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WHITE PAPER

Rightsizing Blades for the Midmarket

Sponsored by: HP

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EXECUTIVE SUMMARY

Blades are one of the fastest-growing segments in the IT industry. Already accounting for nearly 10% of all server shipments, blades are expected to grow to represent more than 25% of server shipments by 2011.

For all this success, however, blades have been primarily limited to large-scale deployments into the enterprise market because they can help alleviate the power and cooling and space constraints felt by large datacenters and because they tend to scale cost-effectively with large-scale deployments. In contrast, many midmarket customers house their servers in a spare closet or an office and do not have the same datacenter challenges of large enterprises; furthermore, the up-front investment in the blade server chassis has generally meant that blades are not as cost-effective as rackmounted servers for typical midmarket deployments of only a few servers.

HP is looking to change this dynamic with the launch of its new HP BladeSystem c3000, a complete blade server and storage solution designed from the ground up with the needs of the midmarket in mind. With 8 bays, the HP c3000 enclosure is half the size of its larger sibling, the HP c7000, which has 16 bays, reducing the required up-front investment for midmarket-scale deployments. In addition, with the launch of a new line of storage blades, HP is making all critical IT infrastructure components available within the HP c3000 enclosure, greatly enhancing the value to the midmarket customer. Finally, with a power supply that can be plugged into a standard wall outlet or an uninterruptible power supply (UPS), and the fact it is designed to be operated without the need for any special cooling requirements, the HP c3000 is designed for the type of server rooms commonly found among midmarket customers.

This white paper examines the requirements for servers, storage, and blade systems in the midmarket; describes the features and capabilities of the HP c3000; and outlines some of the challenges and opportunities HP will face as it seeks to extend its innovative HP BladeSystem c-Class product line to serve the needs of the midmarket.

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THE BUSINESS CONTEXT FOR BLADES IN THE MIDMARKET

Growth of Blades in the Enterprise

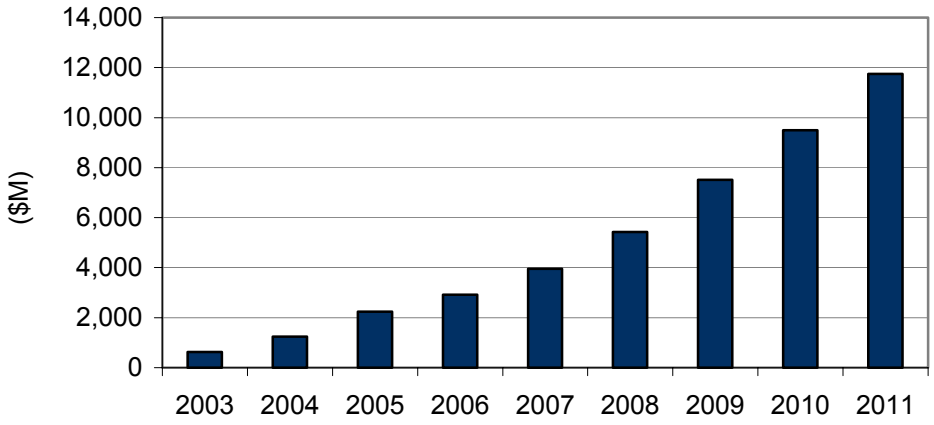
Recent years have witnessed a dramatic turning point for blade technology, with enterprise datacenters increasingly adopting them for mainstream deployments. Bringing advantages in price-performance, power and cooling, reduced floor space footprint, and management and control over rackmounted servers, blades are proving themselves to be the form factor of choice for many large-scale server deployments.

Because of the greater server density achievable through blades, the primary attention initially on blades was focused on solutions such as server centralization and consolidation. Today, however, IT administrators are recognizing the operational management and cost benefits of blades, particularly for large-scale deployments, and are deploying blades to drive down both capital and operational expenses.

This shift toward blades can be seen in the sales figures. According to IDC's Quarterly Server Tracker, blades are the fastest-growing server segment and accounted for 9.4% of all server shipments, an increase of 38% from two years ago. U.S. blade server revenue reached $2.9 billion in 2006 and is projected to grow to $11.8 billion in 2011, at which time IDC expects blades to account for 26.4% of all server shipments (see Figure 1).

