Centralized redundant fans
<b>Management</b>	Single Onboard Administrator—LAN and serial access Local KVM connection option HP Insight Control (optional)	Redundant Onboard Administrator—LAN and serial access Local KVM connection option HP Insight Control (optional)
<b>Model</b>	6U rackable	10U rackable
<b>Enclosure power</b>		
<b>Input voltage</b>	Low-line: 100 Vac to 120 Vac High-line: 200 Vac to 240 Vac DC: –36 Vdc to –72 Vdc	High-line: 200 Vac to 240 Vac DC: –36 Vdc to –72 Vdc
<b>3-phase North America and Japan model power connections</b>	Not offered	2 x NEMA L15-30P
<b>3-phase international model power connections</b>	Not offered	2 x IEC-309 5-wire, 4-pole, 16 A (IEC 516C6)
<b>Single-phase model power</b>	6 x C13/C14 PDU power	6 x IEC-320 C20
<b>DC input</b>	D-SUB Power 3W3	Terminal lug: 45DG 4AWG 1/4 2H

## Technical specifications (cont'd.)

	HP BladeSystem c3000 Platinum Enclosure (rack version)	HP BladeSystem c7000 Platinum Enclosure
<b>Interconnects</b>		
<b>FlexFabric</b>		HP Virtual Connect FlexFabric 10Gb/24-port Module
<b>Ethernet</b>	HP Virtual Connect Flex-10 10Gb Ethernet Module HP 1/10Gb-F Virtual Connect Ethernet Module Cisco Catalyst Blade Switch 3020 Cisco Catalyst Blade Switch 3120X Cisco Catalyst Blade Switch 3120G HP 6120G/XG Blade Switch HP 6120XG Blade Switch HP GbE2c Layer 2/3 Ethernet Blade Switch HP 1:10Gb Ethernet BL-c Switch HP 1Gb Ethernet Pass-Thru Module HP 10GbE Pass-Thru Module HP Virtual Connect Flex-10/10D Module HP Virtual Connect Flex-10 Ethernet Module Cisco Fabric Extender B22HP HP 6125G Blade Switch HP 6125G/XG Blade Switch	HP Virtual Connect Flex-10 10Gb Ethernet Module HP 1/10Gb-F Virtual Connect Ethernet Module Cisco Catalyst Blade Switch 3020 Cisco Catalyst Blade Switch 3120X Cisco Catalyst Blade Switch 3120G HP 6120G/XG Blade Switch HP 6120XG Blade Switch HP GbE2c Layer 2/3 Ethernet Blade Switch HP 1:10Gb Ethernet BL-c Switch HP 1Gb Ethernet Pass-Thru Module HP 10GbE Pass-Thru Module HP Virtual Connect Flex-10/10D Module HP Virtual Connect Flex-10 Ethernet Module Cisco Fabric Extender B22HP HP 6125G Blade Switch HP 6125G/XG Blade Switch Mellanox SX1018HP Ethernet Switch
<b>Fibre Channel</b>	HP Brocade 8Gb 8/12c SAN Switch HP Brocade 8Gb 8/24c SAN Switch Cisco MDS 8/12c Fabric Switch for HP Cisco MDS 8Gb 8/24c Fabric Switch for HP HP 4Gb Fibre Channel Pass-Thru Module HP Virtual Connect 8Gb 20-Port Fibre Channel Module HP Virtual Connect 8Gb 24-Port Fibre Channel Module	HP Brocade 8Gb 8/12c SAN Switch HP Brocade 8Gb 8/24c SAN Switch Cisco MDS 8/12c Fabric Switch for HP Cisco MDS 8Gb 8/24c Fabric Switch for HP HP 4Gb Fibre Channel Pass-Thru Module HP Virtual Connect 4Gb Fibre Channel Module HP Virtual Connect 8Gb 20-Port Fibre Channel Module HP Virtual Connect 8Gb 24-Port Fibre Channel Module
<b>Serial-attached SCSI (SAS)</b>	HP 3Gb SAS BL Switch	HP 3Gb SAS BL Switch
<b>Converged</b>		HP Virtual Connect FlexFabric 10Gb/24-port Module
<b>InfiniBand</b>	HP 4X DDR InfiniBand Switch Module	HP BLc QLogic 4X QDR InfiniBand Managed Switch HP 4X QDR InfiniBand Switch Module HP InfiniBand FDR Switch
<b>Enclosure dimensions</b>		
<b>Height</b>	6U —10.4 in. (265 mm)	10U —17.4 in. (442 mm)
<b>Width</b>	19.1 in. (485 mm)	17.6 in. (447 mm)
<b>Depth</b>	32.977 in. (835 mm)	32 in. (813 mm)
<b>Warranty</b>	3-year parts/3-year labor/3-year onsite	3-year parts/3-year labor/3-year onsite

Customize your IT lifecycle management, from acquisition of new IT, management of existing assets, and removal of unneeded equipment.

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

## HP Factory Express

HP Factory Express provides customization and deployment services along with your storage and server purchases. You can customize hardware to your exact specifications in the factory—helping speed deployment. Visit [hp.com/go/factoryexpress](http://hp.com/go/factoryexpress).

## Customer technical training

Gain the skills you need with ExpertOne training and certification from HP. With HP ProLiant training, you will accelerate your technology transition, improve operational performance, and get the best return on your HP investment. Our training is available when and where you need it, through flexible delivery options and a global training capability. [hp.com/learn/proliant](http://hp.com/learn/proliant)

## HP Services

### When technology works, business works.

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

HP Technology Services offers a comprehensive portfolio of HP Care Pack Services to help design, deploy, manage, and support your blades-based virtualized environment.

### Minimum recommended HP Care Pack offerings

- 3-year, 4-hour response onsite 24x7 hardware support
- Blades Infrastructure and Enhanced Network Installation and Startup Services

### Enhanced service-level Care Pack offerings

- 3-year Support Plus 24: Integrated 24x7 hardware and software support
- Proactive Select: Access to HP best-in-class technical consultants—purchase service credits and obtain expertise when needed

### HP Care Pack Services benefits

- Speed deployment, delivering faster return on investment
- Increase uptime and performance of servers' availability to your business
- Detect and diagnose problems automatically, resulting in quick repairs—saving time, money, and resources

For more information, visit [hp.com/services/bladessystem](http://hp.com/services/bladessystem) or [hp.com/go/proliant/carepack](http://hp.com/go/proliant/carepack).

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