HP BladeSystem c3000 enclosure

HP BladeSystem c7000 enclosure

HP BladeSystem c-Class enclosures

Family data sheet

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

- **Cost:** Existing infrastructures are more expensive to purchase, run, and maintain. HP BladeSystem reduces purchase and running costs
- **Time:** HP BladeSystem is faster to deploy and with Virtual Connect can rapidly adapt to infrastructure changes
- **Change:** 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 48% compared to competitors servers[1]

Today, HP offers many versatile enclosures to match the unique needs of large or small IT environments. The BladeSystem c7000 enclosure is ideal for larger data centers with more dynamic data center environments and holds up to 16 storage and server blades. The HP BladeSystem c3000 enclosure is built uniquely for small spaces without special power and cooling capabilities. The c3000 is available in rack and tower designs that support up to 8 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, plus it adds useful features that save you time, hassles, and energy while still making change easy.

[1]Based on internal tests by HP engineers

Each BladeSystem enclosure is easy to upgrade and customize. Inside, you can mix and match almost any combination of ProLiant, Integrity, and StorageWorks 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.[2] You can share and swap the same blades and network options between other BladeSystem enclosures and manage it all with the same tools.

How to pick the right enclosure for you
Choose the HP BladeSystem c3000 enclosure for small offices or remote sites without an IT staff.

The HP BladeSystem c3000 is the right choice if:

• You only need between 2 and 8 servers or storage blades per enclosure

• You have between 3 and 100 servers in your company or organization

• You purchase between 2 and 8 servers, slowly over time

• You require simple power connections, such as connecting to a UPS or wall outlets

If you do not have racks in your environment, the BladeSystem c3000 also comes in a tower design on wheels. Choose the HP BladeSystem c3000 tower enclosure if you are a small to mid-size company, branch office, or if you have remote sites that have little or no rack space.

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

The c7000 is the right choice if:

• You need more than 8 servers or storage blades per enclosure

• You purchase more than 8 servers at a time

• Your environment is growing rapidly, with frequent server purchases

• You are connecting to redundant rack level PDUs, or data center UPS

• You have rack space available in your data center or leased facility

• 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 the best technology from across HP to make BladeSystem not only easy to use, but also useful to you—regardless of whether you choose the c3000 or c7000 enclosure.

• **Thermal Logic technologies:** Combine energy reduction technologies like the 80 Plus Gold[3] certified HP 2400W Power Supply with pin-point measurement and control through Dynamic Power Capping to save energy and reclaim trapped capacity without sacrificing performance.

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[2] Comparing all cable requirements of 16 c-Class server blades versus 16 standard 1U servers

[3] http://www.80plus.org/manu/psu/psu_detail.aspx?id=41&type=1

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.

HP Technology Services offer a comprehensive portfolio of HP Care Pack Services to help design, deploy, manage and support your Blades environment, with easy-to-buy, easy-to-use support packages.

Minimum Recommended HP Care Pack offerings

• Three-year, 4-hour response onsite 24-hour x 7-day hardware support

• Blades Infrastructure plus Enhanced Network installation and startup services

Enhanced service level Care Pack offerings

• **Three-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's when needed

Benefit from HP Care Pack Services helping you:

• Reduce deployment time and manage Blades server solutions smoothly and efficiently

• Increase uptime and performance of servers availability to your business

• Detect, diagnose, and repair problems to quickly save time, money, and resources

For more information, visit:

www.hp.com/services/bladesystem or

www.hp.com/go/proliant/carepack

• **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 software package provides all the tools to streamline operations and increase administrator productivity up to tenfold.

• **Dynamic Power Capping:** Combines real time measurement with worry free hardware based control to cap or limit enclosure power without compromising performance.

• **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 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 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, 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 two to four times more features into each. That means less infrastructure for more capabilities.

HP Financial Services

HP Financial Services is a smart, economical way to help you plan and manage your BladeSystem investment. Get the most out of your IT budget with Financial Services that help you manage your cash flow, improve your return on investment, and avoid being stuck with obsolete technology. Our flexible leasing options can help you adapt to your business needs, avoid maintenance fees, and depreciation expenses. For more information on these services, contact your HP representative, or visit: **www.hp.com/go/hpfinancialservices**

For more information

For more information about HP BladeSystem enclosures please contact your local HP representative, or visit: **www.hp.com/go/bladesystem/enclosures**

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Technical Specifications	HP BladeSystem c3000 Enclosure (Rack Version)	HP BladeSystem c3000 Enclosure (Tower Version)	HP BladeSystem c7000 Enclosure
Device bays	Up to 4 full-height Up to 8 half-height Mixed configurations supported	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
Interconnect bays	1x Ethernet only 3 additional interconnect bays with support for any I/O fabric	1x Ethernet only 3 additional interconnect bays with support for any I/O fabric	8 interconnect bays with support for any I/O fabric
Power	Integrated in enclosure, single-phase, low-line or high-line voltage, –48V DC Power	Integrated in enclosure, single-phase, low-line or high-line voltage, –48V DC Power	Integrated in enclosure, 3-phase, single-phase or –48V DC Power
Cooling	Centralized redundant fans	Centralized redundant fans	Centralized redundant fans
Management	Single onboard administrator—LAN and serial access Insight Control Environment for BladeSystem Local KVM connection option	Single onboard administrator—LAN and serial access Insight Control Environment for BladeSystem Local KVM connection option	Redundant onboard administrator—LAN and serial access Insight Control Environment for BladeSystem Local KVM connection option
Model	6U rackable	Tower enclosure	10U rackable