FIGURE 1

U.S. Blade Server Revenue, 2003–2011



Source: IDC, 2007

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The Midmarket: Big Computing Needs, Limited Available Resources

Midmarket companies more often than not compete against larger enterprises to attract and retain an increasingly demanding set of customers. Midsize firms often have computing and storage infrastructure needs similar to those of their larger brethren, with typical requirements spanning reliability, scalability, manageability, and affordability. But even though midmarket customers are increasingly interested in the kinds of advanced technology solutions available to enterprises, they are constrained in a variety of ways that have until recently limited their adoption of blade system–based solutions.

Some of these constraints include the following:

- **Limited financial resources.** While midmarket businesses may spend as much as 5–10% of their annual revenues on information technology, for a firm with $1 million in annual revenue, this may equate to only $50,000. This relative level of spending may be adequate for a firm with 100 times as much revenue, but for smaller firms, it means setting IT priorities and adhering strictly to a relatively austere budget.

- **Need for backward compatibility.** In large part because of their limited financial resources, midmarket firms are very reluctant to render past technology investments obsolete. They are always interested in maintaining the value of previous purchases by seeking new hardware and new software that can work with their existing environments. This can make the implementation of new technology solutions difficult if it is associated with major hardware upgrades in advance of scheduled replacements.

- **Limited internal IT expertise.** IDC research shows that fewer than half of all firms with 50 or fewer employees have any full-time IT personnel and that only at 100 or more employees do most businesses typically employ an IT staff consisting of more than one individual. As a result, for most midmarket companies, IT staff attention is largely focused on supporting the IT user base rather than strategic planning, testing, acquisition, and implementation of new solutions. Even in larger midmarket businesses with full-time IT departments, each staffer supports an average of 30–40 end users, a support burden that can largely consume an IT organization and leave little time for special projects or major technology acquisitions.

- **Limited space.** Midmarket companies do not always have dedicated space to house computing equipment. In many firms, it is not uncommon to find a network server operating underneath a desk in the reception area. While formal IT closets or server rooms are frequently found in larger midmarket firms, space is typically limited and may be shared with a variety of equipment, including phone and key system units.

- **Power and cooling concerns.** Hand in hand with limited space for IT equipment is the limited ability of most midmarket firms to provide the optimal environment required for a state-of-the-art computing infrastructure. Reliable uninterruptible power supplies are not always available, anything beyond the standard 110V service can pose a problem, and the challenges of cooling advanced equipment — especially if it is stuck in an out-of-the-way utility closet — can be severe. While businesses may strive to limit their energy consumption to be more environmentally friendly, the real concern tends to be keeping down the cost of utilities.

THE VALUE EQUATION FOR BLADES IN MIDMARKET BUSINESSES

Business Issues Drive Midmarket IT Decisions

IDC research indicates that most midsize businesses, despite their diversity, agree on the two most important business priorities for the next 12 months: improving efficiency and enhancing business growth. Roughly 60% of midsize firms cited one of these as their top priority, more than twice the percentage citing any other business priority. In many respects, these two issues can be distilled down to concerns about reducing or at least better managing costs (being more efficient) and increasing revenue (growing the business). Both improve a company's financial health, and technology can play an important part in helping achieve both goals.

When asked about IT spending priorities, midsize firms provided a much broader array of responses, ranging from strengthening existing IT capabilities to adding new ones. Between 20% and 40% of midsize firms cited the following as IT spending priorities for the next 12 months:

- Improving network security
- Strengthening customer service/customer relations
- Expanding or upgrading their local network
- Increasing storage capacity

All four of these areas can be addressed directly or indirectly through next-generation server capabilities. Blades are a strong all-in-one solution for midmarket firms looking to expand their infrastructure because of their smaller form factor, reduced power and cooling requirements, and management advantages. In sum, blades can deliver powerful compute and storage capabilities in an affordable way with less management effort.

Changing IT Capabilities in Midmarket Companies

Many midmarket companies are far behind enterprises in terms of deploying the types of applications required to maintain their competitiveness in today's global marketplace. In a recent study, IDC found that only about 25% of midsize firms currently have CRM solutions in place, and the use of other advanced solutions is even more modest, with under 20% of midsize firms indicating use of ERP solutions and a much smaller share making use of business intelligence (BI) capabilities. Acquisition plans for all of these technologies are also modest, despite the apparent value they could drive to the business. The natural question is what sort of structural constraints midmarket firms need to overcome before they can deploy the kinds of resources they recognize would be helpful in support of their business objectives.

