Market Roundup

September 14, 2007

HP's Midsized Push

By Clay Ryder

HP has announced new products, solutions, and services targeting midsize companies, the Global 500,000, to help accelerate growth and reduce operating costs. Highlighting the launch is "Shorty," the compact HP BladeSystem c3000 enclosure for smaller technology sites, branch offices, and remote locations. Implementation of the c3000 requires no special power, cooling, or staff, easing midsize customers' ability to gain the benefits of a fully bladed environment. According to HP, The BladeSystem c3000 delivers power and cooling savings of up to 30%, SAN connection costs reduced up to 53%; and cabling reduced by up to 94%. HP also stated that the breakeven cost of the c3000 is around three to five server blades. The rack-based c3000 features a compact 10.5-inch-high design that fits up to eight blades, plugs into a standard 110- or 220-volt wall outlet and provides easy-to-connect networking. The tower version of the c3000, expected to be available in the first quarter of 2008, is outfitted with the same features and will require only two square feet of floor space. The c3000 is fully compatible with existing BladeSystem c-Class servers and network connectivity options as well as .ProLiant, Integrity, and StorageWorks server and storage blades. HP also unveiled the HP StorageWorks All-in-One SB600c Storage Blade, which works in both the new c3000 and the existing HP BladeSystem c7000, to delivers easy-to-use backup, archiving, and disaster recovery capabilities, all without requiring specific storage expertise. HP states that this is the only storage blade available today that delivers bladed network-attached storage, iSCSI SAN, and data protection in a single device. Customers also can back up data within the c3000 using the HP StorageWorks Ultrium 448c Tape Blade, which provides data protection for all servers and associated storage. The HP BladeSystem c3000, HP StorageWorks All-in-One SB600c and HP Solution Blocks are currently available. Pricing for c3000 starts at $4,299 and the SB600c at $9,968.

On the software front, the company announced its HP Midsize Business Solutions, which are tested blueprints for workloads including mail messaging, CRM, and ERP, and are available through HP channel partners. HP's solutions for midsize companies are designed and integrated with software from partners such as Citrix, Microsoft, Oracle, Sage Software, SAP, and VMware as well as from local ISVs, and extend across all HP ProLiant servers, HP BladeSystem, and HP StorageWorks midmarket offerings. The company released new application blueprints known as HP Solution Blocks, which are intended to simplify and accelerate the integration of multiple application and data protection solutions into the new c3000 enclosure. These tested and documented combinations of HP server blades, storage blades, and management software were developed for the channel to quickly configure and deliver multiple applications on the BladeSystem c3000. HP Solution Blocks is available through HP channel partners and pricing varies based on users and/or capacity requirements. HP has trained 5,000+ worldwide HP Blade System Channel partners to deliver the new products and services.

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Midsized businesses from an opportunity perspective are big business and the IT systems vendors have known this for some time. IBM long ago launched its various Express programs targeting this market segment, and HP has for quite some time produced offerings directed at this opportunity. Nevertheless, this announcement is quite notable not only for its new blade offerings but for the range of hardware, software, and services evident. The advent of the c3000 is also significant in that it is not only a blade enclosure focused on SMB, but in its attention to creative variation on the physical aspects of blade chassis and its all-in-one approach to support servers, storage, and networking. Through its use of standard circuit electric power, i.e., 110v/220v standard capacity, implies that the c3000 can be placed in many locations outside of the standard datacenter, such as a break room or general storage room, that can be adequately cooled by standard room air conditioning. The thought of tower-based blade solution, on wheels nonetheless, is truly SMB-friendly, and to us a market leading approach to delivering enterprise-grade technology in an appropriately scaled solution.

The availability of several key technologies including HP Insight Control, HP Thermal Logic power and cooling, HP Virtual Connect, and the HP NonStop midplane serve to illustrate that the c3000 is in the same competitive league as other HP blade chassis, and the midsize focus does not equate with a stripped-down solution. In addition, if needed, many of the components can be relocated into a c7000 chassis should corporate growth dictate scaling up the blade solution. Along this same modular way of thinking, the BladeSystem Solution Blocks offer a "self contained" application solution that can be housed within a BladeSystem. We see this as a clever approach to address the reality that most midsized organizations do not view applications as a collection of technology, but rather as a business process. Hence, selling a CRM solution as a building block lines up with the business thought, "we need a CRM solution," not the IT approach of list of product SKUs. Further, the HP TotalCare offerings targeting midsized organizations can ease the deployment and training aspects while offering financing options that fit the budgetary realities of midsize companies.

