IBM eSERVER: TAKING E-BUSINESS TO THE TOP

By Greg Gulyas, Vice President, Systems Sales, IBM Canada Ltd.

Greg Gulyas with iSeries

With even a cursory examination, it's plain that the advent and escalating popularity of the World Wide Web and the Internet means that business will never be conducted in the same manner again. The power and reach of the Internet, its currency, its lack of boundaries (time or geographic), and its accessibility by almost anyone in a developed nation have made its popularity exponential in nature.

But what is even more amazing is how quickly the Internet has transformed from a curiosity to a priceless channel where "e-business" is conducted around the world, creating enormous business potential.

According to Juniper Research, business-to-business (B2B) commerce will expand from $336 million last year (2000), to $6.3 trillion in 2005. This projection represents a huge number of customers extending their core business applications to trading partners over the Internet. But there is also opportunity in areas such as business-to-consumer (B2C), and business-to-partners (B2P), which will drive e-business revenue potential into the tens of trillions of dollars.

From IBM's point of view, e-business is not the latest innovation; it is a disruptive force that's changing the basic foundation of business in the new economy. It's affecting every business process, every business model, every marketplace. For those who properly plan and build their e-business infrastructures, opportunities for growth and prosperity abound.

pSeries Model 680

e-Business Experience Delivers Valuable Lessons

IBM has been helping companies build e-infrastructures for years, and we have learned from our customers what's important to their businesses and what we need to put into our products.

Essentially two facts have emerged from these experiences.

First, an e-business infrastructure, by its nature, must support different kinds of workloads. These include complex, integrated transaction workloads and large data stores; Web and application server workloads made up primarily of repetitive, similar transactions; and client workloads, exhibiting extremely high-volumes of similar transactions, in other words, the workloads behind caching, load balancing and firewalls. An effective e-business infrastructure must support all of these workloads and manage them properly.

The second lesson learned is that any e-business infrastructure has to work in the real world – one populated by different types of buyers with different needs. In addition to servicing each organization's own workload requirements, the infrastructure must connect to the company's trading partners, suppliers and customer systems.

For instance, a financial firm must connect its servers and its database to the Web, to call centres, to financial exchanges, and to ATMs doing transactions around the world. On the other hand, an ASP has a different set of priorities. It must tie its application

hosting systems into the customer systems and maintain total security, and absolute isolation and protection of data.

Within IBM we believe that these two factors – different kinds of workloads and different kinds of buyers – combine to form the fabric of the e-business infrastructure. This has led us to draw three major conclusions, which are the pillars of our eServer strategy: different types of buyers need different kinds of support; customers require application flexibility; IBM's technology leadership must be leveraged across our entire family of servers.

IBM eServer Strategy

Before I review the four product lines that comprise IBM's eServer family – zSeries, iSeries, pSeries and xSeries - I would like to dig a little deeper into these three pillars that combine to form the eServer advantage.

1. Custom Tools Support a Variety of Buyers

Since different kinds of buyers with different kinds of workloads need different support, IBM is offering new sets of tools and solutions to help businesses integrate, deploy, build and manage their e-business infrastructures. These tools run across all product lines, and can enable a small business or a large enterprise to benefit from a "quickstart", simplified deployment or an all-inclusive, comprehensive package.

These tools also allow customers to get up and running in days or weeks rather than months, and better manage and maintain their e-business for maximum value. [*See sidebar for more details.*]

iSeries Model 270 (close up)

2. Application flexibility

The open movement has radically changed the way people will develop and deploy applications in the new economy. Increasingly, applications are going to be based on technologies like Linux, XML, Apache, and Java. IBM's response is an uncompromising commitment to application flexibility. We are embracing the technologies of the open movement, while at the same time protecting the existing applications in which our customers have big investments.

3. Technological Innovation - Democratically Shared

IBM has long been a world leader in innovation, setting the record for patents issued for each of the last eight years. And we will continue to innovate. Last year

iSeries Model 830 (rack mount)

we announced a $5 billion commitment to the next generation of chip and semiconductor technology. Investments like this, and the technologies that result from them, will be leveraged across IBM's entire family of eServers.

