

Best Practices for Upgrading JD Edwards EnterpriseOne

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Best Practices for Upgrading JD Edwards EnterpriseOne

As part of Oracle's commitment to Applications Unlimited, JD Edwards EnterpriseOne continues to evolve, offering greater value and providing new advantages for your business. Upgrading JD Edwards EnterpriseOne is key to realizing the maximum return on your Oracle investment.

INTRODUCTION

Oracle's JD Edwards EnterpriseOne applications have evolved over time, and Oracle's commitment to customers, this suite of applications, and creating best-in-class products remains steadfast. The JD Edwards EnterpriseOne product has expanded significantly in functionality, scalability, usability, and reduced cost of ownership over the past few releases, including dramatic leaps with the recent JD Edwards EnterpriseOne 8.12 release.

This white paper will guide you through the major areas to consider in determining when an upgrade is appropriate for your organization. Based on your current release of JD Edwards EnterpriseOne software, it reviews the most common upgrade paths and aims to provide you with a framework for determining the best possible upgrade agenda for your organization. It also includes information about future upgrade options to the next generation of application software, currently branded as Oracle Fusion Applications. Combined, Applications Unlimited and Oracle Fusion Applications give you the flexibility that you need in creating an upgrade plan that maximizes the value of your JD Edwards EnterpriseOne investment.

There are many reasons to consider upgrading your current JD Edwards EnterpriseOne version. For example:

- Upgrading may provide access to new functionality and software applications that can help keep your organization well positioned to meet your business objectives through leveraging the latest technology and built-in business processes
- In an increasingly rigorous regulatory compliance environment, upgrading may facilitate compliance at a lower cost through retiring customizations
- Upgrading will allow you to leverage the latest performance and usability enhancements, enabling you to increase the efficiency of your applications and your business
- You may need to upgrade to remain eligible for the highest levels of product support

In evaluating any upgrade, there are many factors to consider, such as support timeframes, functional capabilities, technical infrastructure, and underlying

business needs. These factors are often complex and interrelated – all of which adds to the importance of determining the most appropriate upgrade strategy.

To help you make an informed decision, this paper outlines our plans for supporting and advancing JD Edwards EnterpriseOne as well as how Oracle Fusion Applications relate to this product line.

UPGRADE OVERVIEW

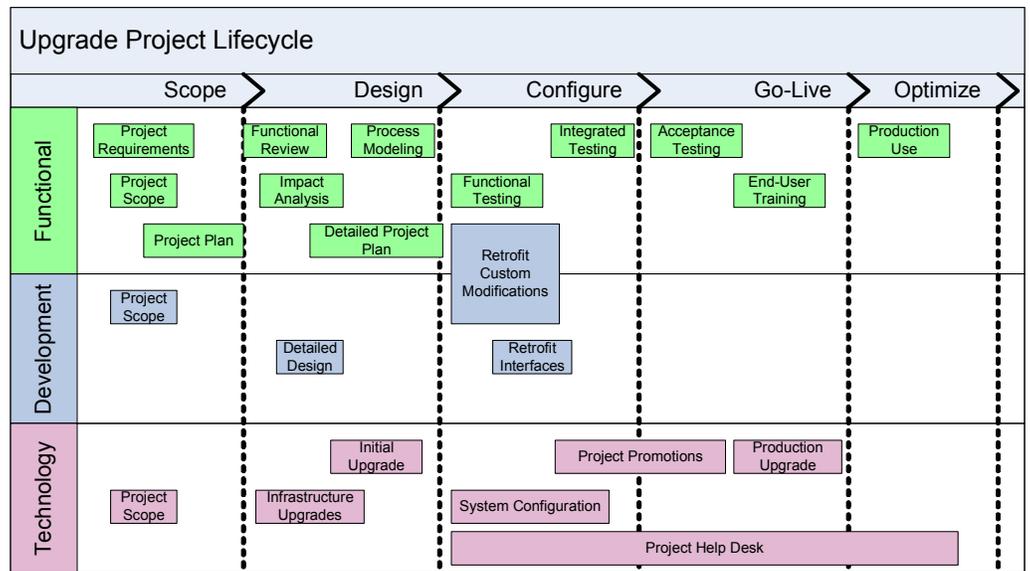
Before pursuing an upgrade, it is imperative that you fully understand the upgrade process, potential upgrade paths, and most importantly, what your criteria are for considering an upgrade of your JD Edwards EnterpriseOne solution.

