

Improving efficiency for the midsize business

More efficient IT operations lead to lower costs, less complexity, and better business outcomes



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Executive summary

Are your IT operations as efficient as they could be?

For virtually all midsize businesses, the answer is no; overly complex operational environments combined with poor communication, planning, and coordination lead to unplanned downtime and chronically low return on resource investments. Fortunately, innovative new technologies and best practices can help businesses improve efficiency and reduce risks, while also decreasing operational costs.

This paper explores some of the most frequent sources of IT operational inefficiencies. It then goes on to demonstrate how HP and its partners are helping IT organizations at midsize firms become more efficient and achieve better results.

Introduction

Midsize businesses, defined as those with between 100 and 999 employees, generally rely on a small number of IT staffers to take charge of all aspects of infrastructure and applications operations, planning, upgrades, end-user support, problem resolution, and ongoing operational improvement. While these requirements are similar to those faced by larger enterprise companies, midsize companies' resources are disproportionately limited. It is therefore paramount to consistently seek ways to drive out inefficiencies and improve effectiveness.

A recent Ovum Summit study, "Survey Identifies Key Steps to IT Operations Effectiveness" (May 2007), revealed that only 20 percent of midsize business IT groups rated themselves as "Very Effective." "Very Effective" is defined as the ability to accommodate changing business requirements smoothly without disrupting the business.

By becoming more efficient and effective, IT departments at midsize organizations can:

- Dramatically decrease the cost of IT capital and the staff time required to deliver necessary service levels
- Improve business and IT employee productivity by deploying, migrating, and updating business-critical applications and services as needed with minimal disruption and rework
- Reduce business risk by simplifying, stabilizing, and securing IT environments and delivering required service levels consistently
- Support business flexibility and respond to changing requirements more quickly by integrating communication and decision-making throughout business and IT organizations
- Redirect precious resources from daily management and support tasks to higher-value growth-oriented projects

Where does inefficiency come from?

Inefficiency in midsize organizations tends to stem from three major sources—infrastructure complexity; limited planning, coordination, and governance; and reliance on manual management processes.

Complex infrastructure

Rapid business growth often leads to complex infrastructures. In the absence of a strategic plan, new applications, servers, and devices are added as business requirements change. This kind of reactive expansion typically addresses short-term needs, but leads to longer-term management challenges in the form of a disjointed, complex nonstandard IT environment that's costly and time consuming to support and maintain. In addition, complexity is associated with less than optimal performance and unplanned downtime.

Limited planning, coordination, and governance

At many midsize organizations, IT management as well as process control and ownership are often limited or fragmented, leading to poorly coordinated procurement and deployment strategies and change management processes. Lack of coordination and governance may also make it difficult for IT to effectively support new business process requirements, leading to lost opportunities.

Overreliance on manual management processes

Complex, nonstandard IT environments typically rely upon numerous manual and ad hoc management processes. These manual processes are often time consuming, requiring frequent rework and repetition. Already stretched IT staff end up spending the lion's share of their time on maintenance activities rather than applying technology to critical business challenges.

In many cases, IT departments at midsize firms do not take advantage of IT management software that could address these issues, because they think they're "too small" for an automated solution. Signs that an IT organization could benefit from management software include:

- Struggling to cope with change requests, upgrades, and patches
- Taking too long to diagnose and resolve problems
- Having numerous trouble tickets initiated by end users before IT is aware of the problem
- Spending a lot of time on manual installations, upgrades, and migrations