For example, IBM leads in the world of system packaging and design. The multi-chip module, for instance, is the power behind our new z900 high-end data and transaction server.

This module has been described as the most complex, sophisticated piece of technology in the world. It has 35 chips on it, twenty processors, on-board cache, 101 multi-layer ceramic package, 2.5 billion transistors – and it's only the size of two CD cases.

Then there's the Power 4 microprocessor. Each chip of the Power 4 has two processors, 170 million transistors – which is six times the amount one of our competitors recently announced – and operates at a speed in excess of 1.1 gigahertz.

All of these technologies, from our self-configuring, self-healing enterprise servers, to our UNIX-based supercomputers, to the many inventions coming out of our labs, will be incorporated across the entire eServer family. We're taking what we know from our high-end systems – whether you want a mainframe or an excellent UNIX system or an excellent NT system, whether you're a bank or a telecommunications company or an ISP – and making sure it is available across the board, in every product.

The IBM eServer family consists of four product lines:

IBM eServer zSeries – Power to Spare

This is the first e-business, enterprise server designed to answer the most powerful transaction and data handling problems in the world. Each of the 64-bit zSeries products can support 3 to 20-way processing; 32 of them can be clustered together in a Parallel Sysplex for a 640-way system under a single image. It is also the only server in the world capable of dynamically managing shifting workloads within the processor or a plex of processors automatically and in real-time, compliments of its new intelligence resource director.

IBM eServer iSeries – Just Keeps Going and Going and...

The iSeries (formerly AS/400e) is our integrated business server and was the first server to implement copper technology and silicon-on-insulator. I'll focus more on iSeries later in this article.

IBM eServer pSeries – UNIX Leader

The pSeries, formerly IBM RISC System 6000 (RS/6000) leads the world in UNIX performance. It features large-scale symmetric multiprocessing, scalability, industry-leading clustering and industry-leading UNIX and NT interoperability. IBM pSeries' are, without argument, the fastest, most powerful UNIX servers in the world, as benchmark after benchmark has proven. IBM pSeries is ideally suited for the Web and the application workloads that Web operators, ISPs, ASPs and large commercial enterprises require.

IBM eServer xSeries – High-end Technology on a PC Server

The IBM xSeries takes mainframe level technology, IBM's X-architecture, and packages it in an affordable, NT-ready, Linux-ready system with high-end inspired reliability, scalability and security.

This system offers three times the computing power of Sun's Netra product (at two thirds the price) and is ideal for ISPs, dot-coms and large customers with their own Web and application operations.

The new family of eServers offers the best technology to customers as well as being tailored to fit different workloads and different buyers building e-business infrastructures in the new economy.

Where does the AS/400, now IBM eServer iSeries, fit into our strategy?

In 1980, IBM began shipping a new product called IBM System/38. For thousands of customers, it was the beginning of a love affair with a family of products that has evolved into newer, and more powerful and flexible incarnations, including IBM AS/400, IBM AS/400e and now, IBM eServer iSeries. In fact, it has grown to become the world's most popular, multi-user commercial business computer on the market with more than 700,000 systems installed in over 150 countries around the world.

It has won multiple industry and business awards, been celebrated for its ground-breaking technological innovation, and recognized for its fail-safe reliability, and its unprecedented scalability, flexibility and robustness. And, according to International Data Corporation (IDC), AS/400e has the lowest cost of ownership including hardware, software, staffing, maintenance, and repair, in the industry.

IBM eServer iSeries – Improving the Legacy of AS/400

iSeries is critical to IBM's positioning in the server market, and is yielding impressive market share because customers are looking for a wealth of solutions that can be implemented rapidly with a minimal investment in staffing. Customer satisfaction related to iSeries is number one in the entire server industry; in fact, it is higher today than it has ever been.

In the past year, IBM has invested hundreds of millions of dollars in the iSeries platform and regards it as strategically, technically and economically valuable giving a full range of choice to customers that few other server lines do. And it is almost custom made for e-business because of its reliability, scalability, security, flexibility and robustness.