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From a server perspective, the foundations for application implementation seem to be in place. Midsize firms are beginning to adopt advanced server types. While desktop and pedestal servers are the most common form factors in the midmarket, rackmounted servers are used by almost three in five midsize companies with server-based networks, and blade servers are used by roughly one in five.

The variety of server types used by small and midsize businesses is directly related to the number of servers they have, with multiple server types increasingly common as firms grow. Midsize firms average more than 12 servers per company, which sets the stage for interest in more efficient deployment of their network resources.

The growth of LAN use in the midmarket has been striking in the past three years. The availability of low-priced servers and network operating systems has brought the technology to new levels of affordability. Even more important in driving adoption has been the growing interest in sharing high-speed Internet access and gaining access to a variety of advanced capabilities. The trend has been worldwide, enhancing the productivity of firms of all sizes, but especially smaller ones that had not previously had network resources available.

Value Drivers for Blades in the Midmarket

As blades become increasingly common, and choices in blade technology continue to grow, blades have the capability to provide great value to midmarket customers. This is particularly true in the case of "rightsized" blade systems such as the HP BladeSystem c3000. Such blade systems can reduce capital expenditures and operating costs, improve energy efficiency, and introduce more flexibility into the IT environment.

Lower Capital Expenses

Rackmounted server deployments require many repetitive parts, including adapters, cables, and supporting switches. In comparison, the integrated backplane of a blade system consolidates LAN and SAN access and thereby reduces the number of interconnecting cables and devices.

Typically, the cost of a single blade is greater than the cost of a single rackmounted server; however, as the number of servers scales, the cost per blade of the entire installation comes down, and there is usually a crossover point above which less capital outlay is required to implement a blade infrastructure than a comparable number of rackmounted servers. The initial entry price point of the HP BladeSystem c3000 is lower than that of the larger HP BladeSystem c7000, so the crossover point is at fewer blades, making the HP BladeSystem c3000 a better fit for midmarket IT infrastructure deployments.

Lower Operational Effort and Expense

Midmarket firms are limited by the availability of IT staff, who spend most of their time supporting individual users. Without the skills in-house and not wanting to spend a lot of their budget to outsource server management to partners, midmarket companies are finding it challenging to support their servers, which are increasing in complexity, with the addition of attached storage and complex networking.

Blade servers are inherently designed to provide simplified server management, increased automation, and reduced operational expenses compared with rackmounted servers. Because blades combine server, backplane, and networking components into an integrated assembly, they support advanced management tools — such as HP Insight Control — that streamline many of the mundane tasks of server management, which can reduce operational staff expenses while freeing up IT staff to focus on more mission-critical tasks.

Improve Energy Efficiency

Over the past several years, as advances in server technology have placed increasing demands on power and cooling, and as the per-kilowatt cost of power has risen, the energy efficiency of servers has become an area of concern for midmarket firms. IDC research indicates that for every $1.00 of new server spending today, customers spend an additional $0.50 annually for power and cooling, and if current trends continue, IDC anticipates this ratio will reach $0.70 spent on power and cooling for every $1.00 in new server spend in the next five years.

Switching from rackmounted systems to blade servers can help alleviate power issues. By consolidating a multitude of rack and tower servers to fewer blade platforms, customers can realize energy savings per server while reducing the risk associated with heat failures. Innovative new technologies such as HP Thermal Logic further alleviate the power burden by reducing power consumption and improving cooling efficiency and by providing improved monitoring, reporting, and adaptive power management features.

Flexible and Simplified Infrastructure

As midmarket companies have added more servers, they have driven increased complexity within the server room. Additional servers often mean adding network-based storage as well as increasing the complexity of the LAN. This poses significant problems for IT staff in midmarket companies as they struggle to identify more cost-effective, simpler ways to manage the increasing complexity of servers, storage, and network environments.

The integrated nature of blade technology can solve many of these dilemmas. For example, HP Virtual Connect technology aggregates connectivity into a single resource pool, enabling users to quickly and more easily provision — and, perhaps more importantly, reprovision — servers. IDC surveys confirm that customers view blades as a means to simplify their infrastructure and provide the flexibility required to meet the business' ever-changing demands.

