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PUND-IT, INC.

NOVEMBER 16, 2005

Weekly Review

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IBM Announces BladeCenter Solutions for Banking and Finance

By Charles King

IBM announced new Systems Solutions for Branch Banking designed to allow financial services and banking customers to centralize operations and reduce overhead costs. Leveraging IBM's ecosystem of partners, the new solutions offer customers a pre-configured, pre-tested, scalable, and easy-to-maintain platform for consolidating branch infrastructures. Utilizing Intel Xeon-based IBM BladeCenter and xSeries platforms – including software, networking, and security features, customers can support functions and services that can be used with in-branch applications, such as wireless networking, local storage backup and restore, and management of automated teller machines (ATMs). IBM, VMware, and ClearCube also unveiled a new Virtualized Hosted Client Infrastructure solution designed for bank branches and credit institutions. Based on VMware's virtual infrastructure software, this new solution allows multiple users on IBM BladeCenter systems to operate in fully functional desktop environments. Users connect to their desktops dynamically using ClearCube Grid Center software, and IT administrators can manage the blades through ClearCube Control Center, which provides health status and automated alerts through graphically configured agents.

The Pitch

IBM thinks out of the box – and puts banking onto a blade.

Mission Accomplished?

With the growing popularity and market acceptance of virtualization solutions, such as those offered by VMware, system consolidation has become more of a necessity than ever. It's easy to figure out the tangible benefits of consolidating multiple server workloads: fewer servers, fewer software licenses, and lower power consumption, among others, but what are the potential benefits of application consolidation? This is less clear, especially in the case of businesses with widely dispersed IT environments such as banks where the vast majority of customer facing services occur in branch offices miles from primary datacenters. IBM's BladeCenter solutions aim to change that. Given its support of multiple server architectures (Intel Xeon, IBM POWER, and AMD Opteron) and multiple operating environments (Linux, Windows, AIX, and Solaris) the

BladeCenter provides an ideal platform for consolidating multiple server workloads and business processes, reflecting the heterogeneous reality of most organizations' IT infrastructures. The recent addition of IBM's Virtualized Hosted Client Infrastructure delivers the same consolidation value proposition, quite literally, to the desktop.

The company's new Systems Solutions for Branch Banking stands as the latest example of how IBM highlights the potential impact of a new technology by sharpening its application for a specific industry, a strategy the company has successfully employed in efforts aimed at areas, including Linux, grid, and high-performance computing (HPC). By developing these solutions and taking them to market with the help of partners well-recognized in the targeted markets, IBM accomplishes two goals: (1) to clarify the value of its solutions to potential new customers, and (2) to ensure that IBM and its partners understand their specific business needs. IBM's Systems Solutions for Branch Banking offer financial industry clients a recognized datacenter platform as a means of consolidating and managing customer-facing branch business processes, ranging from data back-up and restore to ATM processes and employee desktop applications. In essence, by focusing on meeting the specific needs of financial industry clients, IBM defines these new products by their business value rather than by technical capabilities. From where we sit, that sounds like a bankable strategy.

Supercomputing 2005 Sparks HPC Announcements

By Charles King

Prior to the opening of the Supercomputing 2005 conference in Seattle, WA, Microsoft announced the Beta 2 release of Windows Compute Cluster Server 2003, which the company said would provide integrated, easy to use, and manageable high performance computing (HPC) solutions. Microsoft also said it would invest in 10 Institutes for HPC at key universities worldwide. These developments signal Microsoft's entry into the HPC market. In a separate announcement, Sun said the Tokyo Institute of Technology is building Japan's largest supercomputer on a foundation of Sun Fire x64 (x86, 64-bit)servers with 10,480 AMD Opteron cores. The system will use Sun's N1 System Manager and N1 Grid Engine, and support Solaris 10 and Linux operating environments. The grid-based supercomputer plans to expand to more than 100 teraFLOPS by its operation in spring 2006. In another announcement, AMD and Cray said they signed an agreement that extends their relationship through the end of the decade. In addition to Cray continuing to use AMD Opteron processors for supercomputer products, the firms will collaborate on Cray's proposal for Phase 3 of the federal government's DARPA HPCS (High Productivity Computing Systems) program.

