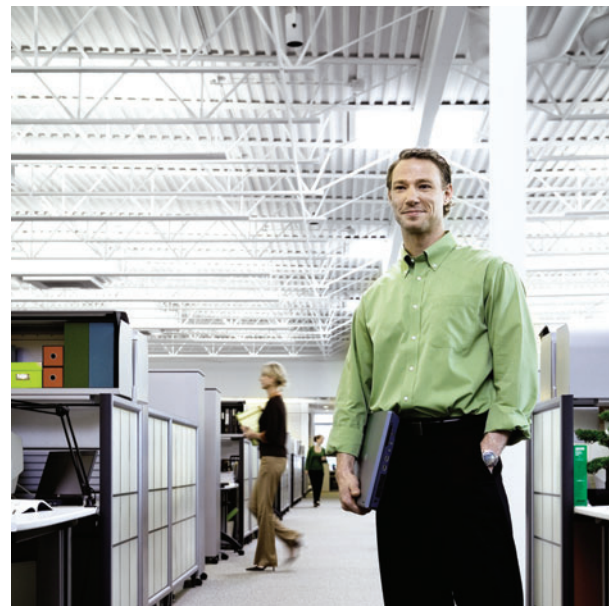




HP BladeSystem for growing businesses

An all-in-one infrastructure for storage, servers and just about everything else





What do some of the world's best-run midsize businesses do with their HP BladeSystem?

Grow their business

Using the low cost and simple configuration of the HP BladeSystem, OpSource cost-effectively expanded their Software as a Service (SaaS) business model to smaller opportunities with an incubator program.

Support their business

PartsNow! is a completely in-house sales company, so infrastructure is crucial. If servers go down they can lose anywhere between \$100,000 to \$200,000 per hour. With HP BladeSystem, they haven't been down for more than an hour in the last five years.

Simplify their business

Payroll processing for one ValleyCrest company used to take 70 minutes to run on the AS/400. Testing showed that the application would run in as little as 20 minutes on an HP ProLiant server blade. An address book report that used to take 120 minutes can now be run in 38 minutes.

Secure their business

Internet Service Provider, opus:interactive, chose the BladeSystem c-Class with VMware to build a better foundation for their growing business. "We wanted to be ahead of the curve since we offer service level agreements to our customers with payouts for failures. With downtime, not only do our clients lose money from the halt in their business, but we lose money as well. So, we selected HP in an attempt to avoid this as much as possible."—Jeremy Sherwood, opus:interactive

For more examples of how HP BladeSystem has improved other customer environments, visit

www.hp.com/enterprise/bladepystem/casestudies.

“To start with an environment that was literally non-existent and bring onboard 50 new customers and over 500 systems in a year while also building the management tools to maintain it may not seem like a big challenge from afar. But, if we had to build all those tools from scratch or bring in a variety of different vendors, I believe it would have been impossible. The HP BladeSystem allowed us to grow from 0 to 50 customers with install times as short as a couple of weeks instead of a couple of months.”

Treb Ryan, CEO, OpSource

Use fewer wires. Save power. Maintain with less effort. Get some time back.

Growing companies are adopting HP BladeSystem as the IT foundation for their business faster than any other blade architecture. BladeSystem helps them save money, grow flexibly and use less power with a unique combination of benefits that traditional rack-based server and storage systems simply can't match.

- **Hassle-free to manage:** so you don't need a squadron of administrators to run your infrastructure
- **Versatile to fit you:** more flexible so you can add, upgrade and customize a solution faster to fit your business
- **Redundancy everywhere:** to protect your data and deliver quality service to your business
- **Affordable to buy and own:** so you can save money on hardware, software and power and reinvest the savings back into the business

BladeSystem basics

A BladeSystem is an infrastructure in a box. With it, you can build vital business solutions that are more affordable, take less time to maintain, use less power and are ready to grow with you.

With its all-in-one design, you have the essentials to build, maintain and upgrade your infrastructure from start to finish. Inside, you can host a choice of thousands of applications on Windows®, Linux, HP-UX and more with a combination of virtual machines, storage and server blades—Integrity, StorageWorks and ProLiant—and a variety of the most popular networking brands and standards.

Why Blades make sense

A BladeSystem is simply a smarter way to build an infrastructure that supports the vital applications your business requires—with fewer wires, lower electric bills and none of the headaches from the choices you have today. With a streamlined foundation in place, you can deliver top line business results to grow faster, get to market quickly and empower your employees, partners and customers.

