

Living Large with JD Edwards

JD Edwards Solutions Designed for Large Installations

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Introduction

Today's largest companies have unique needs. They have already proven to their customer base and the marketplace that they are viable, agile, and committed to growing forward. In today's ever-challenging marketplace, they need those same characteristics in the technology company that supports their software systems. Oracle's JD Edwards provides you that support with advanced technology that scales to your business, innovative solutions that keep you on the leading edge, and a price point that enables you to focus on your business, not on what you are paying to support it. Whether you are a mid-sized company aiming for a higher market share or a major player on the edge of greater market impact, Oracle's JD Edwards' suite of products gives you the scalability, innovation, and low cost of ownership (TCO) you need to move ahead.

A common question for C-level executives is, "How do I keep my company at the head of the pack?" Seeking the best answer to that question entails analyzing not only what is happening in your own marketplace, but also the technology to support your upward progress. You need the technological support to keep up with today's business needs for analytics, mobile access, and productivity.

Oracle's JD Edwards EnterpriseOne solutions offer mature applications with rich industry functionality combined with enhanced innovations for today's business needs. In previous iterations of our solutions, JD Edwards built great power, depth, and breadth in efficiently capturing transactions, managing internal processes, as well as enabling compliance and business reporting. Our vision, our focus, our passion now drives us to focus on the best of the new – big data analysis, mobile apps built from the ground up, highly engaging user experiences, and a commitment to offer the best of future technologies.

So, who lives large with JD Edwards? Our customers represent a wide array of industries and vertical markets, representing, among others, the energy, construction, and manufacturing sectors. These companies manage very large databases and process huge numbers of transactions on a daily basis. They all need real-time visibility into their data and transactions to gauge the health of their business.

With JD Edwards EnterpriseOne, you get the best-in-class in scalability, innovation, and low TCO.

Scalability

When it comes to scalability, the first thing considered is often the number of concurrent users that a system can handle. That is important, but is not the only measure of how a system scales to your needs. You also need to consider back-end transaction processing, such as EDI, B2B, and e-commerce, the underlying technology architecture, as well as global deployment support.

Processing Speed and Transaction Volume

The world moves at a 24/7 pace. Business needs to move even faster. Systems must support not only large numbers of concurrent users, but also high-volume batch and analytic processing without the benefit of downtime. Oracle benchmarking consistently demonstrates that JD Edwards' technology easily meets these performance challenges.

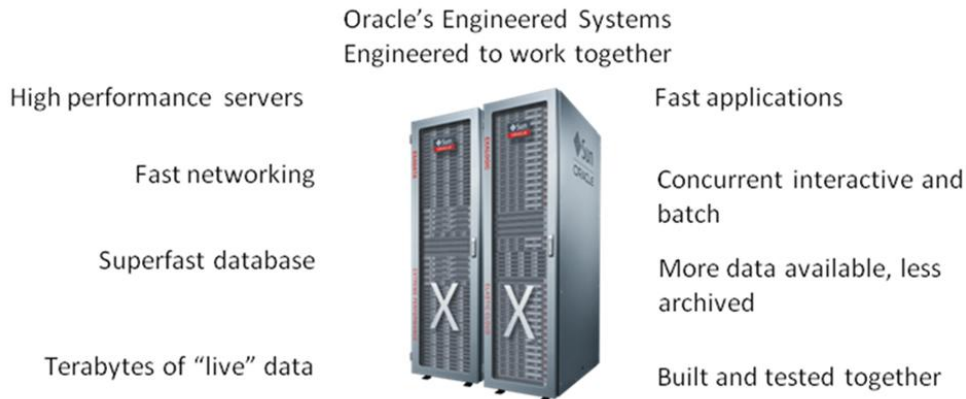


Figure 1. Oracle's Engineered Systems

Using high performance servers, such as Oracle Exadata and Oracle Exalogic machines, you get fast networking, terabytes of "live" data, and the ability to run thousands of concurrent interactive and batch processes.

For example, Oracle tested JD Edwards EnterpriseOne under the following load on $\frac{1}{4}$ rack of Exadata and $\frac{1}{4}$ rack of Exalogic:

- » •Interactive user load was first scaled to 8,000 users with 0.150 second average response time.
- » •Interactive user load was then scaled to 16,000 users with under 0.323 second average response time.