HP BLADES AND THE NEW HP BLADESYSTEM C3000

The HP BladeSystem c-Class

The HP BladeSystem c-Class represents the state of the art in HP blade server technology. Since the launch of the HP BladeSystem c7000 in June 2006, HP has made significant gains in the market; in fact, on the strength of the c-Class, HP was able to claim the leadership position in the blades market in the fourth quarter of 2006, according to IDC's Quarterly Server Tracker.

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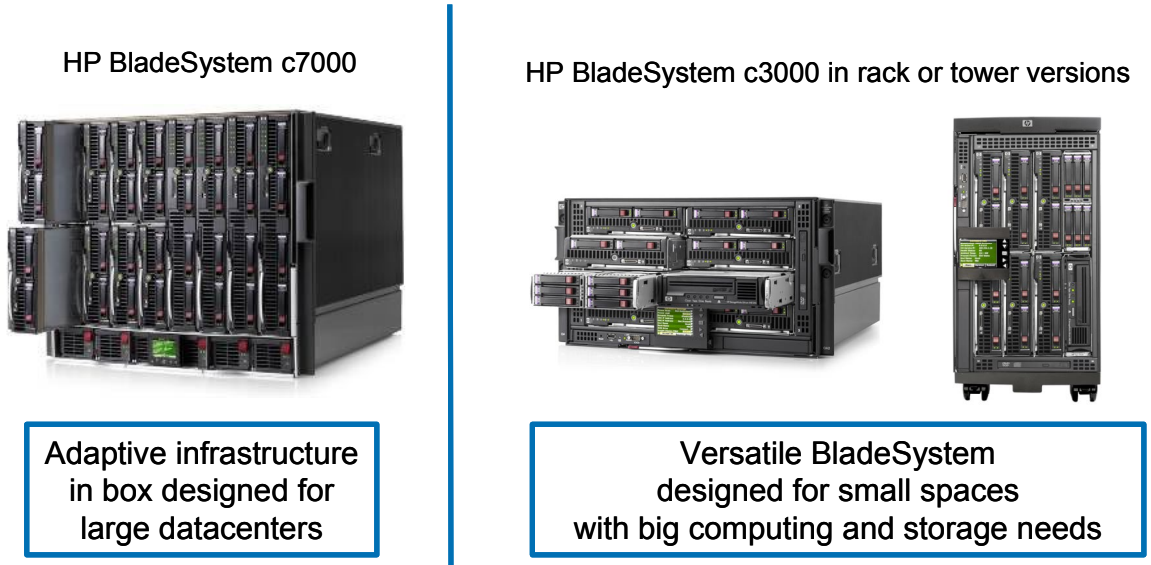
With 16 blade slots per chassis, the HP c7000 is squarely targeted toward large-scale enterprise deployments; however, in September 2007, HP expanded its c-Class product line with the launch of the HP BladeSystem c3000 enclosure, which is targeted to the needs of the midmarket business customer. The HP c3000 contains the same technology and innovations found in the HP c7000, including HP Virtual Connect, HP Thermal Logic, HP Insight Control, and the HP NonStop midplane, but it comes in a smaller form factor and includes new innovations designed to suit the needs of the midmarket, including a new addition to HP's line of storage blades (see Figure 2).

FIGURE 2

HP BladeSystem c-Class Portfolio



Source: HP, 2007

HP BladeSystem c3000: c-Class Performance Rightsized for the Midmarket

With the launch of the HP BladeSystem c3000 enclosure, HP is looking to build on the success of the c-Class in the enterprise market and extend the product line to the needs of the midmarket. The HP BladeSystem c3000 was built from the ground up to be a versatile, all-in-one infrastructure designed for smaller customer sites that still have large computing and storage requirements. At the same time, it is fully compatible with each component of the HP c-Class blade portfolio (i.e., any server, storage, or networking blade designed for the HP c7000 can also run on the HP c3000 chassis).

Features built into the HP BladeSystem c3000 designed for midmarket requirements include the following:

- **Smaller form factor.** The new HP BladeSystem c3000 is a smaller chassis than the HP BladeSystem c7000, with 8 server and storage bays and 4 high-speed networking bays (compared with 16 server and storage bays and 8 networking bays in the HP c7000). Because the HP BladeSystem c3000 has a lower entry price than the larger HP BladeSystem c7000, it is a more affordable way for midmarket customers to get started, and it has a lower crossover point at which it is more economical for customers to invest in blades than in HP rackmounted or standalone servers.

