

IBM System x and BladeCenter for Oracle's JD Edwards EnterpriseOne

Help lower your total cost of ownership while adding flexibility to help meet unforeseen requirements



CORNING DATA SERVICES, INC.

Corning Data Services, Inc.

Experience Matters

Resilient server infrastructure provided by IBM System x® and IBM BladeCenter® models based on the latest x86 processor technology

Potential for reduced complexity and faster time to benefit with the wide and flexible System x and BladeCenter deployment options for JD Edwards EnterpriseOne

Ability to help increase the availability of the applications that run your business by employing new System x and BladeCenter monitoring and management tools today

For added Flexibility and Scalability, include IBM and CDS in your EnterpriseOne Implementation

An effective ERP system is imperative for any business to be competitive. But in this global economy, having ERP software is not enough. Like many consulting firms, Corning Data Services (CDS), professes the virtues of adopting lean manufacturing and business processes. However, only CDS applies these principles to the actual ERP software implementation.

CDS knows that in order to implement ERP with a reduced time to value and lower Total Cost of Ownership (TCO), all three elements of the Total Solution (Services, Software and Hardware) must contribute toward those ends.

Services: CDS uses a proven lean consulting approach that eliminates all non-value-add activities in an ERP implementation, thereby reducing time to value. CDS also uses a train, assist, advise methodology that makes customers more self-sufficient. This reduces post-go-live costs and lowers the TCO.

Software: Oracle's EnterpriseOne is one of the most scalable and flexible Tier 1 ERP solutions on the market. Because EnterpriseOne grows with your business, its renowned flexibility and scalability help to lower the TCO as your business needs change. Additionally, in EnterpriseOne implementations, CDS utilizes Oracle's Business Accelerators (OBAs). OBAs are pre-configured software modules that are customized through the use of a wizard. They are superior to templates because most templates only consider best business practices, leaving customer specific configuration as additional work. With OBAs, the starting point of the project is a customer specific, fully-functional ERP environment.

Hardware: Perhaps the greatest determining factor in the performance of any ERP system is the hardware and its configuration. In fact, in order to benefit from the scalability and flexibility of EnterpriseOne, the software must run on hardware equally as flexible and scalable. The IBM System x and BladeCenter offer exactly that, along with pre-configured models optimized for faster deployment and time to value.



ORACLE Gold Partner

Specialized
Oracle Accelerate for Midsize
Companies

“Andrews has worked with servers from many vendors. In our experience, System x and BladeCenter do superior jobs of reducing the overall cost and complexity of deploying and supporting JD Edwards EnterpriseOne.”

Lee Kroon
Senior Industry Analyst
Andrews Consulting Group

IBM System x

The IBM System x family provides outstanding availability and systems management capabilities that help better manage and provision your computing resources, for a responsive IT environment that can grow with your business. By investing in innovation, bringing mainframe-inspired technologies to the industry-standard x86 processor-based server market and providing exceptional systems management offerings, these tower and rack-optimized System x servers are gaining momentum with Oracle customers who seek leading performance balanced with availability and manageability in an affordable offering.

eX5: The fifth generation of IBM X-Architecture

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 the 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.

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

“A lot of vendors might say: ‘Here’s the mold; we’re going to fit you into it.’ But the IBM team was more interested in finding out what we wanted to do, then applying its rigor and discipline to that.”

Michelle Gaines,
Port of Portland CIO

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 uncorrectable memory and memory rank error events
- Recover from detected data errors during memory scrubbing and last level cache for longer continued system uptime



“... we regularly encourage our clients to put System x and BladeCenter at the top of their lists for evaluation of JD Edwards EnterpriseOne platforms.”

Lee Kroon
Senior Industry Analyst
Andrews Consulting Group

Why IBM eX5?

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.