The Pitch

HPC meets high-performance marketing.

Mission Accomplished?

The high-powered conjunction of Supercomputing 2005 and the release of the newest supercomputer rankings by top500.org inject the always heady atmosphere surrounding HPC with a volatile dose of advertising vapors. The real question is whether these initiatives and partnerships have any potential for market penetration or staying power. In the case of both Microsoft's and AMD's announcements, we would answer with a resounding "maybe." Both companies' focus on HPC reflects the move toward clustered environments that has increasingly driven supercomputing solutions for the past couple of years. That trend presents itself clearly in the latest top500.org rankings, which show continuing notable growth of HPC systems based on x86 architecture solutions such as, Intel's Xeon and EM64T and AMD's Opteron processors. While x86-based systems lead the current list in numbers, IBM's POWER continues to be the architecture to beat (or rather, chase) in terms of sheer performance. We do not expect this situation to change anytime soon.

So what about the announcements mentioned above? At one level, Microsoft's interest in the HPC space reflects the company's hunger to place a larger Windows stamp on business datacenters. The increasing availability of commercial HPC solutions offer Microsoft an obvious target, but the company must also confront serious hurdles. For starters, Microsoft's nemesis Linux is a darling among many of the ISVs working in the HPC space, resulting in an enormous Open Source footprint in HPC environments. Microsoft's arrival should provide some interesting fireworks, but its success will depend largely on its ability to lure ISVs and other HPC-focused vendors to its side. This is no sure thing from where we stand. AMD's partnership with both Sun and Cray signals attempts by former supercomputing stalwarts to gain back a bit of their former glory. Sun occupied nearly a quarter of the top500 list in 2000 but has faltered to the point where only four UltraSPARC systems are present on the current list. Cray, once the purveyor of the "the world's fastest computers" (the company's original motto), has seen its pioneering vector processors eclipsed by other chip architectures. AMD offers both companies a chance to help expand the already considerable success of Opteron in both the marketplace and on the top500 list — and capture a bit of x86 lightning in a bottle.

IBM Mainframe Encryption: Upgrading the Gold Standard for Security

By Wayne Kernochan, Infostructure Associates

A funny thing has happened to IT because of new business compliance requirements — system security has become both more desirable and harder to implement. As a sign of this situation, IBM recently announced new System z9 z/OS software for encrypting file formats on mainframe tapes and disks, a move specifically aimed to "help organizations ... adhere to compliance laws." Over the last thirty years, at the least,

customers have testified that the IBM mainframe is the "gold standard" for IT security, one that users depend on to protect their most trusted computer-based information assets. This announcement shows that IBM recognizes the new difficulties and opportunities customers face regarding security, and is moving proactively to answer these needs.

So what is the impact of business compliance on security, and why is IBM's response appropriate?

Business Compliance and Security

In IT terms, business compliance is primarily about ensuring rapid access to information as required by regulatory or legal authorities — i.e., all kinds of information and access no matter how old the data is.

Business compliance impacts business environments in which the main focus of security has been prevention of access to key proprietary information by unauthorized users. Enterprises may have accomplished this by disguising data (encryption), by erasing data as soon as possible, by removing data as quickly as possible to a secure facility (archiving), or by controlling access to the data (access control, firewalls, and so on). In other words, conventional security processes have emphasized keeping people who are outside a carefully chosen circle away from their information. Business compliance, on the other hand, requires giving new people outside that circle (or even outside the enterprise) access to information.

Table 1 below shows the evolution of security caused by the clash between security and business compliance concerns.

Table 1: Impact on Security of Business Compliance

Security Type	Business Compliance Requirement	Resulting Change in Security
Disguising data	Provide rapid access to undisguised data to regulators/discovery, demonstrate data's safety from malicious attack	Allow encryption on data shared with partners, authorities, improve encrypt/decrypt speed
Erasing data	Save data of all types (structured accounting data, semi-structured email, unstructured media files) for many years, provide rapid access to the data	Instead of erasing data, archive in a secure but comprehensive, robust, and rapidly accessible manner
Placing (older) data in secure facility	Demonstrate data's safety from disaster, provide rapid access to all types of older data	Combine archiving with disaster recovery, add business-compliance (reporting) and security (firewall, encryption) mechanisms

Controlling data access	Demonstrate data's safety from malicious attack, extend right to access to regulatory and legal authorities and often to investors and the press	Integrate access-control and data-access (reporting, querying) mechanisms, make data stored on secure media available outside the enterprise. Use encryption over the internet when transmitting sensitive data.