But who has the time and money to plan, build and maintain an infrastructure that competes with the giant data centers of the Fortune 500? With BladeSystem behind the scenes, you do. Before BladeSystem ever arrives at your door, we do a lot of the hard work up front that you now have to do on your own.

We built in the networking to help you cut the number of cables up to 94 percent.¹ We added a smarter power and cooling system to save you more than 26 percent on power versus other blade choices, without sacrificing performance.² We added servers and storage inside the same infrastructure for zero-cable data protection and storage expansion. And we included easy ways to manage it all; so one person can do the job of many.

BladeSystem helps you plan for redundancy and recovery from the start and is combined with the best technology from across HP to make your unique BladeSystem not only easy to use, but useful to you.

Our engineers test thousands of business and infrastructure software packages so you can run the same applications and operating systems you run today. They work with other leading companies to build cool technologies and solutions inside. Then, we help you choose the right combination of server, storage and network blades for your applications to build a better solution in less time, with less money and that uses less power.

No one knows exactly where their business will be tomorrow. But wherever you take it, HP BladeSystem will be ready when you get there.

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

²Sine Nomine Associates, “A Comparison of HP BladeSystem with Thermal Logic Technologies to Competitive Systems”, February 2007.

Figure 1. BladeSystem basics

Simplify and transform your infrastructure into something more useful to your business.



BladeSystem is more affordable than you think

When you compare the purchase price for BladeSystem against rack servers and storage, remember that those are just one part of your infrastructure. You still need cables, network switches, management software or KVM solutions and other equipment to make everything work.

To increase availability, you often have to double those components for redundancy. So to determine whether blades are truly a better value for your business, you must look at infrastructure components like switches and cables and compare the total cost up front. When you compare server solutions this way, a BladeSystem, even with as few as four server blades, is up to 42 percent less expensive than a solution built on rack servers.³

- Save up to 42 percent on purchase cost for servers and supporting Ethernet and Fibre Channel connectivity, power cables, PDUs and racks⁴
- Cut cables 94 percent or more⁵
- Put 60 percent more servers in the same space⁶

And with its consolidated design, built-in control and integrated software tools for unified infrastructure management, BladeSystem is efficient to manage and easy to change—saving you money everyday.

- Cut the time of IT maintenance tasks from 50 to 90 percent, or more⁷
- Reduce the electricity costs required to power and cool servers by over 30 percent⁸
- Decrease the time needed to perform upgrades and patches from 10 minutes to 20 seconds per server⁹
- Implement redundancy and disaster recovery for high availability for all components at lower costs

Think BladeSystem is too big for your needs?

Think again. We now offer the versatile, hassle-free HP BladeSystem c3000 Enclosure built specifically for smaller sites with big computing and server needs.

The BladeSystem c3000 was designed for small rooms and harsh environments not intended for lots of servers and storage. It comes in rack or tower¹⁰ versions, ready to run in the smallest spaces. You can customize it and mix and match your choice of four to eight server, storage and PC blades. Plus, it's ready to virtualize from the start so you can multiply the cost, time and power advantages of blades with virtualization across your server, storage and network.

It includes 110/220V power that plugs right into the wall and standard UPS power backup, plus non-complicated networking that plugs into a basic modem or network setup via a combo switch/router, all in one device.

³Based on HP comparison Internet list price of 320 ProLiant BL460c blades versus 320 ProLiant BL360 servers with identical configurations and Ethernet and Fibre Channel network infrastructure.

⁴Based on HP comparison Internet list price of 320 ProLiant BL460c blades versus 320 ProLiant BL360 servers with identical configurations and Ethernet and Fibre Channel network infrastructure.

⁵Comparing all cable requirements of 16 cClass server blades versus 16 standard 1U servers.

⁶16 ProLiant BL460c servers in 10U of rack space versus 10 ProLiant DL360 in 10U of rack space.

⁷IDC, "Forecasting Total Cost of Ownership for Initial Deployment of Server Blades", June 2006.

⁸Sine Nomine Associates, "A Comparison of HP BladeSystem with Thermal Logic Technologies to Competitive Systems", February 2007.

⁹IDC, "Gaining Business Value and ROI with HP Systems Insight Manager", May 2007.

