

The Evolution of Information Technology Architecture: Two-Tier ERP for JD Edwards

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Introduction: Two-Tier ERP – What Is It and Why Do I Care?

Acquisitions, mergers, and new business development are a way of life as companies strive for growth on a regional or even global scale. If your organization is on a growth trajectory, you may need to develop both a technical and a business strategy for Information Technology proliferation.

What are the factors impacting the evolution of your Information Technology proliferation strategy? Typically, they include cost reduction and efficiencies of scale. What level of investment and risk is the organization comfortable with? How about availability of IT resources? Is the ability of the organization to be agile important to continued growth? Do industry or regional variables exist between different segments of the organization that impact the organization's ability to grow? A Two-Tier ERP strategy may be able to address these concerns.

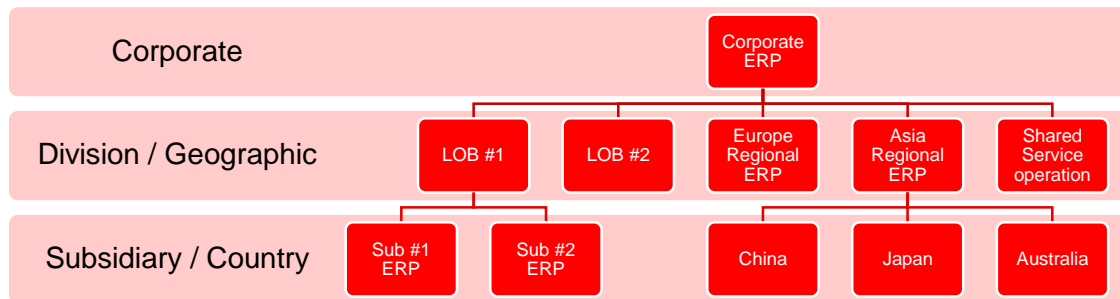



Figure 1. Fragmented Systems by Line of Business or Geography

Before the advent of the web, communication technology was relatively simple – virtually non-existent in developing countries and tenuous in rural areas of more developed countries. Business expansion often involved inheriting fragmented systems with tenuous ties to the mother ship at corporate headquarters. Often the result of acquisitions and mergers, these legacy systems became an inherited component of the corporate Information Technology “strategy.” The collection and consolidation of performance or logistics data was a slow, cumbersome process, but it was, by and large, “good enough.”

Improvements in communication infrastructure and mounting competitive pressure drove the need to look at organizational information holistically in near real time or real time. Also, the *ever-increasing* need to reduce costs while improving efficiencies drove a movement to consolidate information systems into a manageable number, usually *one* or a few, such as a global / regional single-instance model. One side effect involved the attempt to implement Enterprise Resource Planning (ERP) systems that did not always fit the mission of the satellite organizations. In some



cases, the cost of rolling out a cookie-cutter version of the “standard” monolithic corporate ERP solution was, and too often continues to be, *extremely* high due to:

- » Combining all of the modifications for corporate HQ, each line of business, each division, and each geography into a single instance. As a result, hundreds or even thousands of interrelated modifications have to be maintained and managed, making upgrades enormously costly events. However, when upgrades are avoided or postponed, companies find it increasingly difficult to keep up with the latest application and technology innovations and benefit from the cost efficiencies that accompany them.
- » Business process re-engineering that is needed to make the subsidiary fit the corporate “solution.” This is costly on several levels because it may limit the ability of the satellite organizations to be agile and quickly respond to market changes and demands. Subsequently, the entire organization’s ability to respond quickly is hampered, as is the ability to grow.
- » Cost of downtime (or downtime avoidance), which is magnified significantly if the centralized system or communications network goes down. A single point of failure increases the risk for the entire organization and increases the cost of risk avoidance by requiring elaborate and massive High Availability solutions.

A two-Tier ERP architecture accommodates the need for globalized consolidation of information while lowering the costs of information technology through the implementation of standardized, yet more targeted solutions. Fortunately, dramatic improvements in communication, software configurability, and interoperability infrastructure make Two-Tier ERP not only viable, but an optimal approach for a growing number of organizations.