"The IBM iSeries 400 is the Lexus of the computer industry," says **Dan Duffy**, President, Mid-Range Computer Group Inc., Canada's largest reseller of iSeries 400 hardware and software. "From its debut, it has been a reliable, scalable, useable investment for companies in all industries. It has been the proverbial win/win/win for IBM customers, IBM Business Partners, and IBM itself. IBM Business Partners, in particular, love the iSeries because it allows them to provide quality, hassle-free solutions to their customers. Customers love it because it allows them to run their businesses, not their IT environments."

IBM eServers

iSeries

pSeries

xSeries

zSeries

Although this is possible, drawbacks include the need to invest in new equipment and new skills, which can be very expensive, as well as time consuming efforts to port data between platforms often resulting in systems that do not operate in real time. With LANSA for the Web, IBM's iSeries, however, easily becomes the centre of an e-business solution and lets companies leverage their existing skill sets, applications and data."

Shell Canada is one company which has used LANSA to build an intranet that allows approximately 2,800 employees to self-manage important personal information traditionally managed for them by Human Resources.

Shell Canada is a long-time AS/400 customer, using the platform to accommodate the continued growth of its JD Edwards Enterprise Resource Planning (ERP) portfolio, plus enable the migration of additional non-AS/400 applications to the more cost effective iSeries infrastructure.

iSeries – built for e-business

e-business is the transformation of key business processes to take advantage of Internet technologies. To IBM, e-business doesn't mean changing everything. It means linking the core transaction processing applications that are the heart of a business directly with internal audiences, customers and business partners through new interfaces like a web browser.

So why is the IBM eServer iSeries suited for e-business? iSeries is reliable, secure and scalable, making it an ideal platform for applications that need to be accessible 24/7. But perhaps the most important aspect of the iSeries is its integrated architecture. Database, backup and recovery, and systems management are important components of any e-business server, and they're already built into OS/400. This integration means new applications can get up and running quickly to meet the demands of e-business.

In addition, since its introduction, the iSeries has claimed the leading benchmark positions in Java, Domino and transaction processing. Independent Software Vendors (ISVs) also play a key role in moving e-business workloads to the iSeries.

For example, LANSA Inc. is a company that helps AS/400 and iSeries users extend their legacy applications to the Web in an integrated way. According to **Bill Benjamin**, Vice President, Busines Development, LANSA Inc., "Many AS/400 and iSeries users think they need to move to platforms like NT and UNIX when implementing e-business.

* TEC Showcase sponsor

Kirk Chalk, Senior Staff Systems Analyst for Shell Canada, evaluated a number of potential scenarios to address the company's needs and recommended a strategic solution based on IBM's 8xx AS/400 product line. Kirk was impressed by the performance and LPAR capabilities of the platform and built an internal business case to facilitate consolidation of two mission critical application environments onto a single hardware footprint. I'll discuss LPAR in more detail in the next section.

iSeries Technology Leadership

The iSeries is a great demonstration of how we're leveraging our technology leadership throughout the entire eServer family. It was the first IBM server to implement copper technology and silicon-on-insulator.

Copper, an IBM first, has less resistance, 30 per cent more speed, better power and increased reliability, while silicon-on-insulator boosts performance 20 to 30 per cent beyond copper alone and reduces power by a factor of two thirds. That translates into increased speed and improved reliability.

Logical Partitioning (LPAR) is an example of IBM bringing leadership technology from the zSeries to the iSeries. LPAR enables the iSeries system to be split into multiple logical entities, each with its own processor, memory and disk space. It enables one server to act as multiple servers providing an ideal server consolidation strategy, or for mixing production and test environments. LPAR also provides the ability to balance workloads across partitions.

Numerous customers have experienced the benefits of LPAR on the AS/400 or iSeries first hand. For example, Metro Richelieu, a $4.7 billion Quebec-based grocery wholesaler, recently upgraded to two IBM eServer iSeries 840s to accommodate growth of their SAP application.

iSeries Model 820

LPAR on iSeries allowed Metro to reduce the number of processors through the consolidation of multiple AS/400s on one iSeries. When Metro upgraded to the new iSeries, there was very little downtime during the transition and the company was favourably impressed with the seamlessness of the operation. "We simply attached our one terabyte of data to the new system and resumed operations," says **Jacques Couture**, CIO, Metro Richelieu. "We have doubled the capacity of the system since the beginning of our ERP implementation, and we have more than enough power and capacity to meet our considerable demands."