JD Edwards EnterpriseOne

JD Edwards EnterpriseOne is an integrated applications suite of comprehensive enterprise resource planning (ERP) software that combines business value, standards-based technology, and deep industry experience into a business solution with a low total cost of ownership (TCO). JD Edwards EnterpriseOne offers you a choice of 70 applications modules to support a diverse set of business operations with one common database for a single, consistent version of your data. JD Edwards EnterpriseOne grows and expands with your business, thanks to its underlying architecture. Flexible and scalable, its one toolset design is built with open standards.

Applications Unlimited and Lifetime Support

With JD Edwards EnterpriseOne, your technology investment is protected with a comprehensive, well-defined product road map, backed with the Oracle Lifetime Support and Applications Unlimited policies. Applications Unlimited is Oracle's plan to continue enhancing current application product lines while simultaneously developing the next-generation Fusion Applications. Customer input is driving innovations and enhancements for all future releases. Oracle continues to focus on ongoing upgrade innovations—delivering reduced downtime, shorter upgrade cycles, and proven upgrade paths and methodologies—to ensure that upgrades are now simpler and more efficient. In addition to enhancing existing applications, Oracle will also continue to support them. The Oracle Lifetime Support Policy further extends Oracle's support for its applications. Simple, predictable, and the most comprehensive policy available, Lifetime Support helps drive business success. This industry-leading policy from Oracle covers your entire technology stack, from database to middleware to applications. It puts you in control of your upgrade strategy so you can enjoy continued peace of mind, knowing that no matter which product release you're running, Oracle is there to support your business.

JD Edwards EnterpriseOne configuration examples using System x

IBM has tested the performance of JD Edwards EnterpriseOne 9.0 in the IBM Oracle International Competency Center test labs in Denver. The configuration examples shown in Table 1, Table 2, and Table 3 are based on the performance data gathered during these tests.

The flexibility of the System x and BladeCenter platforms allows for a number of different configuration options when used in a JD Edwards EnterpriseOne environment. The configuration examples shown in Table 1 and Table 2 show a typical multi-tier deployment for JD Edwards EnterpriseOne. The examples in Table 1 are configured with System x servers while the examples in Table 2 are configured with BladeCenter servers. The examples in Table 3 show a deployment scenario where virtualization software is used and the different JD Edwards EnterpriseOne components are consolidated onto a single server.

In these examples “DB” refers to the database server workload, “App / Batch” refers to the application logic workload, and “Web” refers to the JD Edwards EnterpriseOne Web server workload. These examples show only a few possible configuration scenarios, many other configurations are possible.

Configuration considerations

For the examples shown here, active users are JD Edwards EnterpriseOne Distribution application users, with half using advanced pricing. These sample configurations illustrate the System x and BladeCenter server resources required but do not address all the requirements of a JD Edwards EnterpriseOne implementation. No allowance for high availability or failover has been included in these examples. All example configurations shown in this document are for illustration purposes only and should not be used as sizing estimates for your environment.

Active users	Function	Server quantity	Server model	Number and type of processor cores	Memory
50	DB / App / Batch	1	x3250 M3	4 Intel Xeon X3430 2.4 GHz	8 GB
	Web	1	x3250 M3	4 Intel Xeon X3430 2.4 GHz	4 GB
100	DB / App / Batch	1	x3550 M3	4 Intel Xeon E5620 2.4 GHz	8 GB
	Web	1	x3250 M3	4 Intel Xeon X3430 2.4 GHz	4 GB
250	DB / App / Batch	1	x3550 M3	4 Intel Xeon E5620 2.4 GHz	12 GB
	Web	1	x3250 M3	4 Intel Xeon X3430 2.4 GHz	6 GB
500	DB	1	x3550 M3	4 Intel Xeon E5506 2.13 GHz	8 GB
	App / Batch	1	x3550 M3	8 Intel Xeon E5506 2.13 GHz	14 GB
	Web	2	x3250 M3	4 Intel Xeon X3430 2.4 GHz	6 GB
1000	DB	1	x3550 M3	8 Intel Xeon E5506 2.13 GHz	12 GB
	App / Batch	2	x3550 M3	8 Intel Xeon E5506 2.13 GHz	14 GB
	Web	4	x3250 M3	4 Intel Xeon X3430 2.4 GHz	6 GB