Two-Tier ERP – What Is It?

Organizations are becoming wise to the need for informational speed and coordination while expending reasonable costs and effort on attaining information technology nirvana. Two-Tier ERP is the result of an evolution from an organizational information strategy consisting of many fragmented and disparate system solutions (do your own thing) to a single large consolidated system solution (one size fits all), and finally to a hybrid two-tier approach combining the best of both schools of thought.

Two-Tier ERP comprises software and hardware that enable companies to run the equivalent of two ERP systems at once without duplication of effort: one at the corporate level and another at the division, geography, or subsidiary level. For example, a manufacturing company uses an ERP system to manage the company across the organization. Typically, the company has invested considerable time, effort, and money building a corporate solution that meets its core enterprise needs.

This company uses global or regional suppliers, production centers, and service providers to support the manufacturing company’s customers.

These satellite entities are often seen as semi-autonomous organizations, possessing their own workflows and processes, which more effectively fulfill their requirements. Given the realities of globalization, enterprises

continuously evaluate how to optimize their regional, divisional, and product-based manufacturing strategies to support strategic goals and reduce time-to-market while increasing profitability and delivering value.

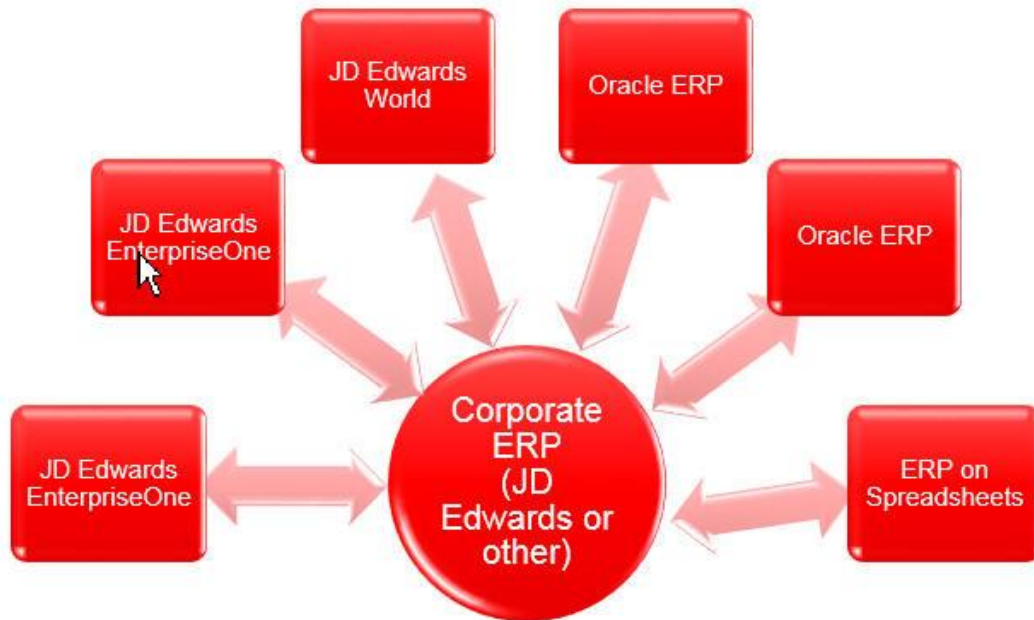


Figure 2. Example of Two-Tier ERP

With Two-Tier ERP, these companies continue operating under their own business models and have the ability to be more agile and act independently from the parent company. Since these companies' processes and workflows are not all tied inflexibly to the parent company's processes and workflows (except for those deemed necessary for a desired level of corporate standardization), they can respond quickly and inexpensively to local business requirements in multiple locations. Two-tier ERP strategies give enterprises the agility to respond to industry market demands while still aligning IT systems and information at levels that make sense for the entire organization.

Integrations with other "best of breed" or regionally specific solutions at each location can be executed, delivering the ultimate in optimized capabilities to support local requirements. These too can be standardized allowing efficiencies of scale on an enterprise level while delivering quality support for the work flows of each subsidiary location.

