eX5: The fifth generation of IBM X-Architecture

High-end portfolio of systems that maximize memory, minimize cost and simplify deployment

Highlights

- Maximize memory through unprecedented capacity and bandwidth for maximum performance
- Minimize acquisition and operating costs while promoting greater productivity
- Simplify deployment and ownership through workload-optimized models, proactive systems management and advanced reliability features

High-end workloads drive ever-increasing—and ever-changing—constraints. In addition to requiring greater memory capacity, these workloads challenge you to do more with less and to find new ways to simplify deployment and ownership. And while higher system availability and comprehensive systems management have always been critical, they have become even more important in recent years.

Difficult challenges like these create new opportunities for innovation. IBM® eX5 delivers this innovation. This new portfolio of high-end computing introduces the fifth generation of IBM X-Architecture® technology. It is the culmination of more than a decade of x86 innovation and firsts that have changed the expectations of the industry. With this latest generation, eX5 is again leading the way as the shift toward virtualization, platform management and energy efficiency accelerates.

Today's challenges, tomorrow's opportunities

Combining the fifth generation of IBM X-Architecture with the next-generation Intel® Xeon® processors, eX5 offers a high-end enterprise server portfolio designed for environments with continually evolving workload requirements. Flexible configurations and a modular building block design enable multiple implementations with affordable starting points to enterprise technology, while a range of form factors and different sizes deliver broad coverage for most enterprise applications, server consolidation and virtualization environments.

The eX5 portfolio includes:

- **IBM System x3850 X5**—*Versatile four-processor, 4U rack-optimized scalable enterprise server with optional eX5 memory expansion (MAX5) and workload-optimized models provides a flexible platform to facilitate maximum utilization, reliability and performance of compute- and memory-intensive workloads.*
- **IBM BladeCenter®** HX5—*Scalable blade server enables standardization on same platform for two- and four-socket server needs for faster time to value, while delivering peak performance and productivity in high-density environments.*
- **IBM System x3690 X5**—*High-end two-processor, 2U scalable server offers up to five times the memory capacity of today's two-socket servers with double the processing cores for superior performance and memory capacity.*

eX5 systems help you maximize memory, minimize cost and simplify deployment

Each of these systems unites industry-standard components with IBM innovation to provide results that can help you maximize memory, minimize costs, and simplify deployment. The foundation for a more intelligent, dynamic infrastructure, these capabilities include:

- *Maximum memory with unique expansion capabilities*
- *Fast, integrated data access*
- *Extreme flexibility with node partitioning*
- *Optimized configurations for targeted workloads*

Maximize memory

Business and technology conditions change—frequently and rapidly—which is why eX5 offerings make it easy to accommodate variable workload demands. Support up to 8 sockets with 64 cores of processing power and get unmatched eX5 memory expansion with MAX5. With the ability to maximize memory for racks and blades, you can support more virtual machines, faster database performance and greater server utilization.

Minimize Cost

eX5 can help you increase business productivity by maximizing what you already have—including space, storage capacity and licensing costs. Consolidate more machines per server and complete more transactions per minute—without having to compromise memory bandwidth to support a denser form factor. With improved system utilization in a smaller footprint, you can lower your acquisition and software costs, along with your energy bill. And with preconfigured eXFlash technology from IBM, you can dramatically reduce database storage and energy costs.

Simplify Deployment

Built with a cost- and energy-smart design, eX5 delivers preconfigured workload-optimized models for faster deployment and time to value. A single consistent architecture across blades and two-socket and four-socket racks helps reduce qualification time and eases configuration and error handling. As your environment changes, you can independently expand processors, memory, networking and storage I/O on the same scalable platform to simplify and reduce the cost of growth.

At the same time, node partitioning and automatic failover help simplify ownership by facilitating greater flexibility and uptime. IBM OnForever™ system design promotes advanced reliability for your mission-critical workloads, while intelligent, proactive systems management capabilities further simplify ownership. IBM Systems Director delivers a Web-based GUI and easy-to-use tools to simplify management of both physical and virtual resources. And IBM Systems Director Active Energy Manager™ helps monitor, measure and manage power consumption to lower wattage and costs.

Other features include:

- *An Integrated Management Module (IMM), which allows remote control access to manage, monitor, and troubleshoot from across the globe*
- *Advanced light path diagnostics that offer proactive problem solving and faster time to repair*
- *Redundant rear-access power supply and fast access to processors and memory for simplified serviceability*

And eX5 helps you achieve maximum memory integrity through:

- *Chipkill memory to effectively recover from a failed DRAM module*
- *Memory ProteXion, which allows for an additional single-bit DRAM error on a DIMM beyond Chipkill to enable a higher degree of data integrity*
- *Memory mirroring and DIMM rack sparing, which maintains redundant data content in the event of an uncorrectable memory and memory rank error events*
- *Recover from detected data errors during memory scrubbing and last level cache for longer continued system uptime*

Why IBM?

Now in its fifth generation, IBM X-Architecture continues to build on its deep partnership with Intel and a decade of x86 innovations to provide unparalleled configuration choice, mainframe-inspired reliability, comprehensive systems management and an energy-smart design. With the ability to help you maximize memory, minimize costs and simplify deployment and ownership, eX5 can help you get the greatest value for your organization today and in the future.

For more information

World Wide Web

U.S. **ibm.com**/systems/x/

Canada **ibm.com**/systems/ca/en/servers/x/index.html

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Produced in the United States of America
March 2010

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XSB03013-USEN-01