The Upgrade Process

An upgrade project is similar to an implementation project; however, upgrade projects can be significantly more efficient because they leverage your previous implementation efforts, acquired knowledge, and outputs. In addition, upgrades can be executed within the current change management system used by your organization.

Within the upgrade project, there are several key areas of work that begin with project definition and continue through the training of personnel on the new solution. The five major phases to a standard upgrade project are Scoping and Planning, Design and Process Modeling, Configuration, Go-Live, and Optimizing. The following graphic presents the lifecycle of a typical JD Edwards upgrade project.

Although an upgrade project is similar to an implementation project, the upgrade project can be significantly more efficient because it leverages your previous implementation efforts and outputs.



The technology activities associated with an upgrade typically represent one-third of the overall project workload and are critical to success because these steps

upgrade the application objects, master configuration data, and business transactional data that comprise the foundation for development and functional activities. The following steps are typically completed before the upgraded environments are turned over to the other areas for retrofitting and testing.

Technical Environment Assessment

Prior to starting your upgrade, you should inventory and review your configuration for the hardware and software used to support your current JD Edwards application. Compare the minimum technical requirements (MTR) for the new release against your inventory to determine gaps in your infrastructure that need to be addressed. Many customers retire old servers during an upgrade, using the updated server hardware for the upgrade itself. It is strongly recommended that you have your enterprise servers and database servers sized by your hardware partner. JD Edwards EnterpriseOne 8.12 requires additional storage and has a different processing footprint than your current release.

JD Edwards EnterpriseOne 8.12 requires Web application server technology. If you have not deployed HTML clients in your current application release, you will need to plan how this technology will be deployed in your infrastructure to meet your IT and business requirements. Oracle Consulting or an Oracle partner can provide technology assessments and architectural planning workshops to guide you through these processes.

Preparing for the Upgrade

It is important to provide the functional project team with an upgrade environment that was taken from an exact copy of production. This replication allows the team to work with the most current set of transactional data for testing, and utilize any custom modifications that were in production at the time of the upgrade. Before the upgrade begins, Oracle recommends that you copy the entire production environment and pathcode data into one of the environments you will initially upgrade. For most customers, this environment will be the prototype or conference room pilot environment.

Another preparation task is to make sure that all servers have been installed and validated against the minimum technical requirements for JD Edwards EnterpriseOne 8.12. Be sure to include any software requirements. For example, in the latest release, the deployment server now requires a different C compiler than previous releases.

Make sure that all objects and versions are checked in. Build full packages and review the logs and reports to make sure that no errors exist. Take the opportunity to clean up your object librarian and version tables for records that point to objects that no longer exist.

The specification selection report should be executed. This report identifies all the objects that have been modified or customized. Compare this report against your

internal documentation to determine which objects you need to move into the new release.

Ensure that you have downloaded JD Edwards EnterpriseOne 8.12 from www.edelivery.oracle.com. This download can be a lengthy activity, so allocate enough time to complete this step before the upgrade. Review the latest JD Edwards EnterpriseOne 8.12 information on the Customer Connection Web site and also download the latest planner electronic software update (ESU).

Upgrade to JD Edwards EnterpriseOne 8.12

During the upgrade process, these tasks execute the predefined technology processes on the deployment and enterprise servers in order to copy system configuration information (for example, security and user profiles), merge new control table (UDCs, Solution Explorer tasks) and data dictionary values, move and merge your customizations of objects and versions into the JD Edwards EnterpriseOne 8.12 central object set, and execute table conversions to convert the business data tables from your current release data model into JD Edwards EnterpriseOne 8.12.

Post-Upgrade Activities

Upon the completion of the technology upgrade, post-upgrade tasks must be completed before turning the environment(s) over to the functional and development project teams. Oracle strongly recommends that you apply all available ESUs. For more information on these recommendations, please see the white paper *Change Management Practices and Principles for JD Edwards EnterpriseOne*, available on the JD Edwards EnterpriseOne upgrade page on the Customer Connection Web site. As part of this workflow, build and deploy a full set of client and server packages, execute any post-upgrade table conversion processes, and execute a series of processes that surface tests the environments.

Web Server Installation

A Web server must be installed and configured for development and functional project team usage.