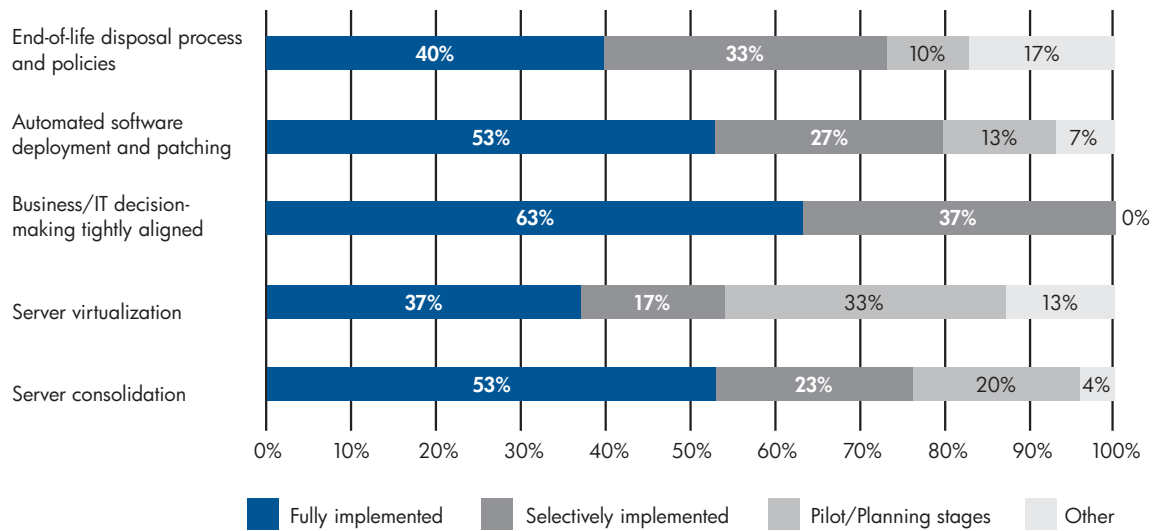
Nonetheless, the majority of midsize business IT organizations struggle to justify IT management software investments. For organizations that are having a tough time getting management tools and automation to the top of their IT priority lists, a quick assessment of the state of IT operations can be a catalyst for action.

Benefits of improving IT efficiency

Research firm Ovum Summit defines highly effective and efficient IT organizations as those that are able to consistently and cost-effectively meet day-to-day service-level expectations and to accommodate changing business requirements without causing business disruption. Analysis of 30 such midsize organizations (see figure 1) finds that they are more likely than less-efficient organizations to have taken the following steps to improve IT-enabled business services:

- Implement consolidation and virtualization strategies to simplify data centers and improve storage utilization
- Implement IT decision-making processes that institutionalize shared business and IT decision-making about IT priorities, service levels, and spending
- Streamline and automate as many repetitive, error-prone manual tasks as possible, including software distribution and patching, security detection and remediation, event monitoring, and root cause analysis
- Define clear processes and policies for managing end-of-life, recycling, and associated environmental impact issues related to IT

Figure 1. Profile of highly effective medium-size business organizations



N = 30
Source: Ovum Summit

Improving IT efficiency can produce rapid and significant results for midsize businesses. By boosting efficiency, you can:

Streamline infrastructure complexity: A more efficient environment is generally a simpler environment that's easier to manage and extend. Less complexity means fewer training requirements and lower day-to-day management costs. It also means IT staff can spend less time on routine maintenance and more time devising IT solutions to business problems.

Reduce IT costs: A more efficient infrastructure is typically a more affordable infrastructure. Greater simplicity leads to lower operational and management costs. More coordinated planning means faster deployments, which lead to lower integration and service costs.

Improve availability and reliability: Improved efficiency is closely associated with higher levels of availability and reliability. Businesses benefit from less unplanned downtime and fewer business process interruptions. More efficient environments may also require less support.

Respond faster and more effectively to changing business, compliance, and customer requirements: Efficiency is also associated with flexibility. A well-planned infrastructure can easily grow or contract as business conditions and priorities change, new regulations emerge, and customers demand new services.

