

The Value and Importance of Intel Server Solutions

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You may have recently seen some of Intel's advertisements which indicate that 80% of the world's servers are powered by Intel chips. The Intel architecture is an important and growing segment of the server population, as illustrated by Intel's devotion of a large portion of their development funds to this segment.

The marketplace reflects the trend in Intel server deployments, too. While server growth in general was fairly flat in 2002 compared to 2001, the Intel server marketplace continued to grow in the 5% range according to IDC. IBM's share of this market took large leaps forward in 2002, the result of products that exceed the performance and scalability of the competition.



Economic Value Found in Intel Servers

In today's economic climate, companies are being asked to a much greater degree to deliver more technology with the same or fewer resources. Furthermore, organizations are relying on their technology providers to deliver solutions, not simply hardware. Companies are looking for ROI analysis and flexible architectures for implementing the solutions, allowing for increased scalability and growth.

Many of these companies are reviewing their current infrastructure and looking for savings. In some instances, workload that previously ran on mainframe or UNIX platforms may migrate to an Intel server environment. In other instances, the UNIX workload may be consolidated onto a more robust UNIX platform. IBM's @server strategy is built around application suitability. By providing various architectures for different computing needs, IBM and its Business Partners are able to work with customers to deliver the most cost-effective solution to the business problem at hand. This suite of hardware technology allows the flexibility most customers need, but is delivered from a single entity, allowing customers a range of solutions not previously available in the marketplace. The various competitors each have unique offerings, but do not have the breadth of offerings provided by IBM's eServer product line.

In the area of Intel servers, IBM is delivering technology that allows companies to run more workload on fewer servers, hence reducing the cost of ownership. The annual cost to own an IBM xSeries server ranges from \$10,000 per year to \$50,000 per year and more. The purchase price of the server is almost irrelevant when looking at total costs. IBM's goal is to drive down total costs of servers by implementing Autonomic technology, allowing servers to be self-maintaining and self-configuring. This technology is implemented through the IBM Director product line, included with the purchase of every IBM xSeries server. Autonomic computing is an initiative across the entire IBM product line, reducing the need for human intervention in the operation of servers in the enterprise.

The Intel Server Solution

But customers need solutions, not just hardware, because that is where the true value is garnered and efficiencies are realized. IBM addresses this need, from an Intel server solution perspective, through the EXAct partnership program. This program provides for a solution focus and represents an elite set of partners (fewer than 100 in the US) that have been selected for their capability to provide a total solution. Whether disaster recovery, SAP, JDE, or a server consolidation solution, the EXAct partners use their solution expertise to deliver answers to the business problems experienced by customer organizations.

IBM @server **EXAct**



x440 Flexibility

As companies look for ways to reduce costs, the industry is moving to higher end servers which can accommodate greater workload in one system. IBM is now delivering the 16-processor x440 server which can be partitioned into multiple "virtual" machines, thereby providing for more workload on a single system. The x440 is available in 1.4, 1.5, 1.6, 1.9 and 2.0 GHz processor families today. This enterprise class server is able to scale from a dual processor machine, all the way to a 16-processor machine, while protecting your initial investment. This flexibility provides customers the ability to "pay as you grow", not forcing them to purchase capacity they may or may not need in the future.

The x440 has resonated in the marketplace, as noted by IBM's market share leadership in the 8-processor and above category. CNET recently reported that IBM passed HP as the market share leader in the third quarter of 2002 in this important category. Furthermore, IBM has at least a one year advantage on the competition, based upon the investment in research and development

which competitors cannot match. A look back at 2002 reveals this technology curve leadership. For example, in the second quarter of 2002, IBM delivered 8-way Pentium IV Xeon processor technology, while HP and Dell took until the fourth quarter to deliver 4-way in meaningful volume. This is one of the reasons why IBM has increased its market share, and why many industry analysts expect that trend to continue. IBM has announced plans to deliver 32-processor technology in 2003, and continues to push the limits of technology, all to serve the customer and bring real value to the marketplace.

Shared Technology

Furthermore, IBM shares technology across the various server families. Autonomic computing and partitioning are examples of this sharing. IBM has delivered partitioning in the mainframe for many years. We are now delivering virtual partitions in the pSeries and xSeries products as well, allowing for great flexibility and the ability to purchase capacity on demand.

As companies look for more flexible and scalable platforms, a new form factor is being introduced in the industry. Blade technology allows companies to quickly add servers (dual processor today) into an existing infrastructure. The new BladeCenter from IBM houses up to 14 dual processor Intel servers in a 7U form factor. Rather than having independent power supplies, fans, etc., these become shared components for all servers in the blade center. This technology allows customers to reduce their infrastructure costs for servers that are processor intensive in a dual processor server environment.



The Intel server marketplace, and IBM's manifestation of it via the xSeries product line, are indeed healthy and growing. Customers are running database servers, email servers, file/print services, Web and various application servers in increasing numbers. In sum, more and more "bet the business" applications are being run on xSeries machines. The tools are in place for customers to run these servers as they do their mainframes. This evolution will continue in 2003, as this class of machines becomes more powerful and new versions of operating systems are introduced for increased stability.