Environment Turnover to Project Team

After executing the steps just described, the environment should be available for the respective project teams to start the development and testing processes.

Examining Your Upgrade Criteria

There are several areas to consider as you examine your upgrade options, including application functionality, technological enhancements, operational considerations, and support availability.

If you are running multiple instances of JD Edwards EnterpriseOne, your upgrade analysis should examine the value of incorporating instance consolidation into the upgrade project.

Application Functionality

When considering an upgrade, most organizations begin with a critical assessment of the new capabilities and enhancements to current features provided in the new release. A firm grasp of these new capabilities and enhancements is essential to evaluating the value to be gained through your organization's investment of time and resources.

In many instances, newly available capabilities can offer several productivity advantages, including increased business value and lower operational costs (for example, through the retirement of customizations). In evaluating any new JD Edwards EnterpriseOne release, think about your current environment and whether the version in place meets the needs of today as well as the demands of your business for the next three to five years.

Release notes are the best first step to understanding the major changes included in the new release. Also, these documents provide valuable references to other documentation that can help you evaluate and implement the new release.

Valuable reference materials can be located within the JD Edwards EnterpriseOne Resource Center:

www.peoplesoft.com/corp/en/support/online_support/e1_resources.jsp.

Finally, your Oracle Consulting sales representative can help you identify new features, functionality, and processes that may provide value to your organization.

Technological Enhancements

As you evolve your application upgrade strategy, you should consider your technical infrastructure requirements, including client architecture, application server, Web services, and database options. Consider what has changed or what will change in terms of platform support, and also be aware of infrastructure enhancements that may provide additional benefits to your production environments. For example, by choosing to leverage current Oracle Fusion Middleware and database options, you could experience substantial productivity benefits by having your database and application server running on a single platform.

JD Edwards EnterpriseOne has traditionally afforded several choices of technical infrastructure, and this flexibility continues to be available. In the past year, we expanded the choices again, with the additional infrastructure option of Oracle Fusion Middleware for your JD Edwards applications.

Oracle's industry-leading Lifetime Support Policy of your infrastructure configuration is well documented in the document *Lifetime Support Policy: Coverage for Applications and Server Technologies*. In addition, the white paper *Oracle JD Edwards EnterpriseOne Support Policy* has information about how the policy applies specifically to this product line.

Operational Considerations

Oracle continually seeks to improve your return on investment by leveraging technology to reduce the resource requirements required to operate and maintain your enterprise solutions. This means customers like you can install and implement software more quickly, simplify upgrades, receive real-time support and performance diagnostics, and achieve robust integration with other e-business software—delivering quantifiable benefits.

The JD Edwards EnterpriseOne 8.12 release takes these benefits to the next level. Oracle continues to deliver improvements that will further reduce implementation costs, enhance usability, and increase supportability.

For organizations running more than one instance of JD Edwards EnterpriseOne, the cost, risk, and operational value of instance consolidation should be included in your upgrade value analysis.

Support Availability

One important benefit of pursuing an upgrade is to ensure continued access to robust technical support that JD Edwards EnterpriseOne application users have come to expect. As part of our Applications Unlimited commitment to our customers, Oracle provides continued enhancements to the current Oracle applications beyond the delivery of Oracle Fusion. Oracle is committed to supporting customer investments in technology platforms for these applications as well as our certified infrastructure products (hardware, operating systems, databases, and middleware) Details can be accessed at the following location:

oracle.com/support/library/data-sheet/oracle-lifetime-support-policy-datasheet.pdf

You can also review the white paper *Oracle JD Edwards EnterpriseOne Support Policy*, which has information about how the policy applies specifically to this product line.

With the guaranteed support announced through the Oracle Lifetime Support initiative, Oracle customers can remain on their JD Edwards EnterpriseOne applications and be confident of support with currently supported platforms. Oracle is providing visibility into product road maps, and helping customers derive continual success from their current applications by delivering dedicated, world-class development and support for years to come.

Identifying Your Upgrade Path

In addition to the factors just discussed, you may also want to consider the amount of time needed to upgrade and ensure that you will have the full support and coverage for your solution. Based on this timeline, you can craft a strategy to maximize the value of your investments and take advantage of Oracle support for the entire lifecycle of your solution.

Release notes are the best starting point for reviewing the technical upgrade requirements.