Two-Tier ERP methodology consists of several critical components:

- » The first component is the corporate ERP system. It represents a significant investment to ensure it meets the organization's corporate needs.
- » The second tier is implemented for the various entities that comprise the manufacturing plants, distribution centers, or sales offices of the organization. They may be global or regional, and the implementation can be on premise or a cloud offering.
- » The third critical component is the interoperability infrastructure, the glue that holds the organization together, the conduit that virtualizes corporate information as one.

Two-Tier ERP – Why JD Edwards?

JD Edwards EnterpriseOne software has long been known for its low cost of operation, flexibility, and deep industry functionality. Interoperability is built into JD Edwards at many levels, supporting both intermittent and real-time integration. More recent innovations, such as Oracle VM Templates for EnterpriseOne, Oracle Business Accelerators, and Oracle User Productivity Kit (UPK), make it easier than ever to install, configure, and implement JD Edwards EnterpriseOne solutions either as a primary corporate ERP system or to use multiple standardized versions of EnterpriseOne as the second-tier standard in a Two-Tier ERP strategy. JD Edwards EnterpriseOne can be installed on premise or even as part of a private cloud. JD Edwards customers are finding that JD Edwards EnterpriseOne fits perfectly with their global growth strategies as the corporate ERP, the second tier ERP, or both.

Low Cost of Operation, Flexibility, and Deep Industry Function

Oracle JD Edwards EnterpriseOne is an integrated suite of business management applications that support financial management, customer relationship management, human capital management, order management, project management, supply chain planning, supply chain logistics, and procurement. EnterpriseOne also provides capabilities in specific verticals including asset lifecycle management, food and beverage, industrial manufacturing and distribution, life sciences, engineering and construction, real estate, home construction management, and apparel management. Extreme flexibility is built in, allowing JD Edwards EnterpriseOne to be configured to fit a wide array of process requirements, minimizing the need for costly customizations. A single instance can support multiple processes, languages, countries, and currencies. This incredible array of flexible applications is built upon an open-platform technical foundation, delivering choices of IT architecture.

Interoperability

Standards-based interoperability is also built into JD Edwards EnterpriseOne, which is important for building an integration infrastructure to support Two-Tier ERP strategies. The beauty of interoperability using JD Edwards is in the support for data, processes, and composite application integrations using a standards-based set of interoperability conventions.

Some examples of actual customers' application of JD Edwards Interoperability enablers include:

- » Master Data Management – a single source of “truth” for master data, such as product and customer information, that maintains a level of corporate governance, yet allows for subsidiary-unique master definitions.
- » Product catalogs managed between corporate and satellite entities – again, a combination of corporate marketing and product governance combined with regional or localized catalogs.
- » Logistics on a global, regional, or local scale to optimize supply chain decisions across the organization.
- » Roll up of vital sales and financial performance information – generating timely and highly visible management information on a local, regional, and global scale.

A full arsenal of web services, business events, data queries, batch interfaces, and user interfaces deliver a powerful set of tools and out-of-the-box content to support the important integration infrastructure components of a Two-Tier ERP strategy. Oracle Fusion Middleware provides the powerful middleware infrastructure to develop, sustain, and manage the flow of data that is so critical in a Two-Tier architecture.

Install, Configure, & Implement

JD Edwards EnterpriseOne applications run on top of a robust, flexible, and highly configurable architecture foundation. Various components, such as logic servers, database servers, and web servers cooperate to provide a scalable and configurable technology platform that accommodates enterprises of all sizes, user counts, industries, and geographies.

Companies sometimes invest weeks to design, implement, and test the architecture that exactly meets their needs. However, not every implementation of JD Edwards EnterpriseOne requires such rigorous attention during the installation phase. Many customer scenarios can be accommodated by a fundamental configuration on a preconfigured technology stack. Providing a rapid installation of a base configuration, yet allowing for modification, yields the best of both worlds. Oracle VM templates for JD Edwards EnterpriseOne deliver this solution.