- **Office friendly design.** With many midmarket businesses lacking a formal datacenter, the HP BladeSystem c3000 is designed to easily integrate into their business environments. The HP c3000 is available in both a tower and a rack design, giving customers the ability to choose the best form factor for their environment. Additionally, in contrast to the HP c7000, the HP c3000 chassis power supply has the capability to plug into a wall outlet or a UPS. Further, the HP c3000 has a self-cooling design that is suitable for harsh environments without special cooling equipment, meaning customers can deploy the HP c3000 in standard office facilities without fear of it overheating.

- **"No learning curve" configuration and deployment.** The HP c3000 was designed to be configured using the same setup process that midmarket partners and customers are used to performing for rackmounted or tower-based servers. The HP c3000 chassis includes a DVD drive — a new feature for c-Class specific to the HP c3000 — into which the customer or partner can place an HP SmartStart DVD, which walks the user through the process of installing all the system software on a bare-metal server and which can also be used to install operating system and application software. It also comes with a local KVM interface that can be used to connect to a KVM network.

- **Infrastructure in a box.** With innovations such as the inclusion of a new line of storage blades, the HP c3000 can provide a self-contained IT infrastructure that is well suited for smaller, midmarket deployments. Instead of requiring external storage such as SAN or NAS to connect to the blade infrastructure, the HP c3000 can house every critical component of the IT infrastructure.

- **Simplified and lower-cost connectivity.** With the innovative design of the HP BladeSystem c3000, remote sites and midmarket customers may choose to deploy only a single Ethernet switch/router for Internet connectivity. The new HP GbE2c Layer 2/3 switch module (from a partnership with Blade Network Technologies) can connect to the company's DSL or cable modem, providing simpler and lower-cost connectivity than traditional approaches used in tower-based or rackmounted servers.

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Designed for Supporting Branch Offices and Remote Sites

IT research shows that six out of seven midmarket firms have multiple locations and branch offices. This leads to challenges for IT management as the IT needs of branch offices and headquarters are often conflicting. Branch locations are often looking for high levels of flexibility and autonomy in IT solutions, which may cause them to work outside of IT corporate policies, while headquarters places an emphasis on uniformity and control across the entire infrastructure.

Further, branch offices typically have few or no IT skills at their site and require remote assistance to add, update, or repair computer resources. They often look to partners to add to their local support system. With the launch of the HP BladeSystem c3000, HP now has an infrastructure offering that is designed to meet these needs, simplifying the task of server management and enabling branch offices to quickly and easily deploy their infrastructure while providing headquarters the uniformity it desires.

New Storage Blade Expands Solution Offerings

One of the key benefits of the HP BladeSystem portfolio is the flexibility to combine different "building blocks" of application solutions within one blade enclosure. Customers have the flexibility to choose between server, networking, and storage blocks to accomplish the right balance of computing power, connectivity, and data storage capacity for their requirements.

With the HP c3000, HP has also announced the new All-in-One (AiO) SB600c storage blade, thus growing its storage blade product line to three offerings. These storage blade products cover a variety of storage needs ranging from a simple expansion of the storage capacity of an individual blade server, to shared file and application storage, to backup and archiving. The storage blade products are as follows:

- **HP StorageWorks SB40c Storage Blade.** This blade delivers direct-attached storage (DAS) density for HP BladeSystem c-Class server blades. A single SB40c blade provides up to 876GB of additional raw capacity to a single blade server. Customers use the SB40c to add storage capacity to their c-Class blade servers without the cost of a SAN — in cases when shared storage is not required.

- **HP StorageWorks Ultrium 448c Tape Blade.** This integrated tape blade protects the data residing within the HP BladeSystem c-Class enclosure (HP c7000 or HP c3000). This tape blade uses LTO Ultrium 2 technology with compressed capacity of 400GB on a single data cartridge and compressed performance of up to 48MBps.

- **HP StorageWorks All-in-One SB600c Storage Blade.** This new storage blade provides up to 1TB of network storage that can be shared not only by blade servers within the enclosure but also by all servers on the network. The AiO SB600c is a member of HP's AiO family of storage products that provide shared storage for files and application data through built-in support of NAS and iSCSI protocols, respectively.