It is important to note that Oracle Fusion will evolve as an optional path to the future, rather than a destination, because your JD Edwards EnterpriseOne solution will continue to evolve over time, adopting Oracle Fusion technologies as they become available. Portions of Oracle Fusion technology are already certified with JD Edwards EnterpriseOne releases and are planned for future releases as well.

Whether or not you are planning to upgrade to Oracle Fusion Applications in the next few years, you should still factor the upgrade path to Oracle Fusion Applications into your plans in order to minimize your future cost and risk should you later determine that this next-generation product suite best satisfies your evolving business objectives.

In short, while the business benefits of running Oracle Fusion Applications may be substantial, upgrades to Oracle Fusion will be entirely optional, given the continued commitment of Applications Unlimited and your own unique business objectives. Still, as needs change rapidly in today's dynamic business environment, it is wise to position yourself for the greatest flexibility in your future upgrade options.

The following tables show examples of upgrade paths and support policies for each release of JD Edwards EnterpriseOne software.

Table 1 describes various Oracle Support policies with dates for all currently supported releases of JD Edwards EnterpriseOne.

Table 2 illustrates the upgrade paths for each of the supported JD Edwards EnterpriseOne releases. For example, for release Xe, a customer may upgrade to any release up to JD Edwards EnterpriseOne 8.12. For releases prior to Xe, a customer must first upgrade to Xe prior to upgrading to a release up to JD Edwards EnterpriseOne 8.12.

Upgrade paths from JD Edwards EnterpriseOne 8.11 and JD Edwards EnterpriseOne 8.12 have already been announced. In fact, customers will be able to upgrade from any JD Edwards EnterpriseOne release to Oracle Fusion. In some cases, the upgrade path will be similar to a customer upgrading from JD Edwards One World B733.2 to JD Edwards EnterpriseOne 8.12; the technical path will take advantage of an interim release, and the project will be structured to minimize the cost and risk associated with that interim release. Closer to the availability of upgrades to Oracle Fusion, we will release more information to help you decide which path is best for your organization if a move to Oracle Fusion is the next step.

Table 1—JD Edwards EnterpriseOne Release Support Policies

Release	GA Date	Updates, Fixes, Security Alerts, and Upgrade Scripts	Tax, Legal, and Regulatory	Extended Support Ends	Sustaining Support Ends
Xe	Sep 2000	Dec 2013	Dec 2013	Not Offered	Indefinite
8.0	Jun 2002	Dec 2013	Dec 2013	Not Offered	Indefinite
8.9	Sep 2003	Sep 2008	Sep 2009	Not Offered	Indefinite
8.10	Jun 2004	Jun 2009	Jun 2010	Not Offered	Indefinite
8.11	Dec 2004	Dec 2009	Dec 2010	Dec 2012	Indefinite
8.12	Apr 2006	Apr 2011	Apr 2012	Apr 2014	Indefinite

Table 2—Target Release

Source Release		8.0	8.9	8.10	8.11 SP1	8.12	9.0	After 9.0	Oracle Fusion
	Xe		✓	✓	✓	✓	✓	✓	✓
8.0			✓	✓	✓	✓	✓	✓	
8.9				✓	✓	✓	✓	✓	
8.10					✓	✓	✓	✓	
8.11 Sp1						✓	✓	✓	✓
8.12							✓	✓	✓
9.0								✓	✓
After 9.0									✓

UPGRADE BEST PRACTICES

Treat upgrades as combined business and technology projects to get the most value out of your Oracle investment.

In preparing to successfully upgrade, there are multiple considerations to include in your upgrade planning and execution efforts. Within this publication, Oracle has gathered tips and techniques from hundreds of experienced systems managers, consultants, and partners. These recommendations are intended to help you learn from others and manage a successful upgrade project.

General Recommendations

The following general considerations should form the backbone of your upgrade initiative.

Tip #1—Determine Your Upgrade Path

Refer to the system requirements and supported platforms on the Customer Connection Web site to determine supported upgrade paths for major releases. Verify whether you can upgrade directly to the target release or whether you must first upgrade to a previous release before moving to the target release. In addition, evaluate the complexity of your upgrade effort based on the number of modules implemented, number of integration points, number of interfaces, total number of business process scripts, and number of customizations that need to be brought forward. Finally, determine the metrics and cost associated with each aspect of the upgrade. Each consideration should be addressed through a thorough upgrade assessment.