Another customer, Star Data Systems Inc. of Markham, Ontario, which is now part of CGI, also addressed its business growth challenges by using iSeries LPAR technology to provide a scalable, secure platform for financial services, outsourcing services and new iSeries LPAR benchmarking services.

IBM will continue to enhance the LPAR capabilities of the iSeries with the next release of OS/400, which will advance the case for implementing e-business and other applications, such as business intelligence on the iSeries platform. According to **John Joynt**, President of GSS Marketing Inc., an IBM Business Partner that offers Vigilance, a Business Intelligence and Sales Analysis software product that runs on iSeries as its platform of choice, says: "The iSeries has always been a great machine for business

pSeries Model 640

intelligence and e-business. With continued enhancements such as LPAR improvements, it becomes even better."

Built-in NT and UNIX capabilities provide application flexibility

The largest enterprises have a heterogeneous environment, and it's not uncommon to see a mix of AS/400 and NT servers among our customers. In fact, market researcher Giga estimates that 70 per cent of IBM's AS/400 and iSeries installed base also have Windows NT installed.

The iSeries features an Integrated xSeries Server, which is an Intel-based processor board that lets users take advantage of the management, security and storage features of the iSeries for Windows NT/2000 applications. Running Windows applications on the iSeries lets users manage multiple applications and services in a single server. It can also lower the cost of user administration, reduce operations and skills costs, improve Windows server uptime and stability and reduce the total cost of ownership.

The iSeries can also run UNIX applications thanks to the PASE, or Portable Application Solution Environment. This feature expands the already vast number of applications available to iSeries users and provides an alternative platform for ISVs that don't support different platforms.

The ability to run NT and UNIX applications on the iSeries demonstrates IBM's commitment to application flexibility. The addition of Linux in the next version of OS/400 will increase this flexibility even further.

Present, an IBM Premier Business Partner with offices in Montreal and Richmond Hill, recognizes the importance of application flexibility.

Present focuses on e-business solutions in the retail distribution and manufacturing industries and has been building applications on the AS/400 platform since the company was born 10 years ago. According to **Marc Beaulieu**, President of Present, "IBM's eServer iSeries is reliable, stable, and scalable – attributes which are all very important to e-business."

It's significant that the iSeries continues to be the platform of choice for Present after 10 years in the business. It demonstrates the longevity and continued innovation of the platform. Beaulieu cites technology such as logical partitioning and application flexibility as two reasons the iSeries has kept up with the pace of change. "An increasing number of our customers are asking for Linux solutions. With LPAR, we can run Linux in a partition which eliminates the need to implement a new platform and leverages our clients' investments in AS/400 and iSeries."

What's Next for the iSeries

In the coming months, IBM will continue to innovate on the iSeries platform to enhance performance and capacity and improve our iSeries offerings. We will focus on moving e-business workloads to the iSeries and will work with ISVs around the world to port new applications to this platform.

We will continue to support our Business Partners who play a critical role in bringing the benefits of the iSeries to customers and work with them to drive the growth of new customers and support the continued use of the platform in the existing installed base.

In fact many of these goals can be applied to the entire eServer family. No single platform, no single architecture, no one product, can accommodate e-business in its entirety. The next generation of e-infrastructures will be fast, open, flexible, real-time and real-world.

In essence, a heterogeneous mix of systems seamlessly integrated and managed as one. The IBM eServer family contains the building blocks for an effective e-infrastructure, designed to reap the rewards the Internet has to offer. T⊞G

Greg Gulyas, Vice President, Systems Sales, IBM Canada Ltd., has overall responsibility for the Systems Sales organization in Canada, and is responsible for ensuring IBM's success in the server and storage marketplace.

[*Mr. Gulyas will present more details on IBM's eServer Strategy at the upcoming TUG Meeting of Members, May 23rd, 2001. See the Agenda page for his abstract.*]