

HP BladeSystem Matrix

Industry's first Converged Infrastructure platform that delivers IT services in minutes

Solution brief



Get the benefits of shared services today

A better approach for productivity and your bottom line

“Too long, too high, too slow, too complex.” Too often we use these phrases to describe IT organizations and infrastructure. If you are like most companies, you have been constantly adding servers, storage, and networking infrastructure to keep pace with your business demands. The result: Businesses are spending more than 70 percent of their IT budget on operations versus innovation.

A Converged Infrastructure, a new approach to delivering IT services, enables you to rebalance this ratio by realigning today’s traditional technology silos into virtual pools that can be shared by any application and continuously optimized. By moving beyond a product-centric approach that has resulted in unmanageable IT sprawl to a shared-services model, you can move to standardization, reduce operational costs, and accelerate business results.

HP BladeSystem Matrix integrates silos of compute, storage, network, and facilities resources with unified management to deliver a virtualized, highly automated environment. With pools of shared resources that can be leveraged on demand, HP BladeSystem Matrix delivers a Converged Infrastructure so that you can increase the flexibility of your environment and speed time to value.

HP BladeSystem Matrix is the industry’s first Converged Infrastructure platform that doubles administrator productivity and reduces total cost of ownership (TCO) up to 56 percent versus traditional infrastructures.¹ That’s a big win for your bottom line.

Whether you are planning a focused consolidation project or broader data center transformation effort, consider the HP BladeSystem Matrix. Investing now means immediate savings—and getting the benefits of shared services today.

In today’s dynamic environment, speed counts

HP BladeSystem Matrix lets you stand up a complete infrastructure environment ready for applications in minutes, not weeks or months, through automated provisioning of servers with the corresponding storage and network connections. With the Matrix operating environment delivered by built-in HP Insight software, you can provision a complex multi-tier application infrastructure within two hours.²

Integrated capacity planning and rebalancing tools let you quickly adjust and optimize your infrastructure over its lifecycle, so that you can confidently make changes without time-consuming analysis. Key data points, such as power draw and CPU and network utilization, are captured every five minutes³ and used to generate ideal consolidation scenarios. When combined with built-in rebalancing tools, this can reduce weeks or months of tedious planning and implementation.⁴



BladeSystem Matrix improves your ability to easily protect and automatically recover workloads with a range of integrated solutions for availability and disaster recovery. You can fail over workloads in as few as five minutes on ProLiant⁵ and in as few as four seconds on Integrity,⁶ across physical and virtual servers. You can recover server blades in minutes, not days, with integrated, cost-effective disaster recovery. With a simple mouse click, you can move workloads to other servers or sites, improving disaster recovery time by 80 percent or more.⁷

Transforming data center economics

The BladeSystem Matrix transforms the economics of your data center, helping you double administrator productivity,⁸ and double the capacity of your data center without adding power infrastructure.⁹ With server management and administration personnel comprising over 80 percent of the costs of a typical IT organization today,¹⁰ that's good news.

With Matrix, your staff can configure and manage a thousand servers or more as a single domain, reducing the staff time required for routine tasks. Integrated Virtual Connect technology, only from

HP, lets you provision server network and storage connections upfront for your entire environment. By removing coordination among server, storage, and network administrators for everyday tasks, your administrators save time and you save money.

Thermal Logic technology in Matrix lets you reclaim trapped capacity by dynamically "capping" power, so that data center power and cooling are not over provisioned. This reduces blades power and cooling infrastructure requirements by up to 50 percent, without impacting performance.¹¹ Matrix also lets you assess energy costs of different consolidation scenarios in minutes, helping you achieve even greater power efficiencies.

In addition to these operational efficiencies, you can increase asset utilization, reducing your capital expenses up to 40 percent.¹² A 4:1 network consolidation, made possible with built-in Virtual Connect Flex-10 Technology, reduces network edge switching costs up to 75 percent and cabling by up to 94 percent.¹³ Integrated capacity planning and lifecycle management in Matrix helps you avoid over and under-provisioning by enhancing server utilization and recapturing unused resources.