Companies of all sizes are concerned not only about the growth of their electronic data but also about managing their storage to achieve different business goals such as disaster recovery, compliance, data protection, and archiving. While large organizations usually have sufficient resources and expertise to build and manage appropriate storage infrastructures, smaller organizations often lack the required resources and expertise. This pain is especially acute in the midmarket as midsize companies increasingly tell IDC they require storage deployments with enterprise-level functionality, even though they have limited implementation budgets.

By expanding its product line of storage blade products, HP is improving its ability to address the needs of customers who are looking for integrated solutions for a variety of storage-related business tasks. Built-in system and storage management software, a range of storage connectivity options, integrated data protection tools, and a simplified approach to building custom solutions through a broad range of HP Solution Blocks all combine to make the HP BladeSystem c3000 a solution that allows customers to achieve their business goals while avoiding the hassle of dealing with integration and management of heterogeneous point products.

Innovative Technology Designed to Reduce Costs, Streamline Server Management

Built to be entirely compatible with the HP BladeSystem c7000, the HP BladeSystem c3000 contains the same technology and innovations found in its larger sibling, including HP Insight Control, HP Thermal Logic, HP Virtual Connect, and the HP NonStop midplane.

HP Insight Control

HP Insight Control is designed to address some of the toughest problems facing today's IT staffs — cost, time, energy, and change. This software suite installs core HP management software that unifies the management of servers, storage, power and cooling, and networked devices from a single console.

Designed to simplify production deployment and infrastructure life-cycle management, HP Insight Control can increase system availability, create tangible IT efficiencies, and provide IT administrators with greater control. Specific technologies in HP Insight Control for the HP BladeSystem c-Class include the following:

- **Integrated Lights-Out 2 (iLO2).** Each HP BladeSystem blade contains an iLO2 management processor designed to enable encrypted, secure remote administration. Accessible through a browser or command line interface, iLO2 enables administrators to perform day-to-day server management tasks as well as take control in emergency situations. It can be used to automate server deployments, deliver software updates via virtual media, and monitor server power consumption.

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- **Onboard Administrator.** The Onboard Administrator includes a simple LCD screen on the front of the blade for rapid setup and daily maintenance, as well as redundant modules on the rear for advanced systems operations. It enables system administrators to monitor and configure server, storage, and power settings locally or through a Web-based interface. It consolidates access to all iLO2 processors and can be used for remote firmware updates and identification of faulty components.

- **IT infrastructure management.** HP Insight Control Environment is provided with HP BladeSystem c-Class enclosures as a free evaluation or fully licensed software. It is a software suite designed to simplify the provisioning and management of HP BladeSystem infrastructures.

HP Thermal Logic

HP Thermal Logic enables the introduction of high-density blade computing while alleviating the burden associated with power and cooling. It takes a holistic approach to power and cooling issues by pooling and sharing power and cooling resources, then using management and thermal design to efficiently deliver those resources based on the performance level required. Key innovations include the following:

- **Management, reporting, and control.** With hundreds of sensors located throughout blade enclosures all easily accessible through HP Onboard Administrator and HP System Insight Manager, HP Thermal Logic enables IT managers to quantify power consumption and cooling needs and manage them across the infrastructure at the level of individual servers, racks, or groups of systems.

- **Power efficiency.** Increased power efficiency is provided by technologies such as Dynamic Power Saver, which balances the load on power supplies to ensure maximum efficiency, and Power Regulator, which works at the processor level to match processor speeds to workloads to reduce power consumption.

- **Adaptive cooling.** Innovations such as Parallel Redundant Scalable Enclosure Cooling (PARSEC), which divides each enclosure into multiple zones and enables individual cooling adjustments within each zone, and HP Active Cool Fans, which provide dynamic levels of airflow to match heat needs, enable system administrators to increase blade server density while lowering the costs to power and cool them.

HP Virtual Connect

HP Virtual Connect decouples servers and their network addresses so that changes in the server infrastructure don't require changes in the network. It aggregates LAN and SAN connectivity into a single resource pool that can be shared physically or virtually across c-Class blades. Users can quickly and easily move resources to meet changing needs in their infrastructures, such as stopping bottlenecks or scaling to accommodate a spike in demand.