The result was extremely high concurrency between interactive user load and batch load with 16,000 interactive users and 30 concurrent batch jobs resulting in 0.483 second interactive response time and zero wait time for batch jobs.

JD Edwards EnterpriseOne and Oracle Engineered Systems are great together. As a part of Oracle's broad portfolio of products, JD Edwards EnterpriseOne inherits many benefits from running on a complete Oracle technology stack, including Oracle Database, Oracle Fusion Middleware, Oracle VM, and Oracle Linux.

In addition, with the Oracle Database In-Memory option, you can move your enterprise into another dimension of performance. In-Memory enables a single database instance to support not only high-volume transaction processing (OLTP) but also demanding analytic processing (OLAP). In-Memory enables both simplification and real-time analysis.

JD Edwards has a large customer base that runs on a variety of technology platforms. Benchmark tests have been executed on Oracle Single SPARC T4-2, IBM Power 770, and Cisco UCS B200 M2 and B250 M2. All offer outstanding performance for thousands of concurrent users and batch jobs.

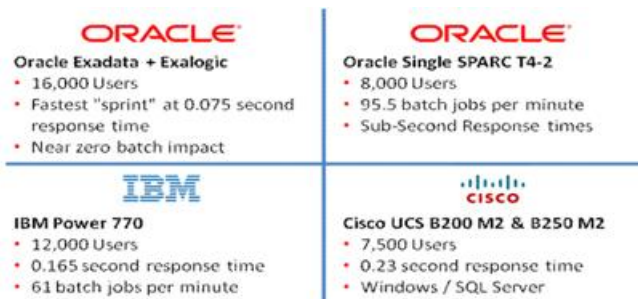


Figure 2. JD Edwards Benchmarks

Our customers' real-world experience proves that JD Edwards EnterpriseOne scales for large companies as the following examples demonstrate.

INDUSTRY EXAMPLES

Company Industry	Experience
Life Sciences	<ul style="list-style-type: none"> » 18,000 concurrent interactive users » 200,000 batch jobs per day » 20 integrations via BSSV, EDI, and other interoperability objects
Book Publishing	<ul style="list-style-type: none"> » Up to 160,000 batch jobs per hour processes » 90,000 EDI order lines per hour » More than 1 million sales orders processed in a day

Technology Architecture

Oracle's JD Edwards EnterpriseOne is an integrated software suite of enterprise resource planning applications that combine business value, standards-based technology, and deep industry experience to offer comprehensive business solutions with low total cost of ownership. It helps integrate all aspects of a business—including financial management, customer relationship management, enterprise asset management, enterprise resource planning, supply chain management, and supplier relationship management while also providing the business intelligence and performance management tools necessary to measure the value that it delivers.

To deliver all the benefits described above to large, globally distributed enterprises, JD Edwards provides comprehensive configuration tools and the ability to scale systems vertically and horizontally.

To facilitate EnterpriseOne system configuration across large and growing systems, JD Edwards delivers the EnterpriseOne Configuration Development Kit (CDK) as part of your purchase of JD Edwards EnterpriseOne. The CDK is a native, integrated toolset that enables organizations to:

- » •Realize TCO during their implementations
- » •Ensure high-quality consistent business processes across the enterprise to improve organizational cohesion and global visibility of business performance.

Business expansion, whether from acquisitions or from native growth, is a scenario that significantly benefits from the template methodology supplied by the JD Edwards EnterpriseOne Configuration Development Kit (CDK). Implementations typically require a good deal of manual work; however, with CDK you can capture the initial implementation experience utilizing leading practice business processes and then use this experience to define global templates that easily replicate business processes across many more instances. For example, CDK enables you to deploy a standardized security model across all divisions based on an extraction from the initial production

instance. At the same time, CDK enables you to strike a balance between enterprise-wide business process consistency and divisional autonomy where indicated.

Using CDK realizes time and cost savings in two primary areas:

1. Configuration (or non-transactional) data creation
2. Repeatable deployment of the ERP parameterization (or system configuration) for driving business processes for user interaction

CDK gives you control over the amount of effort necessary to create new templates by allowing you to exploit existing production environments and employ functionality to automatically detect the required components necessary for additional instance rollouts. Figure 3 shows different levels of investment that you can consider when creating templates for multiple-instance rollouts.