HP BladeSystem Matrix

Flexible, scalable architecture that integrates seamlessly into your existing environment

Management

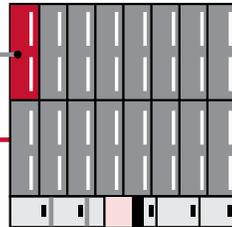


HP BladeSystem Matrix management console built with Insight Dynamics

- Provision
- Optimize
- Protect

Compute

Management host



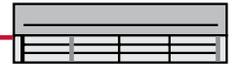
HP BladeSystem c7000

Customize your environment
Choose from the industry's most extensive blade portfolio

LAN
Virtual Connect Flex-10
(Redundant 10Gb Ethernet)

SAN
Virtual Connect
(Redundant 8Gb Fibre channel)

Storage



Compatible with any Matrix-supported shared storage target

Network

Connect to any standard Ethernet or Fibre Channel network

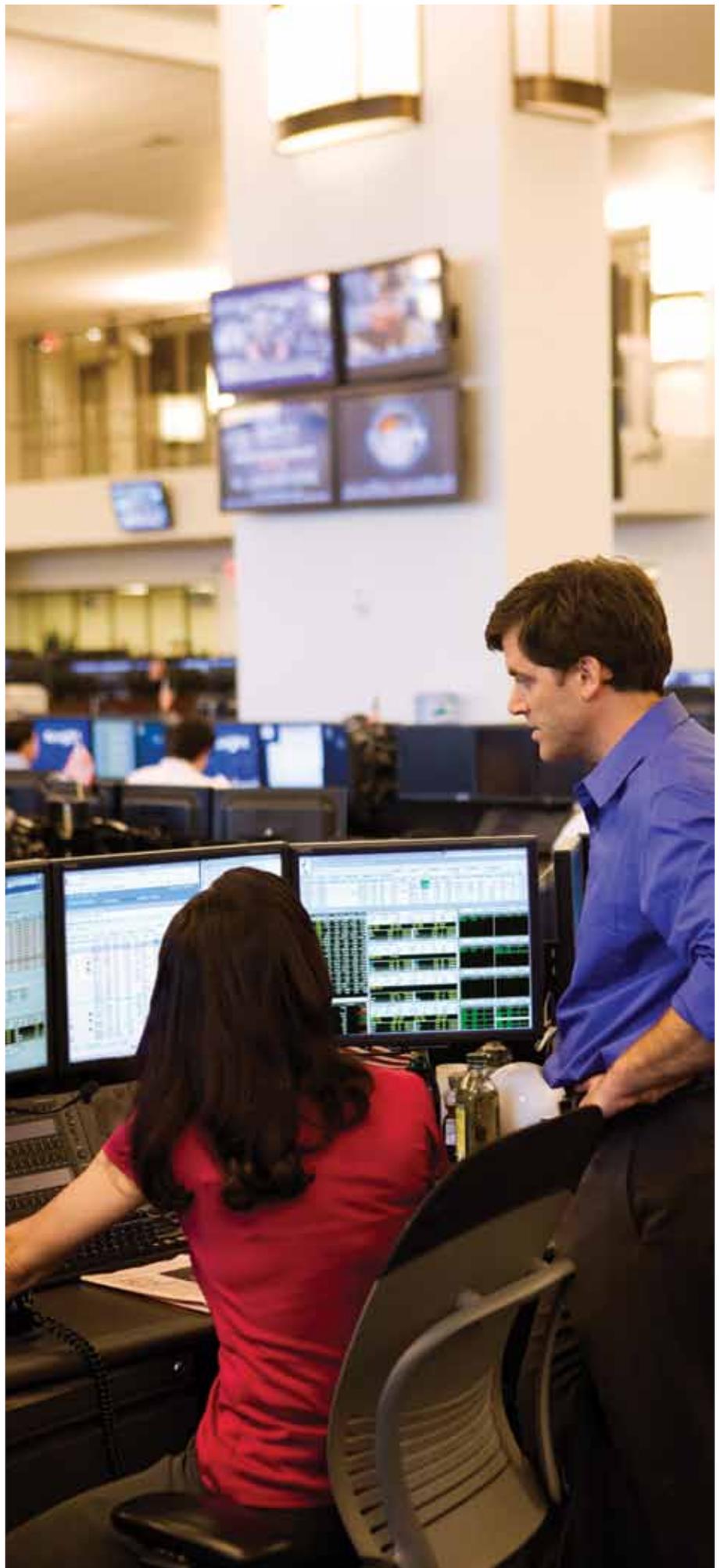
Matrix is scalable—easily add more infrastructure resources when needed