Efficiency benefits

Efficiency opportunity	Typical benefit	Annual value created
Management automation		
Automated desktop software distribution and provisioning	1 hour IT staff time/device/year	USD 25,000
Automated server migration and patching	8 hours IT staff time/server addition or upgrade	USD 6,000
Virtualization		
Increase server utilization from 15% to 30%	Avoid additional CAPEX investment	USD 10,000 per server
Reduce frequency of development server reconfiguration	8 hours IT staff time/server reconfiguration	USD 6,000
Consolidation		
Storage consolidation	Improved backup and recovery increases user productivity by 1 hour a month	USD 600,000
Shift from tower to rack server configurations	Reduce admin. time by 4 hours/month/server	USD 36,000

Assumptions:

Organizations with 500 client devices/end users and average IT staff costs of USD 50 per hour.

Typical medium-size organization updates or reconfigures 15 servers annually.

Average value in increased business user productivity is USD 100 per hour.

Achieving more efficient operations with HP

HP and its ISV partners work with thousands of midsize businesses every year to help them improve IT efficiency. While each customer's business is unique, we have found a number of situations where many organizations can quickly save money and improve service levels by making incremental investments in:

- Virtualization
- Server consolidation
- Improved management, including automated migration and patching, and unified network operation and management
- Blade system platforms
- Storage consolidation solutions
- IT service management

These investments will frequently free up precious IT staff and capital resources (see figure 1) while simultaneously improving end-user productivity.

Some quick, "back-of-the-envelope" calculations can help organizations quickly assess potential efficiency

savings and benefits related to automated management, virtualization, and consolidation. Regarding the number of end users and client devices, some questions to consider include:

- What is the estimated average value of increasing business user productivity per hour? USD 50 per hour? USD 100 per hour?
- How many servers do you need to update or reconfigure annually?
- What if you are able to reduce your IT staff time by one hour per device per year with automation and provisioning?
- What if, through virtualization, you could increase your server utilization from 15 percent to 30 percent, avoiding additional investments in capital expenditure (CAPEX)?
- What if you could cut the time of IT maintenance tasks by 50 percent to 90 percent?
- What if you could reduce administrative time four hours per month per server?

These efficiency improvements and savings can add up quickly. Together with our ISV and channel partners, HP can help you get there.

Read on to learn more about HP and HP partner products and technologies that can help you achieve greater levels of operational efficiency, improve your bottom line, and achieve better business outcomes.

Virtualization

Virtualization allows businesses to stack multiple applications onto a single server, increasing utilization and driving down the cost of supporting each application. Significant cost savings can result from sharing infrastructure components such as those that provide storage and network connectivity. Simply virtualizing servers allows average consolidation ratios of 10:1 or more, which means that you can run the same number of applications on one-tenth the amount of physical hardware. In addition, combining server virtualization with a storage area network (SAN) can raise storage utilization as high as 80 percent.

Despite these benefits, some midsize organizations may be hesitant to adopt virtualization. Common worries include:

- Is it proven?
- Is it expensive?
- Is it difficult to manage?

Virtualization technology has matured rapidly over the past several years and is a proven technology in a variety of environments, ranging from small and midsize businesses to large global enterprises. Midsize businesses can achieve results most rapidly by “virtualizing” servers that are frequently reconfigured or applications that only partially use the resources available on their assigned servers. This approach increases improvements in resource utilization and supports server and storage consolidation efforts.

A virtualized solution typically pays for itself many times over due to the substantial and immediate savings it delivers. These solutions reduce physical hardware needs, both now and in the future; alleviate floor space constraints; reduce power and cooling costs; and simplify administration. Based on our experience, IT staff typically finds a virtualized infrastructure far easier to deploy and manage, and appreciates the flexibility that such a solution offers in terms of rapid provisioning and change management.

HP and VMware solutions for fast, affordable virtualization

HP has partnered closely with VMware, the leader in x86 virtualization, to create a family of midsize business virtualization solutions compatible with a range of hardware platforms, including HP StorageWorks, HP ProLiant servers, and HP BladeSystem servers. The combination of HP hardware, management software, and VMware technology gives managers and CIOs a holistic framework for managing the complexities of a virtualized infrastructure. HP’s approach allows for the integrated management of physical and virtual servers.