In standard deployments, media access control (MAC) addresses and World Wide Names (WWNs) are registered to the individual servers. In contrast, HP Virtual Connect defines a server connection profile for each server bay in an enclosure before the server is installed. This profile establishes the MAC addresses for all network interface controllers (NICs) and the WWNs for all host bus adapters (HBAs). The SAN boot parameters then hold the MAC addresses and WWNs constant in software so that they remain unchanged, even if the bare-metal server is changed. Those same MAC addresses and WWNs are also assigned to a new server that replaces an existing server. Profiles can also be moved from one bay to another bay, facilitating rapid substitution of a new physical server for one that has failed, without disturbing any MAC address or WWN mappings. The LAN and SAN never see any changes.

As a result, HP Virtual Connect simplifies the management of server network connections. More importantly, after deployment, the administrator can quickly accomplish all critical network functions — including moving, adding, or changing servers — without the help of network or storage administrators.

HP NonStop Midplane

The HP NonStop midplane in the HP BladeSystem c3000 blade chassis provides up to 2.5TBps of aggregate bandwidth and utilizes the same midplane technology, designed to be reliable and highly available, that is used in HP NonStop servers. The HP NonStop midplane uses a passive midplane design that is designed to ensure reliability by removing active components, which reduces the chance of individual component failure. Separating the power and network signals onto two different midplanes maintains the signal integrity of high-speed signals and ensures that power issues such as short circuits cannot be propagated onto the signal midplane.

RELATED SOLUTIONS, PRODUCTS, AND SERVICES

Designed for the Partner Channel

HP's stated intention is that the HP c3000 "belongs" to the partner channel. All of HP's products can be sold via partners, but the HP BladeSystem c3000 is the first line of products that HP has intended for the channel from the onset. To that end, HP has put forth a lot of effort to ensure that its partners are prepared to take advantage of the opportunity the HP c3000 affords. To start, the company has established Blade Builder University, a course that not only covers the technology but also concentrates on the business aspects of HP c3000 deployments, with a focus on building a successful blade practice. In addition to the technical information, sales, managed services, and longer-term customer strategies are also discussed.

HP has also created a series of Solution Blocks, which are packaged solutions designed specifically for the midmarket customer. HP Solution Blocks are designed to enable partners to accelerate the process of deploying blades for their customers. Nine HP Solution Blocks are available, and HP plans to add 12 more by the end of the year. The HP Solution Blocks cover areas such as infrastructure, mail/messaging,

and data protection. Each HP Solution Block includes a solution brief and cookbook as well as a TCO solutions tool. HP is encouraging its partners to take advantage of the building block methodology as they choose to create their own solutions using the blade technology.

For HP and its partners, the HP c3000 opportunity extends beyond the benefits of the technology. With the HP c3000, partners can work with their customers to extend the initial sale into a services opportunity. Technologies such as HP Insight Control enable the systems to be managed remotely, which enables partners to realize managed services revenue while providing increased value-add to customers and leveraging innovative capabilities in HP's product offerings. In fact, with the flexibility that blades offer, a range of services can be bundled with the product set that offer benefits to partners as well as to customers.

HP offers flexibility in the way solutions can be purchased. HP Financial Services works with HP's delivery partners to offer financing and leasing programs, which provide midmarket customers with the ability to implement blade technology with minimal initial capital outlay. With special programs and incentives available to HP BladeSystem customers, HP Financial Services' goal is to make it easy and economical for customers to deploy the latest HP technology, manage their overall TCO, and reduce the risk of dealing with older or surplus HP equipment.

Integrating Blades into the Server Room

While some customers choose a rip-and-replace strategy for installing blades, replacing their current server infrastructure with blades in one fell swoop, it is more common for customers to incrementally introduce blades into their IT infrastructure, running them side by side with their existing rackmounted or tower-based servers. Even customers who intend to eventually replace their entire server infrastructure with blades often choose, for capital budget reasons, to replace only a portion of their blades each year, spreading the total deployment over a three- to five-year period.

This approach doesn't introduce operational challenges to customers or deployment partners any more than running rackmounted and tower-based servers in the same infrastructure would. HP BladeSystem c-Class servers can connect to other servers, storage devices, switches, and so forth in the customer's infrastructure and can be managed with many of the same tools that the IT administrator is using to manage the other HP servers in the business' infrastructure.