Table 1. Multi-tier System x configuration examples

Active users	Function	Server quantity	Server model	Number and type of processor cores	Memory
50	DB / App / Batch	1	BladeCenter HS22	2 Intel Xeon E5503 2.00 GHz	8 GB
	Web	1	BladeCenter HS22	4 Intel Xeon L5520 2.26 GHz	4 GB
100	DB / App / Batch	1	BladeCenter HS22	4 Intel Xeon E5504 2.00 GHz	8 GB
	Web	1	BladeCenter HS22	4 Intel Xeon L5520 2.26 GHz	4 GB
250	DB / App / Batch	1	BladeCenter HS22	4 Intel Xeon L5520 2.26 GHz	12 GB
	Web	1	BladeCenter HS22	4 Intel Xeon L5520 2.26 GHz	6 GB
500	DB	1	BladeCenter HS22	4 Intel Xeon E5504 2.00 GHz	8 GB
	App / Batch	1	BladeCenter HS22	8 Intel Xeon E5504 2.00 GHz	14 GB
	Web	2	BladeCenter HS22	4 Intel Xeon L5520 2.26 GHz	6 GB
1000	DB	1	BladeCenter HS22	8 Intel Xeon E5504 2.00 GHz	12 GB
	App / Batch	2	BladeCenter HS22	8 Intel Xeon E5504 2.00 GHz	14 GB
	Web	4	BladeCenter HS22	4 Intel Xeon L5520 2.26 GHz	6 GB

Table 2. Multi-tier BladeCenter configuration examples



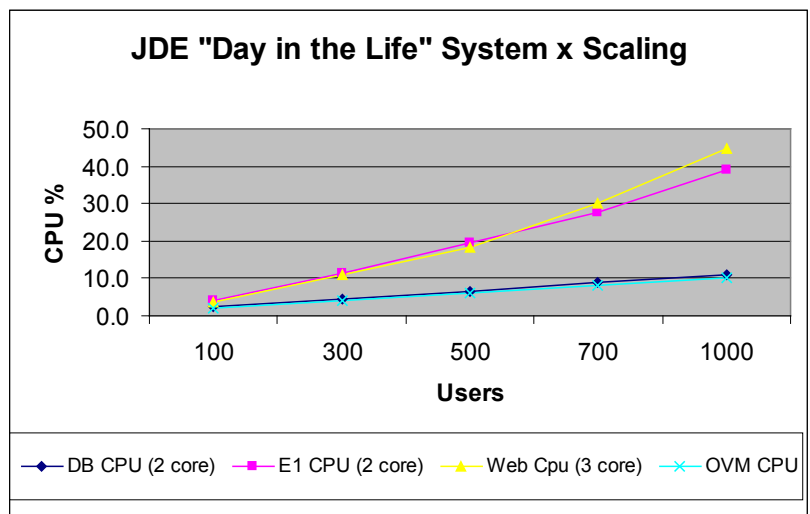
Active users	Partition	Function	Server quantity	Server model	Number and type of processor cores	Memory
50	VM1	DB / App / Batch	1	BladeCenter HX5	4 Intel Xeon E7520 1.86 GHz	12 GB
	VM2	Web				
100	VM1	DB / App / Batch	1	BladeCenter HX5	8 Intel Xeon E7520 1.86 GHz	12 GB
	VM2	Web				
250	VM1	DB	1	BladeCenter HX5	12 Intel Xeon E7530 1.86 GHz	22 GB
	VM2	App / Batch				
	VM2	Web				
500	VM1	DB	1	x3850 X5	16 Intel Xeon E7520 1.86 GHz	33 GB
	VM2	App / Batch				
	VM3	Web				
1000	VM1	DB	1	x3850 X5	32 Intel Xeon X7550 2.00 GHz	54 GB
	VM2	App / Batch				
	VM3	Web				

Table 3. System x and BladeCenter virtualized consolidation configuration examples

IBM System x JD Edwards EnterpriseOne 9.0 benchmark test

The IBM Oracle International Competency Center (ICC) was the first to execute a certified JD Edwards EnterpriseOne benchmark running on the Intel Xeon 5500 series processors. This benchmark configuration included the IBM System x3650 M2, used Oracle VM partitioning, and Oracle's robust "Day in the Life" benchmark test kit.