How Generalitat de Catalunya used HP and VMware to simplify a complex infrastructure

One organization that took advantage of an HP virtualization solution with VMware is the Generalitat de Catalunya, the 800-year-old governing body for the autonomous region of Catalonia in Spain. The government, which has its seat in Barcelona, provides public services for 6 million people related to education, healthcare, culture, trade, industry, transport, social welfare, and housing.

The Department of the Presidency coordinates the work of all the ministries of the Generalitat de Catalunya and also delivers services directly to residents of Catalonia. Its IT department uses more than a dozen small, customized applications, such as one that allows tens of thousands of young people to make hotel reservations for the summer months in Catalonia. The department’s servers were aging, unreliable, and expensive to maintain. This infrastructure complexity made it difficult for the department to deploy new applications.

To solve the problem, the department turned to VMware Virtualization Infrastructure in conjunction with the HP BladeSystem. The department can now deploy new servers and applications in minutes, rather than in three weeks, as it took previously. It has saved in power, cooling, floor space, and maintenance costs, and can more easily manage its numerous small applications. In addition, it has seen a significant increase in IT staff productivity and has been able to add new services without needing to add to staff.



HP ProLiant DL580 Generation 5 Server: optimized for server consolidation and virtualization

HP offers numerous servers that are certified for optimal performance with VMware Virtual Infrastructure technology. One server that has been optimized for fast-growing midsize businesses with a strong interest in server consolidation is the HP ProLiant DL580 Generation 5 (G5) Server. This space-efficient server is VMware certified and designed to deliver enterprise-class performance, scalability, and availability. The combination of quad-core processors, large memory footprint, scalable I/O performance, and energy efficiency make the HP ProLiant DL580 G5 Server an outstanding platform for virtualization.

The processor performance and large memory capacity of the HP ProLiant DL580 Server can help improve staff productivity through consolidating onto fewer, yet more powerful, servers. Not only can four-socket servers such as the HP ProLiant DL580 Server reduce the amount of floor space needed, but they can also offer the room to grow for optimizing business flexibility and responding to changing requirements.

How Match.com realized operational costs savings with HP

Since its launch in 1995, Match.com estimates that it is responsible for arranging hundreds of thousands of relationships for its members via a compelling suite of online dating services. However, the company's IT infrastructure was failing to scale to meet business needs and application availability problems were increasing.

As part of transforming its mission-critical technology infrastructure, Match.com consolidated its Microsoft® SQL Server layer from ten servers to six HP ProLiant DL580 Servers. The increase in processor speed from the new HP ProLiant systems delivered tremendous throughput improvements, allowing the company to reduce operational costs by not having to manage and support as many servers. The move also helped to reduce the maintenance window from five hours to less than two hours, leading to increased revenues by increasing site availability.

Automated management tools

IT organizations of all sizes report that the majority of IT service problems are actually caused by human error. Automating routine activities can help eliminate the risk of human error and streamline complex software environments, allowing skilled IT staff to spend more time addressing ever-changing business requirements.

To help midsize businesses get the most value out of their traditional server and server blade investments, HP has traditionally included HP Systems Insight Manager (SIM) software with the purchase of HP ProLiant servers. HP SIM automates discovery, monitoring, and inventory management of these devices. With HP's new Insight Control management portfolio, rapid deployment wizards, remote management technologies, and vulnerability and patch management capabilities can be purchased with SIM on a single DVD.

The HP Insight Control Management portfolio spans a range of products designed to address a spectrum of midsize business IT management requirements. At one end of the spectrum, the portfolio offers free and very low-cost monitoring and control tools suitable for smaller business with 100 or 200 employees, one or two IT staff, and a few servers. At the other end of the spectrum, the portfolio scales up in sophistication to support organizations with up to 600 or 700 employees, 30 or more servers and ten or more IT staff.