Note that the result of these changes is actually to make security better than before — with less performance overhead, more comprehensive and integrated across all enterprise information, more applicable to inter-organization communication, better integrated with risk management and disaster recovery. Thus, security is harder to implement; but, once finished, delivers more benefits.

IBM's Appropriate Response

Table 2, below, shows the ways in which we believe that the IBM System z9 has built on past strengths to deliver higher-quality solutions incorporating needed security.

Table 2: IBM's Response

Security Type	Business Compliance Requirement	Resulting Change in Security	IBM Mainframe Offerings
Disguising data	Provide rapid access to undisguised data to regulators/discovery, demonstrate data's safety from malicious attack	Allow encryption on data shared with partners, authorities, improve encrypt/decrypt speed	Encryption Facility for z/OS 1.1 extends mainframe encryption to tape/disk to share secure data with partner; allows decryption by non-mainframe partners with Java client program. Encryption performance is accelerated in the System z9 server. Recent enhancements in encryption over the internet, with improved performance and simplified implementation.
Erasing data	Save data of all types (structured accounting data, semi-structured email, unstructured media files) for many years, provide rapid access to the data	Instead of erasing data, archive in a secure but comprehensive, robust, and rapidly accessible manner	IBM business compliance solution combines IBM reporting, information integration, security, and archiving software and hardware (e.g., information lifecycle management) including centralized encryption and key management facilities.
Placing (older) data in secure facility	Demonstrate data's safety from disaster, provide rapid access to all types of older data	Combine archiving with disaster recovery, add business-compliance (reporting) and security (firewall, encryption) mechanisms	IBM solution combines IBM reporting, business compliance, disaster recovery, information integration, security and archiving software and encryption and compression hardware

Controlling data access	Demonstrate data's safety from malicious attack, extend right to access to regulatory and legal authorities and often to investors and the press	Integrate access-control and data-access (reporting, querying) mechanisms, make data stored on secure media available outside the enterprise	Support for secure encryption keys in z9 Crypto Express2 cards with tamper-resistant. Master Key. Support for recent encryption standards (AES-128, SHA-256) in the hardware encryption. Built-in support in z/OS operating system for centralized key management, including disaster recovery.

In other words, IBM is extending System z9 security primarily by (a) integrating security with expanded business compliance and disaster recovery solutions in the servers and in the z/OS operating system and (b) expanding security offerings to improve performance and widen the scope of users employing IBM mainframe security (e.g., to more users outside the enterprise).

This allows IBM to differentiate its zSeries security solutions especially well in two ways:

- Experience - No one else has a track record in security that compares to IBM's mainframes, based on solutions like RACF (Remote Access Control Facility) and almost 15 years of centralized encryption key management (Integrated Cryptographic Service Facility).
- Comprehensiveness - No one else offers an information integration solution that allows users to apply the same data-access security scheme across all of an enterprise's data stores, no matter what type.

Mission Accomplished?

IT Security is like spinach — A nutrient necessary for well-being, but which few enjoy. However, the advent of compliance offers a rare opportunity for businesses to improve both security and the benefits derived from it. IBM in general, and the System z9 in particular, deserve credit for delivering superior security over the long term and for adapting to business compliance with new security solutions that continue to stand out from the competition. Thus, IBM's recent announcement is not merely another zSeries encryption story: It rounds out a stand-out IBM mainframe security solution that should set the "gold standard" for another generation of security-sensitive businesses.

About Infostructure Associates

Infostructure Associates is an affiliate of Valley View Ventures that aims to provide thought leadership and sound advice to both vendors and users of information technology. This document is the result of Infostructure Associates sponsored research. Infostructure Associates believes that its findings are objective and represent the best analysis available at the time of publication

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