The "Day in the Life" test kit consists of 17 interactive scripts executing transactions typical of a mid-sized manufacturing company. The benchmark tests were executed with 100, 300, 500, 700 and 1000 concurrently active users to analyze the consumption of system resources at each user count. The weighted average response times for all tests remained well below the one second guideline and was 0.29 seconds at 1000 users. Figure 1 shows the near-linear scaling that was observed up through the 1000 user test.



Sizing JD Edwards EnterpriseOne for IBM System x and BladeCenter

IBM and Oracle working together have developed a capacity estimation capability to aid in designing an optimal configuration for each specific JD Edwards EnterpriseOne client environment. A detailed sizing estimate customized for your environment should be obtained from the IBM Techline Solution Sizing Team, accessible through your IBM or IBM Business Partner representative. To begin the sizing process download the sizing questionnaire from:

ibm.com/erp/sizing

Corning Data Services, Inc.

Corning Data Services® delivers total software and hardware solutions with a fundamentally superior implementation philosophy. Our proven approach empowers customers to leverage new technology sooner and more effectively, giving them more control over their system and driving down the cost of implementation.

Corning Data Services® has been an IBM business partner for over 25 years and has over 29 years of experience in ERP software sales and implementation services. Corning Data Services® has performed over 250 ERP implementations since 1993.

A proven JD Edwards implementation and upgrade specialist, Corning Data Services® is Oracle Gold Partner Specialized in Oracle Accelerate for Midsize Companies, JD Edwards EnterpriseOne Distribution, JD Edwards EnterpriseOne Financial Management, and JD Edwards EnterpriseOne Configurable Network Computing.



For more information

Contact Corning Data Services, Inc. at 800-455-5996 or email info@corningdata.com.

Visit us on the web at www.corningdata.com.





© Copyright IBM Corporation 2011

IBM Corporation
New Orchard Road
Armonk, New York 10504

Produced in the United States of America
September 2010
All Rights Reserved

This publication could include technical inaccuracies or photographic or typographical errors. This publication was produced in the United States. IBM may not offer the products, services or features discussed in this document in other countries, and the information may be subject to change without notice. References herein to IBM products and services do not imply that IBM intends to make them available in other countries. Consult your local IBM business contact for information on the products or services available in your area.

Information about non-IBM products is obtained from the manufacturers of those products or their published announcements. IBM has not tested those products and cannot confirm the performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

Maximum internal hard disk and memory capacities may require the replacement of any standard hard drives and/or memory and the population of all hard disk bays and memory slots with the largest currently supported drives available. When referring to variable speed CD-ROMs, CD-Rs, CD-RWs and DVDs, actual playback speed will vary and is often less than the maximum possible.

When referring to storage capacity, GB = 1,000,000,000 bytes and TB = 1,000,000,000,000 bytes. Accessible capacity is less.

IBM hardware products are made from new parts, or new and serviceable used parts. Regardless, our warranty terms apply.

For a copy of applicable product warranties, write to: Warranty Information, P.O. Box 12195, RTP, NC 27709, Attn: Dept. JDJA/B203. IBM makes no representation or warranty regarding third-party products or services including those designated as ServerProven® or ClusterProven®.

IBM, the IBM logo, ibm.com, BladeCenter and System x and are trademarks or registered trademarks of IBM Corporation in the United States, other countries or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at www.ibm.com/legal/copytrade.shtml.

Copyright © 2011 Oracle All rights reserved.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Oracle Corporation
500 Oracle Parkway
Redwood Shores, CA 94065

Intel and Intel Xeon are registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Other company, product and service names may be trademarks or service marks of others.