With this announcement, and the recent SMB-focused blade solutions from IBM, we see the two leading systems vendors in a competitive campaign to win the hearts and minds of IT professionals who are increasingly embracing the value proposition afforded by bladed solutions. The degree of integration of physical technologies, as well as software and services, combined with a razor-sharp market focus, has resulted in some truly amazing high value-added computing choices for organizations of most any size. With the new dual- and quad-core processors coming on to the market, we believe that we are witnessing a renaissance in computing architecture definition and related R&D spending that along with virtualization will substantially alter the physical appearance and operational means of the datacenter. The benefactors are not only the systems vendors, but in particular, the organizations that take advantage of these new state-of-the-art solutions to drive their businesses.

Seagate Optimizes Drives for Digital Video Surveillance Systems

By Lawrence D. Dietz

Seagate Technology has announced that its SV35 Series hard drives, specifically designed for optimal performance in digital video surveillance systems, now have a top capacity of 1 terabyte, providing thirty-two full days of high-resolution video streaming. In addition, Seagate is broadening its hard drive offerings targeted at video surveillance applications to include the Seagate Barracuda ES and EE25 Series hard drives, now providing a complete range of products addressing the security needs of large and small organizations across a wide range of markets. Surveillance digital video recording systems are overwhelmingly replacing closed-circuit television and non-technical surveillance and security systems. S-DVR market growth is driven by the needs of the homeland security, retail, casinos/hospitality, and financial and utility industries, among others. Digital video security systems now enable sophisticated software capabilities to automatically preview and flag security events in seconds, where manually reviewed images might take days or even months to locate similar information. Hard-drive storage is a critical component in S-DVR systems, and high-resolution image capture moves the quality of stored video from grainy and marginally useful to crisp and detailed. The resulting improved images can used more effectively to combat crime and improve business practices in a wide variety of industries. The Seagate SV35 Series, the Seagate Barracuda ES and the Seagate EE25 Series are engineered for continuous use and promise reliability, ruggedness, and capacity.

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Seagate SV35 Series hard drives make use of the company's latest advancements in hard-drive technology with features designed specifically for digital video surveillance recording. With about eight times the capacity of a 160GB hard drive, a single 1TB SV35 enables a multitude of video cameras to be deployed. In addition, the larger capacity enables longer archival periods and allows the S-DVR to take full advantage of the high-resolution, capacity-intensive video streams to deploy intelligent video applications. The Barracuda ES hard drive provides Serial ATA storage for multi-drive enterprise network surveillance applications where storage system redundancy is often required. The new generation of Seagate SV35 Series hard drives are scheduled to begin shipping in December 2007. The EE25 Series and Barracuda ES Series hard drives are currently shipping in volume to customers worldwide.

There are several complementary trends feeding the demand for specialized disk drives in digital video surveillance. The transition from CCTV to digital format has helped to mature the marketplace and establish digital as the standard format. In addition to the physical security implications, remote monitoring and optimized search capabilities also contribute to the move toward digital format. There is an observable need for video monitoring beyond security. For instance, in some industries there is a perceived need to document sales transactions so that dealers can establish that their sales and finance people provided complete and accurate disclosure.

In addition to these trends there is a growing recognition that any type of investigation in today's world requires a combination of electronic/information procedures along with traditional investigation. Many investigations of wrongdoing involve the simultaneous video recording of an individual at a special workstation along with the data forensics capture of his or her activity. We believe that this holistic investigation methodology will be another stimulus for the kind of specialized disk introduced by Seagate in this announcement. We will leave the sensitive issue of employee monitoring for another discussion.