Tip #2—Treat Your Upgrade Activity as a Formal Company Project

The single best predictor of upgrade success may be the planning and project management rigor invested. A structured approach for managing the tasks, resolving issues, and measuring progress is absolutely critical. Equally important is a clearly defined and documented project scope. A defined scope is critical to project measurements necessary for time and cost containment. Experience has demonstrated that clear issue definition, strong project management, and executive ownership are critical success factors to a well-performing project effort.

If your organization has good project management expertise in house, you have an important asset to leverage. However, if this expertise is not readily available, it should be acquired early on in the project to ensure proper guidance and controls are in place. In either case, you will need someone with experience managing technical projects who can also help you anticipate and manage the effects of this initiative on other parts of the organization including end users, managers, and executives.

Tip #3—Use an Appropriate Change Management Strategy

Managing development, application configuration, and technology changes during an upgrade project is critical to providing a stable environment for the project team. Although JD Edwards EnterpriseOne 8.12 provides tools (Object Management Workbench, Change Assistant, software updates) to assist in managing development and configuration change, it is important that you supplement these tools with process documentation.

During an upgrade, it is imperative to freeze metadata and system data in your production environment. With respect to the new release, ensure all relevant patches are applied appropriately. Failure to effectively manage these different change management requirements can result in upgrade step failures and unexpected user acceptance test results. Once you have addressed this consideration, you should proactively search for issues throughout your upgrade effort and schedule relevant updates until you reach a “go/no-go” milestone. At this point, you should enforce a new release content freeze to stabilize the

environment. For information on relevant patches, periodically consult the Customer Connection Web site. You can also refer to the white paper *Change Management Practices and Principles for JD Edwards EnterpriseOne* for more detailed recommendations.

Tip #4—Build an Upgrade Team with Broad and Complementary Skills

Several different skill sets will be necessary to successfully upgrade your system. The following table details recommended roles that should be staffed within an upgrade project team. Note that a steering committee is critical to success. Creation of an active and interested steering committee is imperative because decisions critical business decisions must be efficiently made and dealt with throughout the project. Furthermore, project failures are often traced to the lack of an effective governance body.

Evaluate each of these roles to determine whether it makes sense to engage additional assistance.

Upgrade Team Resources and Responsibilities		
Roles	Required Optional	Responsibilities
Steering Committee/ Executive Sponsor	Required	Oversees the project, assigns additional resources and funding if necessary, and decides when the organization is ready. Meets regularly.
Project Manager	Required	Manages progress, monitor issues, and so on.
Technical Upgrader	Required	Executes the technical upgrade using Spec Merge, TC Workbench, and the like.
Testers	Required	Validates the new system. You will need coverage across all implemented processes.
CNC	Required	Manages fixes, patches, and hardware requirements.

Support	Required	Responds to issues, particularly right after go-live.
Performance Tuner	Required	Gets maximum performance from your infrastructure. Consider contracting with a consultant with specific tuning experience.
Developer	Optional	Retrofits custom modifications, if necessary.
Trainers	Optional	Trains your end users. These can be power users, outside consultants, and the like.

Tip #5—Utilize Peer and Oracle Resources

Most organizations sponsor upgrade projects infrequently, so it is important to leverage the experiences of others as much as possible.

Use these links to gather information from Oracle and interact with other users of JD Edwards EnterpriseOne.

- Customer forums
www.questdirect.org
- The JD Edwards EnterpriseOne Upgrade Web site
www.peoplesoft.com/corp/en/iou/upgrade/e1_upgrd_resources.jsp
- The Customer Connection Web site
www.peoplesoft.com/corp/en/login.jsp

Tip #6—Decide When to Change or Add Business Processes

In many cases, there is functionality in the release being evaluated that will help your business improve processes and automate tasks. This can be a small enhancement to business processes you are already using, or larger changes such as the adoption of a new module. One critical decision for your upgrade project is whether you will implement the new functionality as part of the upgrade, or upgrade your current processes without change, and implement new functionality as a follow-on project.

Generally, implementing your current processes in a new system can be a way to mitigate risk in the upgrade project. However, your business realities may preclude this approach, especially if the updated processes native in the software can markedly improve operations. For example, the business may be driving to take advantage of new capabilities as quickly as possible, or it may be more appropriate to modify processes and engage in a coordinated training effort to increase user adoption of the new solution.