The two major building blocks in the portfolio are:

HP Insight Control Foundation: the set of tools that HP provides at no additional charge with HP ProLiant and HP BladeSystem environments. HP Insight Control Foundation (ICF) delivers core server, storage, and blade monitoring, as well as control and deployment functions that can benefit even the smallest organizations operating just a handful of servers. ICF allows customers to start small with individual server management tools and grow to a centralized management foundation. HP SIM provides basic server

discovery, inventory, monitoring, alerting, and remote control capabilities via a single unified browser interface. This functionality is available out of the box for ProLiant server and HP BladeSystem products via software and embedded firmware. ICF also includes free integration with Microsoft System Center Essentials, which was developed specifically for the midsize business.

HP Insight Control Environment suites: the HP Insight Control Environment suites are designed for organizations with more than 30 servers. These organizations are often beginning to face problems as they attempt to scale existing manual processes. These suites extend the ICF by adding more sophisticated server and blade deployment, remote management, power and performance management, vulnerability and patch management, and virtual machine management. These capabilities are delivered through a common installer with streamlined licensing and conform to a common security model and user interface guidelines. The full Insight Control Management portfolio provides midsize business customers with rapid and cost-effective access to many of the capabilities associated with IT operational effectiveness.

HP ProLiant Essentials Server Migration Pack for streamlining migration

For midsize business IT customers that need to undertake hardware upgrades, HP offers the HP ProLiant Essentials Server Migration Pack—Physical to ProLiant (SMP—P2P) Edition. HP SMP—P2P software migrates existing operating systems, applications, and data to new HP ProLiant servers in a fraction of the time required by traditional manual processes.

Using the eight-step SMP—P2P wizard, users achieve a complete and accurate migration. No testing or validation is required and no reinstallation of new applications is necessary. The software can upgrade any x86 server from any vendor running Microsoft Windows® Server 2000 or Microsoft Windows Server 2003. P2P pays for itself in a matter of days or weeks.

Unified network operation and management with ProCurve Networking by HP

Many organizations underestimate the importance of the right network infrastructure in IT's role of making the midsize business nimble and effective. Too often, even IT-savvy executives make the mistake of treating a network as simply "plumbing" for moving data around. In an era of fast-paced global competition, this mistaken approach to networking can be disastrous. The right network infrastructure can help you meet your business goals, enabling your organization to compete effectively by reducing complexity throughout your organization, fortifying security across open and wireless networks, and increasing productivity.

ProCurve Networking by HP greatly simplifies your ability to set up and manage your network and provide the services needed by users. ProCurve's management software tools not only increase productivity but also improve the manageability of your IT resources through reduced complexity, including unified management of wired and wireless networks, integrated voice/data/video networks, and implementation of advanced convergence capabilities such as voice over wireless LAN (VoWLAN).

ProCurve Manager (PCM) is key to reducing network complexity through improved manageability. This sophisticated, secure, and advanced Microsoft Windows-based network management tool comes with most ProCurve products. PCM allows network administrators to configure, update, monitor, and troubleshoot ProCurve devices—on both wired and wireless networks, centrally, with easy-to-use screens. The administrator can configure template policies that will take automated actions in response to network events from a variety of sources.

ProCurve Manager Plus (PCM+) can also be enhanced with plug-in modules such as IDM and ProCurve Mobility Manager (PMM) to improve management of mobility, security, and convergence solutions.

Some highlights of PCM+ include:

- Group and policy management
- Easier configuration management
- Advanced VLAN management
- Device software updates that can be scheduled easily across large groups of devices, all at user-specified times

The Web interface and simplified command-line interface (CLI) of PCM and PCM+ also serve to vastly simplify network management.