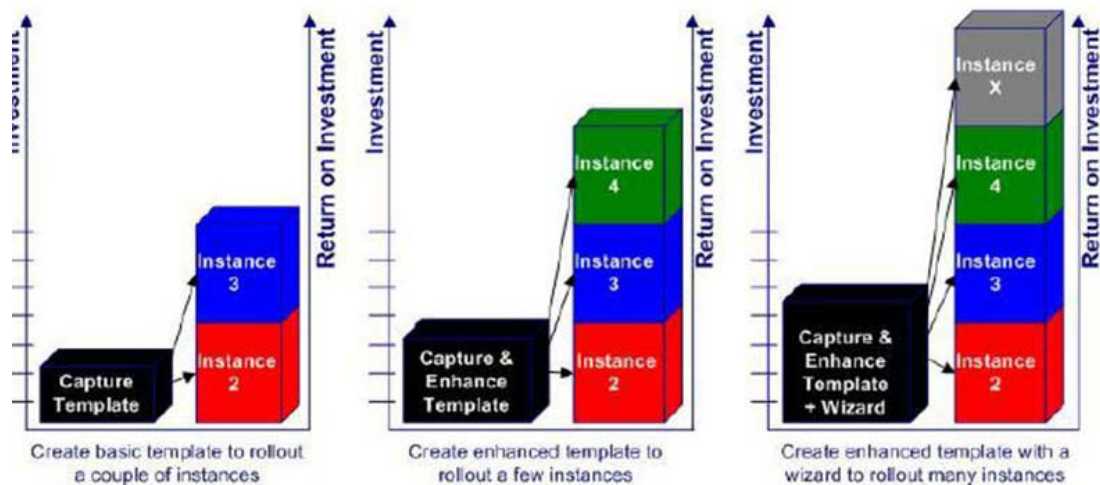


Figure 3. Investment Level Based on Number of Instances to Roll Out


Another major indicator of how JD Edwards effectively supports large system deployments is the fact that JD Edwards EnterpriseOne is architected for horizontal and for vertical scaling. Horizontal scaling by adding additional server in a cluster enables you to:

- » Utilize distributed server configurations.
- » Use load-balancing hardware and software to hide complexity.
- » Provide redundancy and scale on an as-needed basis.
- » Allow incremental capacity increases as needed.
- » Reduce failure and capacity degradation in case of failures.

On the other hand, vertical scaling – adding additional resources, such as CPU, memory, network, and disk space – provides the following capabilities:

- » Efficient processing of interactive requests by keeping core components on the same server.
- » Reduced change management overhead for both hardware and software patching.
- » Ease of administration with fewer servers to maintain.
- » Reduction of network or infrastructure failure points.

Global Deployment



Global companies with ERP instances in multiple countries have for many years relied on JD Edwards support for global deployment. JD Edwards EnterpriseOne software enables global deployment by supporting:

- » Multiple languages, multiple currencies, and multiple companies
- » Multi-instance deployment options.
- » Customization of business processes for country-specific practices.
- » Reporting requirements for specific countries.

For example, when you enter sales orders in a specific country, you can also have the system calculate the sales tax for this country. The JD Edwards EnterpriseOne software makes the tax amounts available on invoice and shipping documents, and retains the tax information so that you can complete required reporting on the taxes collected and paid.

Innovation by Design

As large companies have grown and changed, so, too, has the way employees work. They might work off-site, use their own devices, and need instant access to information to make decisions and do their jobs. JD Edwards continues to make significant investments in end-user personalization, end-user access control, and training to effectively sustain employee ramp-up and agility as well as control and consistency across different parts of the enterprise. This JD Edwards investment benefits companies with a large and distributed end-user base by reducing customers' IT costs and increasing user satisfaction.


End-User Personalization

Traditionally, system and user setup has placed a significant burden on IT departments. The larger the organization, the larger the burden, especially when it involves development efforts, which in turn impact the cost and duration of future upgrades. A modern user paradigm removes complexity, provides a simplified user experience, for example through visual data representation, and thus enhances productivity. It also transfers the ability to shape the digital work environment to individual users by empowering them to define a user interface that works best for them and to choose the device, such as mobile devices. JD Edwards provides a large array of personalization features that require minimal IT involvement and no development for customizations, and ultimately have minimal impact on future upgrades. Personalization features include the ability to create a unified view over multiple applications both internal and external to JD Edwards EnterpriseOne software, portal personalization, One View watch lists, grid display options and many others.