Further acceleration of time-to-value is possible through Oracle Business Accelerators. These can be used to standardize desired process configurations while enabling flexibility for establishing country or regional localizations. The flexibility to establish appropriate process standardization while allowing for specific regional nuances is critical to the success of a Two-Tier ERP strategy. Simultaneous deployments can be managed with more consistency but without the rigid cookie-cutter approach or time-consuming implementations that some software solutions require.

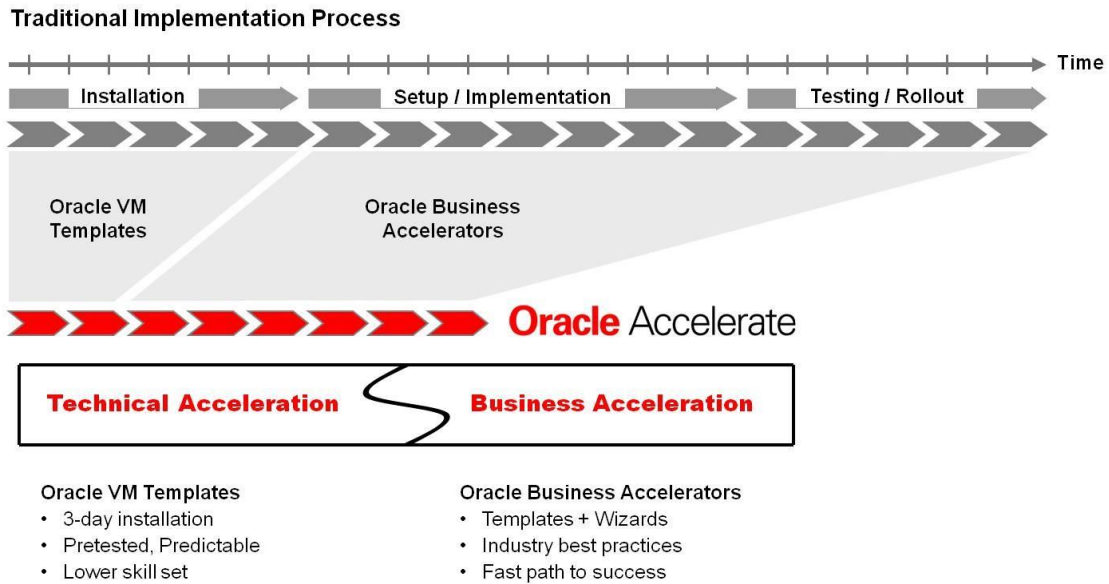


Figure 3. Traditional Implementation Process

Potential Models

The actual application of Two-Tier ERP concepts is taking shape for JD Edwards EnterpriseOne customers.