Citrix Application Delivery Solutions for enhanced IT efficiency

Citrix Application Delivery Solutions significantly enhance IT operational efficiency through application virtualization, streaming, and centralization. They substantially reduce the number of touch points that system administrators and IT staff must oversee by centralizing application execution in the data center. The approach effectively sidesteps potential configuration changes and application troubleshooting at each user's PC, allowing application updates, patches, and major upgrades to be streamlined and easily managed, rather than repeated across numerous user-maintained and potentially incompatible devices located in disparate places. The underlying intelligence in Citrix solutions automatically selects the best delivery method for the user, the application, and the location where the user is connecting from. Citrix Application Delivery Solutions help ensure an optimum user experience with continuous availability and reliable, fast application performance.

You can quickly and seamlessly provision HP server resources for Citrix Application Delivery Solutions by simply joining servers or server blades into the centrally managed group. Citrix's automatic session load balancing software then takes care of directing newly arriving users to the expanded compute and I/O power, smoothly accommodating growth.

Similarly, you can temporarily remove servers or blades from service to apply and test patches offline without affecting the production workloads. Once the changes have been verified, you can quickly put application delivery servers back into production with the click of a mouse.

HP BladeSystem infrastructure

In typical rack environments, the bigger the system grows, the greater the management requirements. For midsize businesses, this often means that management requirements rapidly outstrip small teams' ability to meet them. In addition, rack environments require energy-hungry cooling systems. At the same time, the need to purchase different types of hardware for different applications leads to "server sprawl." It may also be difficult to reallocate capacity from one application to another. And, to improve availability, it is often necessary to invest in redundant infrastructure.

With this "racked, stacked, and wired" approach, midsize businesses are left with problems such as:

- Inflexibility
- Low productivity
- High electric bills
- Overprovisioning

Transitioning from a tower or rack-based infrastructure to the HP BladeSystem platform can help you save floor space, reduce power and cooling costs, and simplify hardware management. Because multiple blades can share common resources, such as fans, cables, and power supplies, an HP BladeSystem is up to 42 percent less expensive to buy than standard infrastructures. The HP BladeSystem is also designed for optimal performance with virtualization software. Other benefits of transitioning from a tower or rack-based infrastructure to the HP BladeSystem include:

- Cutting cables by 94 percent or more¹
- Putting 60 percent more servers in the same space²
- Cutting the time of IT maintenance tasks from 50 percent to 90 percent, or more³
- Reducing the electricity costs required to power and cool servers by more than 30 percent⁴
- Decreasing the time needed to perform upgrades and patches from 10 minutes to 20 seconds per server⁵

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

² 16 ProLiant BL460c Servers in 10U of rack space versus 10 HP ProLiant DL360 Servers in 10U of rack space.

³ "Forecasting Total Cost of Ownership for Initial Deployment of Server Blades," IDC, June 2006.

⁴ "A Comparison of HP BladeSystem with Thermal Logic Technologies to Competitive Systems," Sine Nomine Associates, February 2007.

⁵ "Gaining Business Value and ROI with HP Systems Insight Manager," IDC, May 2007.



HP BladeSystem servers for midsize businesses

HP BladeSystem consolidates essential infrastructure elements—such as power, cooling, connectivity, and redundancy—into a single, highly manageable unit. It takes full advantage of the Insight Control Management portfolio highlighted earlier, which includes built-in control interfaces and unified infrastructure management software, to significantly streamline operations and to increase administrator productivity.

Moreover, the Onboard Administrator for the HP BladeSystem enclosure is the brains of the bladed infrastructure. It provides easy access to critical system information through the dynamic visual display of all infrastructure components within the HP BladeSystem enclosure. Together with the enclosure's HP Insight Display (LED display provides simple status and local setup of the enclosure without the need for an attached laptop or KVM switch), the Onboard Administrator enables easy local and remote administration of HP BladeSystem, specifically:

- Wizards for simple, fast setup and configuration
- Highly available and secure access to the HP BladeSystem infrastructure
- Security roles for server, network, and storage administrators

- Automated power and cooling of the HP BladeSystem infrastructure
- Agentless device health and status
- Thermal Logic power and cooling information and control

For midsize businesses, this translates into lower costs, easier management, and greater flexibility to allocate the right computing resources to the right applications. For instance, to keep costs low, the HP BladeSystem consolidates the essential elements of IT—compute, storage, power, cooling, and more—into a single enclosure.