VMware Next Gen Hypervisor in Server Hardware

By Clay Ryder

VMware, Inc. has introduced VMware ESX Server 3i, the industry's next-generation thin hypervisor that will to be integrated in server hardware from Dell, Fujitsu, Fujitsu Siemens Computers, HP, IBM, NEC, and others. Having virtualization integrated into server hardware simplifies the deployment and management of virtual infrastructure and with VMware ESX Server 3i, customers will be able boot a server to support virtualization in a matter of minutes. VMware ESX Server 3i is the new architectural foundation for VMware Infrastructure 3; VMware customers will be able to implement the entire suite of VMware Infrastructure 3 products including VirtualCenter, VMotion, Distributed Resource Scheduler, High Availability, and VMware Consolidated Backup, on top of this foundation. VMware ESX Server 3i is based on the VMware ESX Server and is a bare metal hypervisor that partitions a physical server into multiple secure and portable virtual machines. VMware ESX Server 3i's new architecture provides unmatched security, reliability, and manageability in a compact, 32MB package and is the only hypervisor on the market today that does not incorporate a general-purpose operating system. Hardware vendors are expected to begin shipping VMware ESX Server 3i within their products by the end of 2007 and over the course of 2008.

Overall, we are quite pleased with this announcement as it addresses one of the limitations of current VMware technology, namely that the hypervisor is software- as opposed to firmware- or hardware-based. With early implementations of virtualization, having a software-based hypervisor was generally a non issue as many of the workloads and servers being consolidated through VMware technology were so pitifully underutilized that any virtualization scheme netted significant improvements in overall utilization. Over time as organizations have become more virtualization- and consolidation-savvy, larger and often more strategic workloads are being deployed on virtual servers while systems vendors have simultaneously begun delivery of mutlicore and mutlithreaded server architectures. It is amazing the difference a few years has made.

The execution speed and inherent security of hardware-based hypervisors to us are the two leading reasons for our preference for hardware-based approaches. Until now, such solutions were largely limited to the domain of IBM's solutions with its System z mainframe or System p and i servers that were based upon the POWER processor. VMware has done an excellent job in educating the marketplace as to the potential for virtualization

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and likewise in delivering this technology into the high-volume x86 marketplace. Now, with this latest announcement, we are pleased to know that the company will once again not only lead the marketplace for software-based solution, but ply its considerable expertise directly into the heart-and-soul servers. With the advent of high-volume server architectures with two- and four-core processors, the opportunity and need for virtualization has never been higher. We believe this move by VMware and its partners will very rapidly change marketplace expectations such that virtualization will no longer be continued an option, but rather a requirement for any computing solution.

Sun Announces Quad-Core AMD Opteron Blade Server

By Clay Ryder

In highlighting its support for the new Quad-Core AMD Opteron processors, Sun Microsystems has announced the Sun Blade X8440 Server Module and has previewed a next-generation four-socket, 2U quad-core server that will be available by the end of the year. According to the company, both of the new systems will take Sun's x64 server design to a new level of innovation and differentiation from competitive platforms. The new servers target HPC, virtualization, and Web-tier applications, among other workloads. In the future, Sun plans to incorporate Quad-Core AMD Opteron processors into a number of rackmount and blade platforms, including the Sun Fire X4600 M2, Sun Fire X2200 M2, Sun Fire X4100 M2, and Sun Fire X4200 M2 servers. In addition, the Sun Constellation System that will be located at the Texas Advanced Computing Center at The University of Texas in Austin will be powered by Quad-Core AMD Opteron processors when it goes into production. The Sun Blade X8440 Server Module is now available with dual-core AMD Opteron Model 8222 processors (3.0 GHz), and is scheduled to be available with Quad-Core AMD Opteron 8300 Series processors by year-end. The Sun Blade X8440 module also features up to 128GB of RAM per blade, six PCI Express interfaces per server module, and 192GBps I/O throughput per blade. In addition, the blade server is designed to support AMD's new Dual Dynamic Power Management technology, which allows the cores and memory controllers to operate on different voltages, determined by usage. The Sun Blade X8440 Server Module is now available with entry-level pricing starting at $12,785 per server module.