Case #1

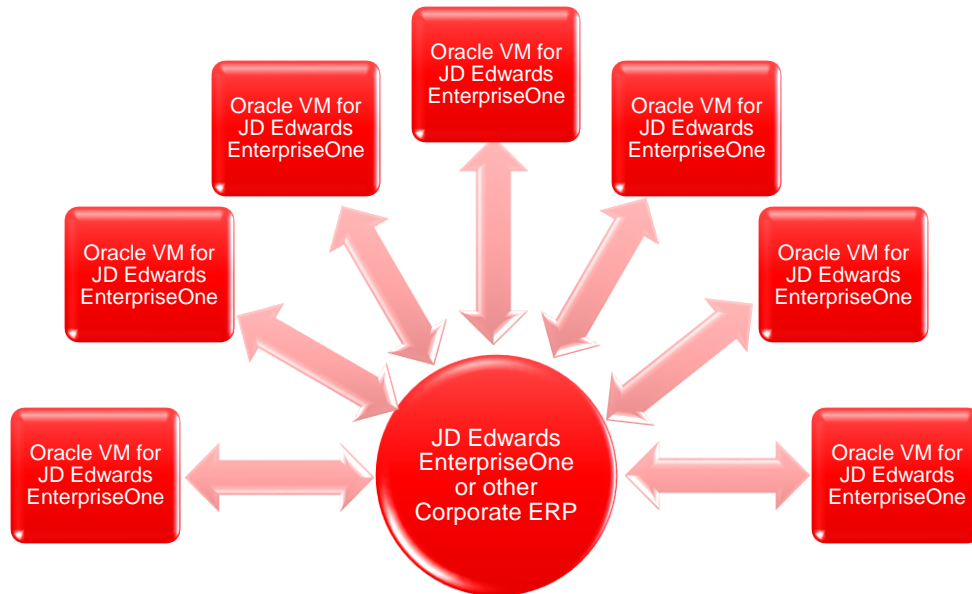


Figure 4. JD Edwards EnterpriseOne - Combining Control with Flexibility

A multi-national organization is using EnterpriseOne VM templates to rapidly deploy instances of EnterpriseOne. These instances contain corporate standards while allowing specific configuration characteristics to be altered to more closely fit the needs of each of their network subsidiaries. This approach combines a level of centralized corporate governance with the flexibility needed for localized subsidiaries to more rapidly respond to regional market and supply chain demands. JD Edwards EnterpriseOne scales very well with increasing demand while enabling the flexibility needed to maintain a two-tier architecture.

Case #2

An organization with multiple JD Edwards EnterpriseOne instances is acquired by another organization running a different corporate ERP. Rather than incurring significant cost and risk by ripping and replacing multiple EnterpriseOne instances, the decision is made to standardize the subsidiaries on EnterpriseOne, each “One” feeding financial performance information to the central corporate information center. Flexibility is maintained, major cost and risk are avoided, disruption is minimized, and corporate standards are maintained at a level that makes business sense for the central organization.

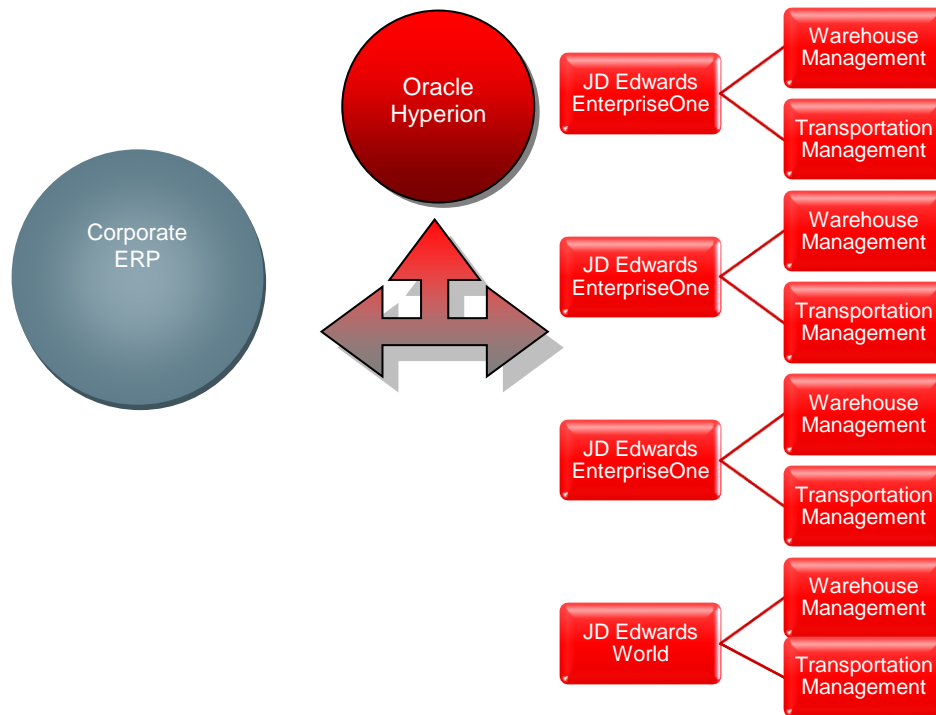


Figure 5. Corporate ERP, Oracle Hyperion and JD Edwards EnterpriseOne

Case #3

A multi-level approach to business is a natural fit for one prominent global JD Edwards customer. Amway has implemented a variation of Two-Tier ERP architecture. Rather than the true parent-child Two-Tier ERP hierarchy deployed by many organizations, Amway has implemented two separate Oracle ERP solutions: Electronic Business Suite and JD Edwards EnterpriseOne. Each of the two Oracle solutions has specific strengths that best address the unique requirements of Amway's two primary business units: Affiliate Management and Manufacturing/Distribution.