Flexible, scalable architecture for shared services and private clouds

The modular, standards-based HP BladeSystem, with its proven innovations including Virtual Connect, Thermal Logic, and Insight software is the foundation of the BladeSystem Matrix. There are no proprietary Ethernet frames or switches. You get proven firmware and software, integrated by design. That's what makes the BladeSystem Matrix an ideal platform for shared services and for operating private clouds. The flexible, modular HP BladeSystem architecture gives you the efficiencies of standardization to deliver infrastructure as a service. The BladeSystem Matrix consists of pools of compute, storage, virtual fabrics, and power and cooling that can be purchased and delivered as "chunks" of capacity as large as racks at a time.

HP puts your needs first. That's why the Matrix runs any application workload out-of-the-box and integrates seamlessly with storage and network fabrics like HP StorageWorks and HP Networking, as well as EMC and Cisco. It connects to industry-leading IT service management platforms, such as HP Service Center, so it aligns with the leading virtualization technologies from HP, Microsoft®, and VMware. Best practice templates for infrastructures supporting common applications such as SAP, Oracle, Microsoft Exchange and SharePoint are also included, so you are up and running in no time.

The ability to adjust complete infrastructures in minutes, not months, provides the flexibility needed to serve many different business needs from a single infrastructure pool. You can start your private cloud environment small and grow easily by adding "chunks" of infrastructure with HP BladeSystem expansion kits. BladeSystem Matrix can also provide an infrastructure foundation for service providers offering shared or cloud environments to their customers.



Easy to get started without risk

Every HP BladeSystem Matrix is pre-configured and installed by HP experts and includes all-in-one services to get your shared services platform ready for your business in days, not months. Matrix is drop shipped to your door, fully tested and configured by HP. Regional implementation experts facilitate fast and reliable deployment and start-up. That means you are up and operating fast.

The BladeSystem Matrix Starter Kit includes all software, networking, and infrastructure for up to 16 ProLiant or 8 Integrity blade servers with the option of a StorageWorks EVA4400 SAN. The Starter Kit is ideal for evaluation or to tackle a server consolidation project while familiarizing with the BladeSystem Matrix environment. Matrix Expansion Kits let you add capacity to your Matrix environment with enough infrastructure to support up to 16 ProLiant blades or 8 Integrity blades. Your full Matrix environment can scale to 1,000 or more nodes managed in one domain.

HP BladeSystem Matrix ISV Solutions

To help you get up and running even faster, HP is working with key industry-vertical and infrastructure software partners to deliver business-ready Matrix solutions. ISV solutions on HP BladeSystem Matrix let you deploy faster and achieve better manageability and repeatable solutions. Through integration testing, HP delivers best practice white papers and Matrix ISV Application Templates. These templates drop into the Matrix provisioning tools, automating best practices for infrastructure on-demand.

All-in-one implementation services

To get your private cloud environment in place quickly, the Matrix Starter Kit also includes the following all-in-one services:

- Factory Express solution integration that delivers your custom configuration to your door, fully tested and integrated by HP
- Onsite Matrix implementation service with project manager
- Product warranty and support services that include next business day hardware support and one year, 24x7 software support for all bundled HP Insight software
- HP Insight Remote Support that delivers 24x7 remote monitoring for your HP servers, storage, network, and selected multi-vendor products.

In addition to the all-in-one services that are integrated onto your BladeSystem Matrix platform, Matrix comes with flexible, easy-to-purchase HP Care Pack Services for ongoing support delivered by trained services professionals around the world.

HP Converged Infrastructure Services

If you are looking at a broad-based move to Converged Infrastructure, HP Converged Infrastructure Services can help you implement specific shared service solutions in an incremental fashion, side-by-side with traditional infrastructure, or help you undertake a wholesale transformation of data centers to a shared service model built on Converged Infrastructure. HP Converged Infrastructure services include visioning workshops, needs assessments, data center design, operations assistance, and additional implementation assistance.