End-User Access Control

At the same time, JD Edwards continues to enable companies to maintain effective control over user access, but without the significant development investment of the past. JD Edwards's configuration capability can be managed by administrators and does not require development work, which in turn minimizes impact to future upgrades. Configuration may involve system settings that determine the user experience, for example enabling the auto-suggest feature or the ability to display recent reports.

A critical capability that JD Edwards offers to large organization involves the methodology for configuring security and compliance control efficiently for large numbers of users. JD Edwards enables you to create roles for user groups and add individual user profiles to one or more roles. Role definition, in turn, supports the ability to set up security by role so that security settings are at once applicable to a group of users. This feature significantly reduces the effort required to maintain security across a large and growing work force because the other security features, such as row, application, action code, and business unit security, can be applied to specific roles rather than requiring setup by user.



Security, along with a comprehensive set of other application and system-level controls also supports an organization's business practices to ensure appropriate governance, for example by enforcing accounting practices, and compliance with government regulations. The compliance controls available in JD Edwards software can be configured to support government regulations across countries and regions where an organization has plants and business units. For example, a company may need to comply with Sarbanes-Oxley in the United States, as well as the European Data Privacy Directive for the European Union. These controls ultimately also result in operational efficiencies that provide a competitive advantage.

Customizable Project Team and End-User Training

Training users on a new system can be a major expense when implementing a new system or bringing new employees on board - but it doesn't have to be. Oracle's User Productivity Kit (UPK) is a collaborative content development platform that drives end-user and project team productivity throughout all phases of the software ownership lifecycle.

The UPK tool enables companies to easily record custom content for their own systems and business processes. Companies can then reuse this content for multiple purposes, for example training project teams during implementations and upgrades, creating training and job aids for end-users, and generating scripts for testing the software.

In addition, JD Edwards offers pre-built application content that companies can use or modify as needed. For example, implementation leads can use pre-built content to learn delivered processes (vanilla functionality) and can use the tool to re-record processes to reflect configuration changes.

Need JD Edwards training? The JD Edwards Resource Library provides free online demos and tutorials for JD Edwards EnterpriseOne business processes and technical topics. Access the JD Edwards Resource Library from Learnjde.com.


Low Total Cost of Ownership (TCO)

Oracle's JD Edwards is committed to ensuring low TCO for its customers. The architecture and capabilities discussed previously are an important factor in lowering TCO. As described, JD Edwards provides an array of tools and methodologies that are designed to keep TCO low, even and especially for large implementations.

Another significant way to decrease TCO is JD Edwards' adoption of open platform support. Open platform support makes it possible to leverage low-cost hardware systems, use the Linux operating system, and deploy Oracle VM to reduce the number of physical servers. Open platform support also enables customers to choose their platform based on the skill sets and IT standards present in their organizations.

Because complexity is a significant cost driver, JD Edwards has successfully pursued a strategy of simplification. JD Edwards customers realize low TCO as a result of a single UI paradigm, a single application space covering major business functions, a single integrated tool and application infrastructure, as well as a single database and model – all of which require less IT staff for support. The evidence amply demonstrates the success of this strategy, not only, but especially in regard to TCO.

In a paper published in 2010, Nucleus Research reported a direct comparison between JD Edwards EnterpriseOne and SAP. When a global biotechnology tools company merged with another company, it was running JD Edwards EnterpriseOne in one part of the company and SAP in the other. Upon analysis of the two implementations, Nucleus Research found that the ongoing annual cost per user (2,600 active users) on JD Edwards EnterpriseOne was



\$1,210. For the 2,400 active users on SAP, the annual cost was \$5,313 for each employee. The annual costs considered annual licensing fees and maintenance, consulting support, and full-time support staff.

Those findings show that SAP is approximately four times more costly to support than JD Edwards EnterpriseOne — even though the applications support approximately the same numbers of users ([Nucleus Research 2010](#)).

The deployments differed significantly in the amount of support needed. At the global biotechnology tools company, SAP required four times more IT resources to support the implementation than JD Edwards. Put another way, SAP required one IT resource for every 44 users; JD Edwards required one IT resource for every 186 users.