This allows things such as power and cooling—even storage and networking resources—to be pooled and shared. Not only does this improve utilization and reduce up-front acquisition costs, but it also puts everything into an environment that is much easier to monitor and manage, saving time devoted to less productive tasks.

With HP Virtual Connect, a network interconnect option for HP BladeSystem servers, users only need to wire once and change at will with no impact on their local area or storage area networks. HP Virtual Connect reduces cabling by up to 95 percent, and cuts LAN and SAN connectivity costs by up to 50 percent.⁶

⁶ Results based on HP calculations.

Why HP BladeSystem servers are so energy efficient

To make sure that everything continues to operate at peak efficiency, HP BladeSystem has a fully redundant mid-plane that connects all of the components together, with no active components to fail. The power and cooling is designed to offer peak efficiency with automated management to keep the system cool, but with just the right amount of power and as little heat generation as possible.

Energy-efficiency features of HP BladeSystem servers include:

- **HP Thermal Logic:** HP BladeSystem servers use up to 26.8 percent less power than similarly configured IBM BladeCenter H and 41 percent less than standard rack-mounted servers.⁷
- **HP Active Cool Fans:** These patented fans automatically deliver cooling to match changing demands and environmental conditions.
- **Dynamic Power Saver:** This tool automatically shifts power load for maximum power efficiency and reliability.
- **HP PARSEC cooling architecture:** This architecture dissipates heat quickly, with lower CFM levels needed, enabling denser configurations.
- **Graphical thermal dashboard:** One screen provides a comprehensive view of power consumption, heat output, and cooling capacity.

Scalable server blades for today and tomorrow

HP offers both half-height (HP BladeSystem c3000 Enclosure) and full-height (HP BladeSystem c7000 Enclosure) server blade enclosures. The c3000 can hold eight half-height or four full-height devices, whereas the c7000 has double this capacity. The c3000 is designed for midsize businesses and remote sites, and the c7000 is designed for enterprise data centers.

HP BladeSystem c3000 Enclosure

The HP BladeSystem c3000 Enclosure is a small to midsize business infrastructure “in a box.” It is a versatile, multipurpose design that is ideal for smaller sites that only need four to eight server or storage devices. It’s ideal because it plugs right in the wall, uses standard power, and doesn’t need special air conditioning. It also includes many useful features to help a small staff be more productive with less effort. And it’s easily scalable, so you can start with the cost-effective HP BladeSystem c3000 and transition to the c7000 as your business grows.

HP BladeSystem c7000 Enclosure

The HP BladeSystem c7000 Enclosure is suited for larger IT environments. With twice as many blade bays (16) and interconnect expansion slots as the c3000, it’s ideal to run nearly any application in a dynamic, high-performance data center environment.

HP BladeSystem Solution Blocks

HP has taken the complexity out of creating, combining, and upgrading business solutions for HP BladeSystem servers with HP BladeSystem Solution Blocks. These Solution Blocks make it faster and more cost-effective to deploy common business application solutions, such as mail infrastructures, Web servers, customer relationship management (CRM) applications, and more. Each Solution Block comes with blueprints and other tools for hassle-free ordering, configuring, and customizing multiple applications within either one HP BladeSystem or many. Solution Block toolkits also include thorough solution briefs, cookbooks, and deployment scripts that eliminate the guesswork of defining and building a consistent, repeatable solution.

Modular and expandable by design, Solution Blocks let IT groups add and/or expand business applications more efficiently without extra planning, wiring, and configuring.

⁷ Sine Nomine Associates, 2007.