HP Financial Services

For HP BladeSystem Matrix, HP Financial Services provides innovative financing and financial asset management programs including Pay as you Grow and special lease rates to help you cost-effectively acquire, manage, and ultimately retire your HP solutions. For more information on these services, please or find us on the Web at

www.hp.com/go/hpfinancialservices

HP Technology Services

HP Technology Services provides a broad spectrum of services to small and medium businesses and enterprise customers that encompass assessment tools and workshops, and performance and availability services for HP and multi-vendor environments. This includes automated remote system monitoring and diagnosis; capacity planning assessment workshops, education services; proactive mission-critical services; and support solutions for design, assessment, and deployment of the entire IT infrastructure. For more information on these services, contact your HP sales representative or visit www.hp.com/hps

A shared services platform you can trust

In 2006, HP introduced the innovative HP BladeSystem c-Class, a best-run infrastructure in a box, which became one of the industry's leading solutions for cost-effectively managing and maintaining IT infrastructure. With over 1.8 million blade servers,¹⁴ more than 2 million Virtual Connect ports¹⁵ and more than 4 million Insight software licenses¹⁵ delivered for ProLiant and Integrity servers, the BladeSystem delivers effective business results.

The BladeSystem Matrix builds on that success to bring you a complete Converged Infrastructure platform that lets you instantly adjust to dynamic business demands while transforming the economics of your data center. What other shared services solution can double administrator productivity and reduce TCO up to 56 percent versus traditional infrastructures? And because the BladeSystem Matrix integrates seamlessly into your existing environment, implementation is quick and easy. If you already have the HP BladeSystem c-Class, getting started is even faster.

As you can see, there is a better approach to productivity and your bottom line. Move to the BladeSystem Matrix and start getting the benefits of shared services today.

HP Services

When technology works, business works.

HP Technology Services offer a comprehensive portfolio of HP Care Pack Services to help design, deploy, manage, and support your Matrix solution.

Minimum Recommended HP Care Pack offerings

- Included with every Matrix solution—one-year, 24x7 Software Technical Support and Matrix Implementation Package
- Add—three-year, 24x7 consolidated Matrix Support plus 24 package for integrated Matrix hardware and software support

Enhanced service level Care Pack offerings

- **Proactive Select:** Provides access to HP pre-packaged technical consultancy and service offers. Purchase service credits and obtain expertise as needed
- **Proactive 24 Service:** An integrated proactive hardware and software support solution combines problem prevention with responsive technical assistance whenever you need it

HP Care Pack Services can help you:

- Reduce deployment time and manage Matrix solutions smoothly and efficiently
- Increase uptime and performance of Matrix solution availability to your business
- Automatically monitor, detect, and diagnose problems to quickly save time, money, and resources

For more information, visit www.hp.com/services/ bladesystem

¹ HP White Paper: The business case for HP BladeSystem Matrix, based on data from the HP BladeSystem and BladeSystem Matrix TCO Calculator, <http://roianalyst.hp.com/bladesystemmatrixtco/launch.html>

² Source: Based on experiences of HP customers and HP engineering

³ Source: Product specifications

⁴ Source: Result of product specifications

⁵ HP Engineering testing

⁶ Source: HP Serviceguard product specifications

⁷ HP product marketing, based on customer survey

⁸ Micros Fidelio case study; IDC White Paper, Gaining Business Value and ROI with HP Insight Control, Doc #218069, May 2009

⁹ Dynamic Power Capping TCO and Best Practices White Paper, <http://h71028.www7.hp.com/ERC/downloads/4AA2-3107ENW.pdf>

¹⁰ IDC White Paper Sponsored by HP, Realizing TCO Savings with HP BladeSystem Virtual Connect Flex-10 Technology, Doc #218222, May 2009

¹¹ Dynamic Power Capping TCO and Best Practices White Paper, <http://h71028.www7.hp.com/ERC/downloads/4AA2-3107ENW.pdf>

¹² Based on a comparison of purchasing 100 new "generic" IU Intel-based rack servers vs. an equivalent HP BladeSystem Matrix environment, using the HP BladeSystem Matrix TCO Calculator, <http://roianalyst.hp.com/bladesystemmatrixtco/launch.html>

¹³ HP Virtual Connect Flex-10 product specifications

¹⁴ IDC Worldwide Quarterly Server Tracker, September 2009

¹⁵ HP internal analysis

To benefit from a Converged Infrastructure platform that delivers IT services in minutes, visit www.hp.com/go/matrix



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