Blades: The Right Server Form Factor for Virtualization and SAN Deployments

A hot topic right now for midmarket businesses is consolidating their servers by implementing virtualization in an attempt to manage the growth of servers in their environment. With their smaller form factor and reduced power and cooling usage, blades are a natural fit for any company considering server consolidation.

In addition, blades are often well suited for SAN and other network storage implementations. Because it's easier to connect network storage to blades than individual servers, blades can make it easier for midmarket businesses to implement and manage network-attached storage.

CHALLENGES AND MEETING THE CHALLENGES

By redesigning its successful HP BladeSystem c-Class for the midmarket, HP has a significant opportunity to greatly expand sales into a market that until now has not put a great deal of emphasis on blades. But to achieve significant deployments in the midmarket, HP will need to overcome a number of challenges, including the following:

- **Educating the midmarket about the value of blades.** With blades historically considered to be an enterprise solution, HP has the challenge of educating customers and channel partners about what blades can mean to them. According to recent IDC studies, customers who have not adopted blades view them simply as a means for consolidation, reducing floor space and simplifying cabling. These issues typically are not as critical to the midmarket as they are to enterprises because the IT infrastructure of a midmarket business is smaller and real estate is less of a concern.
- **Overcoming perceived price barriers.** Nonadopters also perceive that blades come with a price premium because of the up-front cost of the enclosure. While the smaller form-factor HP c3000 enclosure will help alleviate the perceived "chassis penalty" among cost-sensitive small and medium-sized businesses (SMBs), HP will need to drive home messaging that highlights the benefits of the all-in-one infrastructure solution.
- **Overcoming customer hesitation.** While midmarket businesses are interested in advanced technology solutions, they can be conservative when it comes to embracing new technology. Many firms, especially smaller ones, are reluctant to invest in new technology if they think more advanced approaches may soon be available. The concern about potential obsolescence can actually delay acquisition of technology that will be immediately helpful. The flexibility and expandability of blade solutions mean that investments in the technology today will provide a foundation for even more advanced technology tomorrow. As issues of server consolidation and virtualization become increasingly important to growing companies, those with an appropriate infrastructure will have a competitive advantage.
- **Avoiding potential disruption as new servers are introduced.** While introducing new applications can be challenging for IT departments and users alike, infrastructure changes can place special pressure on technical staff as obsolete equipment and related policies and practices are updated. New procedures are likely to distress some staff until they become more familiar. For both technology users and support staff, communication and training will be especially important, as will patience as improvements in performance gradually replace what seem to be initial productivity setbacks.

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- **Ramping up the partner channel.** HP will require the help of its channel partners both to evangelize blades to the midmarket and to provide the required implementation services. Midmarket customers often rely on their local VAR as a trusted advisor for technology purchases and strategy. Strong channel programs that provide partner incentives and education about blades are a clear requirement for HP. The vendor will also have to help partners understand the customer business case around blades. IDC believes that the channel, if properly motivated, will be excited by this new product introduction because it can benefit from incremental sales in pull-through of additional storage and networking hardware, systems management tools, and value-add services. These sales are more akin to midrange server sales, which are "sticky" and have higher levels of customer loyalty and margin than typically experienced in volume server sales.

CONCLUSION

Long considered to be primarily useful for enterprise-scale deployments, blades are beginning to make inroads into the midmarket business segment. With the introduction of blade products designed specifically for the needs of the midmarket, such as the HP BladeSystem c3000 and the new All-in-One SB600c storage blade, midmarket customers are more likely to turn to blades for their day-to-day server infrastructure needs.

The HP BladeSystem c3000 is "rightsized" to suit the needs of the midmarket, with half the number of blades found in the larger HP BladeSystem c7000, which reduces customers' up-front expenses and enables them to get past the break-even point at which it's more economical to purchase blade servers than rackmounted servers faster than they would with the larger chassis. In addition, with HP's release of the new AiO SB600c storage blade, the HP BladeSystem c3000 can provide all critical IT components required for a midmarket customer; in other words, the HP BladeSystem c3000 can be an "infrastructure in a box."

HP will have a number of challenges, including educating midmarket customers about the value of blades, overcoming perceived price and implementation barriers, and ramping up its partner channel; however, assuming HP can address these issues, it may be poised to replicate the success it has achieved with the HP BladeSystem c7000 in the enterprise market.

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