Storage consolidation

The proliferation of storage devices is a major source of infrastructure complexity at midsize businesses. As digital content grows and regulations require businesses to store ever-larger quantities of data, storage has become a critical issue. Many report that their data storage requirements are growing by 35 percent or more annually. They face increased demands for data backup, disaster recovery, data protection, and regulatory compliance. Some operate multiple physical locations and have been unable to afford comprehensive, centralized SANs, and backup/recovery solutions.

In addition, managing a diverse collection of storage devices and systems can dramatically add to systems management costs and contribute to overall infrastructure inefficiency. Retiring older devices as well as standardizing and consolidating your storage environment can significantly simplify management requirements and reduce related costs.

One of the major efficiency opportunities around storage is obviously storage consolidation—consolidating application data onto external storage devices. The goal is to decouple storage and its management from each vertical application, and implement storage as a horizontal service across the applications instead. The compelling values for doing this are:

- Establishing one backup process for all of the external storage—rather than managing a different backup process for each application
- Defining one replication/disaster recovery solution for all external storage—rather than maintaining a different solution for each application
- Managing one pool of storage instead of a distinct pool for each application server

The benefits include lower management, software, and hardware costs. In addition, IT groups may achieve higher storage utilization because it's no longer necessary to assign excess capacity to each application. And consolidation eliminates the need to install and run data protection software on application servers, eliminating licensing fees and making it easier to implement virtualization.

HP storage solutions for simplified and integrated storage

The HP StorageWorks product family is designed for reliability and simplicity and is optimized to serve the needs of midsize businesses. Products range from simplified and consolidated SANs that enable storage consolidation and centralized management to business protection software and backup solutions for a wide range of media, including tape and digital media.

HP SAN solutions can help midsize businesses:

- Scale for future growth
- Cut operational and management costs
- Efficiently manage the important data your business depends upon with HP SAN products and solutions
- Reduce IT complexity

A complete storage solution “in a box”

The HP StorageWorks All-in-One (AiO) product family integrates network-attached storage (NAS), iSCSI SAN, data protection, and management software with a storage platform that scales up to 37 TB. With a few clicks of a mouse, IT staff members are able to quickly migrate and protect data.

The HP StorageWorks AiO Storage System provides shared storage for application servers, enabling administrators to consolidate storage capacity, improve storage utilization, and reduce system downtime for key applications and services. Midsize business customers implementing an HP StorageWorks AiO system, or many other HP StorageWorks solutions, report that the daily drain on their IT staff resources is significantly reduced due to the simplicity, automation, and standardization offered by these products. They not only improve business performance but also save capital expense.

HP Services IT service management solutions

By developing a comprehensive IT service management plan, defining key governance roles, and automating common IT processes, businesses can respond quickly to change without creating downstream challenges.

Comprehensive service management planning and more

HP and HP channel partners can help you assess your IT organization, identify critical gaps, and design and implement a comprehensive service management strategy. HP IT Service Management (ITSM) Services deliver a comprehensive portfolio of services that help you improve the return on your investment in IT people, processes, and management technology to deliver business-focused IT services. The services span the service management life cycle to help you design, build, implement, manage, and continually improve the services you deliver to the business.

Using industry standards, Information Technology Infrastructure Library (ITIL), and HP best practices, the HP ITSM Services include:

- ITSM Assessment Services
- ITSM Improvement Services
- ITIL/ITSM Education Services

Total Care

HP provides complete coverage for the entire life cycle of your IT infrastructure—from choosing it, configuring it, protecting it, tuning it, all the way to recycling it. This beyond-the-box philosophy, called Total Care, is now customized for the needs of midsize businesses to help you to make more efficient use of your limited IT resources and staffing.

Next steps

The first step to establishing more efficient IT operations is to contact your HP Authorized Reseller to assess your current environment, set cost and performance goals, and create a modular action plan for getting there.

For more information about the products and services referenced in this paper, please visit:

www.hp.com/go/simplystorageworks

www.hp.com/go/insightcontrol

www.hp.com/go/blades

www.hp.com/go/vmware

www.procurve.com

www.hp.com/services/itsm

www.hp.com/go/totalcare

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