¹⁰Available Q4 2007

The BladeSystem c3000 is hassle-free by design with management features similar to standard server or storage solutions. Built-in DVD, KVM, Onboard Administrator and remote control let you manage it your way. This helps a small staff do the job of a big one. For sites without a staff, built-in tools help your service partner remotely keep things running smoothly without delays or service calls.

Inside, you can add storage expansion and data protection without adding more cables or special management. Your choices include:

- **Bladed tape drive:** Affordable data backup with simple one-button disaster recovery for all server blades in the enclosure.
- **Bladed DAS:** Quadruple the internal storage of a single server blade.
- **Bladed NAS:** All-in-one storage blade with integrated snap-shot backup to consolidate file serving and support shared application storage across multiple server blades.
- **Bladed SAN:** Flexible, modular SAN to expand storage in seconds as your vital business data needs grow.

Choosing the right BladeSystem

HP BladeSystem can share components between enclosures, making it fast and easy to create, customize and grow. You can choose the c3000 now and grow into a c7000 when you're ready.

When blades make sense

We don't expect you to rip out and replace what you have today just to move to blades. That's why we spent so much time making sure our blades can live side-by-side and work together with your current system. When you're ready, HP has the broadest blade offering from desktop to data center.

Some of the most common reasons businesses make the move to blades:

- **Current systems can't keep pace:** Business demands grow and systems can't keep up. The most common signs are rising support costs, lower performance and compromised security.
- **Expansion:** Natural business growth requires more computing, network and storage to meet new demands.
- **Upgrade:** As part of a common three- to five-year technology refresh cycle, or at the end of a lease agreement.
- **Strategic initiative:** Such as adding new applications or IT services designed to improve the business or productivity of employees.
- **Consolidation:** The most common strategic initiative today. Usually paired with virtualization and quickly followed with projects to increase utilization and decrease operational costs.

With as few as three server blades inside, a BladeSystem is less costly upfront than rack or tower servers. Plus, it's more power efficient, takes less time to maintain and is easier to manage.

The BladeSystem c3000 enclosure



The BladeSystem c3000 is a smaller, versatile design, ideal for small sites like business offices or branch locations that only need four to eight server or storage components at a time. It's ideal because it plugs right into the wall, uses standard power and doesn't need special air conditioning. It also includes useful features to help a small staff be more productive with less effort.

The BladeSystem c7000 enclosure



The BladeSystem c7000 is a larger, modular block of infrastructure that is ideal for bigger data centers. It holds up to 16 different types of server and storage blades, with twice as many interconnect expansion slots available to run nearly any application in a dynamic, high-performance IT environment.



How HP BladeSystem is different

Infrastructure is at the heart and soul of HP. Our BladeSystem solution unites 60 years of hardware, software and service expertise into one architecture, built from the ground up for midsize businesses, and applies that knowledge to your unique business problems.

We offer exclusive innovations for your biggest infrastructure problems.

- **Network complexity:** HP Virtual Connect architecture lets you wire the infrastructure once, then add, replace or recover blades on the fly, without impacting networks and storage or requiring multiple experts at each step.
- **Rising energy costs:** Smart, HP Thermal Logic technology pools and shares power and cooling, and provisions it intelligently to where it's needed most to improve energy efficiency every second of operation.
- **Complex management:** Insight Control management includes built-in control interfaces and unified infrastructure management software that are easy to use and can streamline operations and increase administrator productivity.
- **Unreliable service delivery:** The NonStop midplane separates network and power midplanes and eliminates active components to improve the reliability of the total system while redundant power, cooling, management, network and server features maintain consistent service delivery.

We bring together the best of HP. The DNA of our best product lines are built directly into the HP BladeSystem. Multiple HP teams design unique hardware and software for BladeSystem and build business solutions for many industries inside.

We bring together the best from outside of HP, too.

Choosing HP gives you the power of partnership. Through the HP Solution Builder program, hundreds of companies build innovative technologies and solutions exclusively for the HP BladeSystem. This means you can connect to the networks and storage you use now, rely on the same standards you are familiar with, and run the same operating systems and applications you run today.