Perhaps September is to be the month for quadcoremania. In all seriousness, these and other vendors' core processors are significant in that their modest price points and likely high delivery volumes will change fundamental assumptions about what kind of processing technology will be the default in servers, and increasingly desktops. The days of single-core processors as the modus operandi of the industry are rapidly ending. Yet at the same time, unleashing the performance of these types of processors in many cases will remain largely underutilized until software designs catch up with the multicore hardware architecture. Granted, ever faster chip clock rates will deliver some performance gains in and of themselves, but the inherent parallel processing of the hardware will not be fully exploited until operating systems, and applications in particular are redesigned to take advantage of the new multicore reality.

Developing multithreaded software is a non-trivial task that requires not only new developer knowledge and techniques, but also IDEs, compilers, and other technologies that are capable of creating multithreaded applications. This is one area where Sun is ahead of the curve; having delivered the Sun Studio 12 tools. These tools are the keys to unlock the latent multithreaded performance of the latest Sun, AMD, and Intel chips. The ability to automate created parallel or multithreaded code is important, as it should allow developers to easily capture some performance increase in their existing code base while they develop the skills and techniques requisite to capitalize on multithreaded architectures going forward. For those who are unfamiliar with multithreaded architectures, the performance gains afforded by the automated aspects of Sun Studio 12 may prove surprising, and act as a reminder that multithreaded architectures may have even more underutilized resources than their single-threaded brethren that have been the focus of so much attention.

With the significant price performance offered by the AMD chips, we expect there will substantial interest in any vendor's offerings based upon these chips. With respect to blade and other densely populated architectures, we believe the relatively low power consumption of AMD's processors may play well into the power consumption and heat generation concerns that are guiding many a datacenter's technology deployment considerations. If Sun can deliver the same approximate efficiencies on its Opteron quad-core based systems as it does with its T2 brethren,

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the company should be able to deliver substantial reductions in energy consumed per processing task to its customer base. As such, Sun would be well equipped to bolster its position as a Tier-I Opteron based systems provider.

Sun Beefs Up Security and Reduces Costs of Virtual Desktops

By Lawrence D. Dietz

Sun Microsystems has announced new software to provide a more secure and manageable virtual desktop environment. Sun Virtual Desktop Infrastructure Software 1.0, installed on the Solaris OS, helps enable organizations to move applications and operating systems off of personal computers, consolidate them in the datacenter, and present them to end users on a wide array of devices through high-performance display protocols. Sun VDI Software offers a highly-secure platform for accessing virtualized Microsoft Windows desktop environments from a wide variety of client devices. When Sun VDI Software is coupled with VMware Infrastructure software, desktops can be consolidated onto servers in the datacenter, with each user enjoying a dedicated virtual machine that is isolated from other users and customized to individual needs.

Utilizing Sun Fire x64 systems and VMware ESX Server, multiple desktop environments can be hosted on a single server, to allow users to access their desktop environments from traditional clients such as Windows and Mac OS X computers, as well as thin clients. Each virtual desktop functions as though it were running directly on the user's computer, but critical data is kept in the datacenter where it can be more easily managed by IT and is less susceptible to loss or theft. Sun VDI software helps enable IT managers to set up new users, workgroups, or departments in minutes, controlling and managing desktops and updates centrally, reducing costs normally associated with a traditional distributed desktop model. Through this approach, users can seamlessly shift a desktop session between any supported device. Planned for availability in early 2008 as a component of Sun Virtual Desktop Solutions, the initial release of this VDI connector will support VMware Infrastructure deployments, with future versions planned to support other popular virtualization solutions. Sun VDI Software will be available in October 2007, priced at $149 per user, and will support Solaris and Linux.

The virtual desktop is bound to accelerate in popularity as more organizations move to a point where they have to make a decision about migration to the Windows Vista environment. While this decision may be in the offing, the window for making significant technology decisions has a way of accelerating. There also appears to be a subtle, yet clear movement of leading edge technology users to Mac laptops and over time the population of Macs at high-tech and security-sensitive companies in particular is likely to increase. Globalization trends and concerns about proprietary applications are additional factors inducing organizations to centralize their applications off local PCs. We believe that Sun is correctly reading the technology work pattern tealeaves and that fortune for this class of infrastructure is bright.

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