The Case of Statoil: Simplification Leads to Lower TCO

Statoil Fuel & Retail (SFR) is a powerhouse in the European energy industry, with a broad retail network across Scandinavia and central and Eastern Europe. SFR has planning and distribution operations in eight countries and needed to support more than 18,000 employees spread among its headquarters near Oslo, Norway, its eight regional headquarters, its Statoil-branded franchise stations, and its fuel terminals and depots. SFR turned to JD Edwards EnterpriseOne to enable the company to compete more effectively in the fuel retail space.

“We chose JD Edwards because we deemed it to be the best solution to automate procure-to-pay, sourcing, order-to-cash, and other essential facets of our operation.” - Vegar Bøthun, CIO Statoil Fuel & Retail

Fuel constitutes up to 70 percent of SFR’s business, so it is paramount that fuel flows efficiently from the plants to the warehouses to the service stations. Using Fusion Middleware and JD Edwards EnterpriseOne, SFR can automatically calculate demand for new fuel deliveries based on fuel levels in each tank at each service station, coupled with the average daily sales for each station. Truck drivers consult onboard computers that tell them what products and quantities to load from the terminals, as well as how much fuel to deliver at each station. The entire process of fuel restocking, delivery, and confirmation is now totally automatic.

Magnus Tägtström is the fuel value-chain lead at SFR. He notes that “creating simplified and standardized processes enables us to strengthen our internal best practices across countries. In addition, having a common source of master data will enable us to simplify a lot of administrative processes and business processes as we become a world-class, efficient fuel value chain.”

“Having standardized IT solutions will improve benchmarking between countries and terminals,” he adds. “This new solution will also increase transparency into the B2B pricing portfolio, enabling managers to quickly assess the impact of different pricing concepts and helping sales reps better understand the effects of the terms they offer to customers.”

With a new system requiring a huge investment in technology and human resources, Vegar Bøthun, CIO at Statoil Fuel & Retail (SFR) was concerned with more than just the initial costs of implementation. He needed to consider the total cost of ownership (TCO). He calculated the 10-year and 15-year TCO for their new Oracle and JD Edwards system. Of his results he says, “Oracle offered the most cost-efficient platform, and we have limited customization as much as possible in order to end up with a standard solution that is easy to maintain. As anybody who has been in IT for a while knows, initial implementation costs are only a small part of TCO. We believe our ongoing maintenance costs will be significantly less going forward, thanks to the standards we have enforced during development.”

"We have simplified our information systems significantly, yet they are tailor-made for our retail business. We will soon have the same centralized processes across all our business units, which will reduce ongoing costs and improve operational efficiency."

Previously SFR relied on an SAP R/3 ERP system. Each country and market had disparate processes, especially in Scandinavia, which meant that Bøthun's IT team had to manage more than 5,000 custom software objects. "We had several thousand customizations in our previous ERP system, and with JD Edwards [EnterpriseOne] we've managed to keep that down to a few hundred customizations," Bøthun continues. "We have simplified our information systems significantly, yet they are tailor-made for our retail business. We will soon have the same centralized processes across all our business units, which will reduce ongoing costs and improve operational efficiency."

Conclusion

Oracle's JD Edwards effectively meets the business needs of large, globally dispersed companies. JD Edwards offers you the capabilities needed to take a thriving large organization into the future.

Are you looking for global deployment, scalability, and in-memory processing? JD Edwards does that. Big data analysis? Mobile applications? A personalized user experience? JD Edwards supports your reporting and business processes, as well as user productivity as no one else can.

Our existing customers are already realizing the benefits of the JD Edwards focus and passion:

URS Corporation is a leading provider of engineering, construction, and technical services, with 2013 revenues of \$11 billion USD. They have over 50,000 employees in about 50 countries. They upgraded a massive organization from JD Edwards EnterpriseOne 8.11 to 9.1/9.1.3 in just 90 days. What did those 90 days buy them? One View reporting for quick access to data in the format they want. Access to in-memory processing with new applications designed to utilize Oracle's engineered systems. Dozens of mobile apps built specifically for right-now business needs.


Scalable, affordable solutions based on innovative right-now technology – that's the living-large promise from JD Edwards.



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