We don't compromise. Other blade designs cut features to try to save things like space or power or push a "one-size-fits-all" solution. Some offer limited choices of servers, storage, networking and software compatibility. Even though our blades offer more memory, network performance and proven features like hot plug disk drives, we get more into each enclosure—two more than IBM and six more than Dell.¹¹

We don't believe you should compromise the trusted technologies you rely on today just to gain the advantages of blades. We make sure 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.

¹¹Based on published specifications of IBM BladeCenter chassis with 14 slots versus HP BladeSystem c7000 enclosure with 16 slots versus Dell 1955 blade enclosure with 10 slots.

Customize your solution with confidence

The HP Solution Builder alliance program connects hundreds of the leading software vendors, hardware vendors, services providers and resellers to create a variety of solutions just right for you. With these components, we build blade-based solutions on Windows, Linux, HP-UX, OpenVMS, NetWare and Solaris.

Although a BladeSystem has a unique design, it is built on the same industry standard processors, components and connections your business relies on today; and it supports all the same operating systems and applications. If it runs on an Integrity or ProLiant rack server or connects to a StorageWorks solution, it will run on a BladeSystem and can be used for:

- **Business applications:** run complex business productivity applications such as Microsoft® Dynamics, or mySAP
- **Databases:** run powerful database applications such as Microsoft SQL Server and Oracle®
- **Business protection solutions:** integrate a full range of data protection and security solutions
- **Server-based computing solutions:** adopt a server-based computing model—where centralized servers host applications for multiple users
- **Virtual server solutions:** consolidate multiple logical servers on a single physical server
- **Clustered solutions:** combine multiple resources to meet your needs for reliability or data-crunching power
- **Communication and collaboration solutions:** run popular e-mail and messaging applications such as Microsoft Exchange, Lotus Notes or Microsoft SharePoint®
- **Network and Internet support:** manage network services, directory services, security services and file services

To find which server blade is right for your application environment and number of end users, please visit www.hp.com/go/serverguide.

Solution Blocks take out the guesswork

HP offers BladeSystem Solution Blocks that deliver proven application solutions to simplify nearly any environment. Solution Blocks cut the time and effort needed to create, combine and upgrade business solutions on a BladeSystem.

- A range of pre-tested and qualified Solution Blocks of common applications like e-mail, disaster recovery, web, business intelligence and more
- Toolkits with easy-to-use guides and deployment scripts to quickly configure and deploy a set of inter-related business applications on BladeSystem
- Flexibility to configure and combine different Solution Blocks to define and build customized solutions of inter-related applications consistently and quickly

Modular and expandable by design, Solution Blocks make it easy to add or expand business applications without extra planning, wiring and configuring.

The HP blade agenda

To remove barriers to blade adoption, we build blade versions of our traditional product line, test and certify common OSs and applications, and stay compatible with existing industry standards. The HP blade agenda includes three tenets.

1. *Blade everything*—Expand the potential and versatility of BladeSystem to support more applications, from storage and servers to PCs, workstations and virtual environments.
2. *Virtualize everything*—Extend virtualization beyond the server to move seamlessly between physical and virtual environments and to pool and share all resources from compute and storage, to power, cooling and networking.
3. *Automate everything*—Streamline processes from monitoring and patching to deploying, provisioning and recovery.

The smartest way to invest in IT

Not every technology acquisition has to be a traditional cash-and-carry transaction. HP Financial Services offers a variety of customized leasing and financing options to make your BladeSystem purchase painless and to keep your technology expenditures in line with your overall budget. For more information, visit www.hp.com/go/hpfinancialservices.

Summary

Now more than ever, a company's technology infrastructure determines the difference between business success and failure. Too often, however, the technology that should accelerate success simply gets in the way.

If your staff and budget are struggling to keep pace or growing out of control, consider HP BladeSystem for your next IT project.

For more information

For more information about HP BladeSystem and related solutions for your business, contact an HP representative, your local HP Business Development Partner or visit www.hp.com/go/bladeSystem.

Have more questions? Our user community has answers. Find a reseller, meet other users, get practical advice and share your success. Visit the HP Blade Connect online community at www.hp.com/go/bladeconnect.

Evaluate

The BladeSystem website has interactive demos, videos, webinars, TCO calculators, detailed technical data and more. Evaluate the latest BladeSystem innovations, get technical documentation and size a solution at www.hp.com/go/bladeSystem.

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.
- **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/bladeSystemservices.

To learn more, visit www.hp.com

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4AA0-7204ENW Rev. 1, September 2007