Enclosure power

	HP BladeSystem c3000 Enclosure (Rack Version)	HP BladeSystem c3000 Enclosure (Tower Version)	HP BladeSystem c7000 Enclosure
Input voltage	Low-line: 100VAC to 120VAC High-line: 200VAC to 240VAC DC: –36VDC to –72VDC	Low-line: 100VAC to 120VAC High-line: 200VAC to 240VAC DC: –36VDC to –72VDC	High-line. 200VAC to 240VAC DC: –36VDC to –72VDC
3-phase North America and Japan model power connections	Not offered	Not offered	2 x NEMA L15-30p
3-phase international model power connections	Not offered	Not offered	2 x IEC-309 5-pin, 6h, red, 16A
Single-phase model power	6 x c13/c14 PDU Power; Optional low-line power cords for wall outlets	6 x c13/c14 PDU Power; Optional low-line power cords for wall outlets	6 x IEC-320 C20
DC Input	D-SUB Power 3W3	D-SUB Power 3W3	Terminal lug: 45DG 4AWG 1/4 2H

Interconnects

	HP BladeSystem c3000 Enclosure (Rack Version)	HP BladeSystem c3000 Enclosure (Tower Version)	HP BladeSystem c7000 Enclosure
Ethernet	HP Virtual Connect Flex-10 10Gb Ethernet Module HP 1Gb Virtual Connect Ethernet Module HP 1/10Gb-F Virtual connect module Cisco Catalyst Blade Switch 3020 Cisco Catalyst Blade Switch 3120 HP GbE2c Ethernet Blade Switch HP GbE2c Layer 2/3 Ethernet Switch HP 1:10Gb Ethernet Switch HP 10Gb Ethernet Switch HP 1Gb Ethernet Pass-Thru Module	HP Virtual Connect Flex-10 10Gb Ethernet Module HP 1Gb Virtual Connect Ethernet Module HP 1/10Gb-F Virtual connect module Cisco Catalyst Blade Switch 3020 Cisco Catalyst Blade Switch 3120 HP GbE2c Ethernet Blade Switch HP GbE2c Layer 2/3 Ethernet Switch HP 1:10Gb Ethernet Switch HP 10Gb Ethernet Switch HP 1Gb Ethernet Pass-Thru Module	HP Virtual Connect Flex-10 10Gb Ethernet Module HP 1Gb Virtual Connect Ethernet Module HP 1/10Gb-F Virtual connect module Cisco Catalyst Blade Switch 3020 Cisco Catalyst Blade Switch 3120 HP GbE2c Ethernet Blade Switch HP GbE2c Layer 2/3 Ethernet Switch HP 1:10Gb Ethernet Switch HP 10Gb Ethernet Switch HP 1Gb Ethernet Pass-Thru Module
Fibre Channel	HP 4Gb Virtual Connect FC Module Brocade 4/12 SAN Switch Brocade 8/12c SAN Switch Cisco MDS 9124e 12 port Fabric Switch HP 4Gb FC Pass-Thru Module	HP 4Gb Virtual Connect FC Module Brocade 4/12 SAN Switch Brocade 8/12c SAN Switch Cisco MDS 9124e 12 port Fabric Switch HP 4Gb FC Pass-Thru Module	HP 4Gb Virtual Connect FC Module Brocade 4Gb SAN Switch (12- or 24-ports) Brocade 8Gb SAN Switch (12- or 24-ports) Cisco MDS 9124e Fabric Switch (12- or 24-ports) HP 4Gb FC Pass-Thru Module
SAS (Serial Attached SCSI)	HP StorageWorks 3Gb SAS BL Switch Module	HP StorageWorks 3Gb SAS BL Switch Module	HP StorageWorks 3Gb SAS BL Switch Module
InfiniBand	HP 4X DDR IB Switch Module	HP 4X DDR IB Switch Module	HP 4X DDR IB Switch Module

Enclosure dimensions

	HP BladeSystem c3000 Enclosure (Rack Version)	HP BladeSystem c3000 Enclosure (Tower Version)	HP BladeSystem c7000 Enclosure
Height	6U—10.4 in (265 mm)	Tower—21.29 in (54.08 cm)	10U—17.4 in (442 mm)
Width	17.5 in (445 mm)	13.48 in (34.24 cm)	17.6 in (447 mm)
Depth	32 in (813 mm)	34.43 in (87.45 cm)	32 in (813 mm)
Warranty (parts/labor/on-site)	3-year/3-year/3-year	3-year/3-year/3-year	3-year/3-year/3-year

Technology for better business outcomes

To learn more, visit www.hp.com/go/bladesystem/enclosures

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