Why not take a consolidated approach using one or the other solution? Sometimes, decisions can be to the result of timing and capabilities in place at the time of the decision. The path of least resistance can help solidify architectural decisions until they become institutionalized. So in Amway's case, the approach has evolved into a strategy that reflects lowest cost and risk, coupled with optimum capabilities of the two main-stay ERP solutions. Oracle Electronic Business Suite was the stronger choice for Affiliate Management when decisions were made at the beginning of Amway's journey, and EnterpriseOne is providing the flexibility and ease of implementation required for the rapidly growing global manufacturing and distribution arm of the business.

Instead of the usual approach in which the second-tier solutions share information through integration channels, these two solutions run separately for each of the two major business units. Then consolidation occurs at the top tier using another Oracle product, Hyperion.

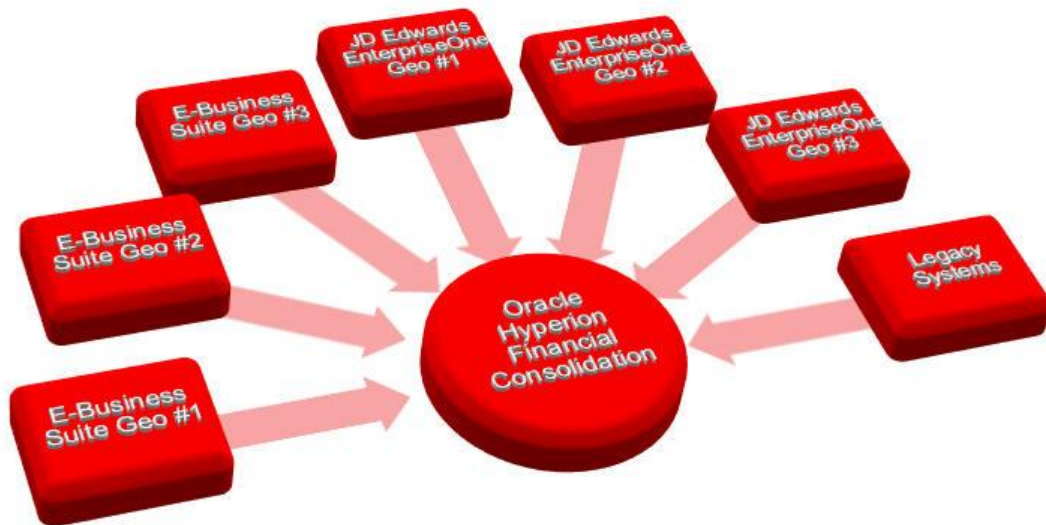


Figure 6. Oracle Hyperion Financial Consolidation

Summary

Two architectural methods for Information Technology have emerged in recent years for organizations that are faced with the challenge of growing regionally or globally: ERP Instance Consolidation and Two-Tier ERP. Both methods deliver certain advantages. Certainly, both can deliver reduced cost of operation through greater optimization of resources, improved organizational visibility, and scalability to manage continued growth.

If your organization's strategic global and regional growth plans require greater operational flexibility while maintaining efficiencies of scale, Two-Tier ERP is a strategy that should be considered. JD Edwards EnterpriseOne is well positioned as an enterprise solution that can support the consolidated approach, and it is equally well suited as the solution for location-specific ERP requirements in a Two-Tier ERP strategy, either operating in the corporate data center, locally for each location, or in the cloud.

The combination of scalability, flexibility, low cost of operation, interoperability, and tools to rapidly configure, deploy, and implement, make JD Edwards EnterpriseOne a "best choice" leader for your expansion strategies.







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