By carefully weighing the pros and cons of these approaches, you can choose the best strategy for your organization.

Tip #7—Plan for Upgrade Tuning

Another critical area that should be considered is the performance tuning of your new system. Tuning your production upgrade processes can significantly reduce downtime during the final stages of your upgrade. Examples of upgrade tuning include eliminating SQL statements that do not affect any of your data, executing conversion programs, and preconverting master tables or static tables before the go-live event.

Take advantage of the expertise of an Oracle consultant who has experience tuning your new release to ensure you get the most from your infrastructure, even if you have the expertise to execute other areas of the project yourself.

Oracle rigorously tests each supported upgrade path for technical and functional accuracy and for optimized performance. The most productive performance testing is completed on customer data. Whenever possible, Oracle's upgrade development experts perform detailed analysis on customer databases to tune the conversion code. To participate in the Customer Database program, contact your Oracle sales manager.

Tip #8—Get Current Product and Upgrade Information

Make sure that you are using available Oracle resources to help you gather current information for your project, and work with Oracle Support for critical case management throughout your conversion timeframe. Oracle has increased its focus on assembling assets to help customers with upgrades, and leveraging these resources will increase your ability to upgrade smoothly.

Oracle maintains several resources to ensure that you obtain the most relevant information pertinent for your upgrade initiative. Several outstanding resources can be located on publicly available Oracle systems. In addition, upon product general availability, the JD Edwards EnterpriseOne Upgrade Web site is a good starting point for all types of upgrade information.

Finally, make sure you get the most current documentation available. Oracle provides several types of documentation to help you navigate a successful upgrade project. These materials can be accessed from the JD Edwards Customer Connection Web site.

Tip #9—Issues Management

Properly documenting and tracking issues is a key component in their timely resolution. Project leadership should regularly review the issues list and assign ownership. Issues should identify specific applications, forms, and actions.

Contact Oracle Support if you believe you are experiencing application issues. Train your first line staff to log cases early and as completely as possible, and include appropriate trace files, environment information, and business and

technical milestone dates to help determine case prioritization. The Oracle Support staff and your account team can help in this area.

To ensure that your project progresses as smoothly as possible, Oracle encourages you to understand our escalation policies, and assign Priority 1 (P1) issues as appropriate. These issues are typically on the critical path for your go-live, and getting the right focus on their resolution early will give you the best chance of staying on schedule. Depending on several factors including your customization and issue complexity, an escalated issue can take appreciable time to resolve with a fully tested solution, so the earlier the process is started, the better. P1 cases should always be logged via the Customer Connection Web site to ensure complete case detail, but the best practice is to follow-up with a call to Support to ensure the most efficient follow-through.

Even when you encounter noncritical issues (non-P1s), it is recommended to log cases via the Customer Connection Web site. Cases logged in this way are often resolved faster than calls into the Support Center. This is due in part to the details you can provide online:

- Detailed description of the issue in your own words
- Clearly articulated priority and sense of urgency
- Trace files, screen shots, log files, and other relevant information to help the analyst move quickly on your issue

Project Initiation Considerations

There are a number of things that you can do as your project begins, and even before it formally kicks off, which will ensure that the project has a proper foundation and is well positioned for success.

Tip #10—Prepare the Organization

As you enter the initial stages of an upgrade project, engage the entire affected organization and help them prepare for the work ahead and the changes they will experience. To support this objective, develop a project charter to capture baseline information and areas of understanding. Obtain formal buy-in from the stakeholder organizations and kick off the project in a face-to-face meeting. Formality, visibility to upper management, and team building can be key aids to securing the cooperation and problem solving help you will need as the project progresses.

These discussions should include both the business impact of the change and the associated change schedule. For example, secure agreement on all business blackout periods necessary for system changes.

Tip #11—Ensure the Quality of Your Data

One of the key steps in preparing for a successful upgrade is ensuring that your data is accurate and complete. You should have a standard practice to handle duplicate records, verify data integrity, and ensure the overall health of your data. Use the time before an upgrade to review what practices are in place or need to be created to ensure that your data is relevant and reliable. In particular, run your application integrity reports and resolve any issues that are identified. Here are some example reports you may want to run:

- Companies in Balance Integrity Report (R097001) in JD Edwards EnterpriseOne General Ledger
- DBA Integrity Report (R077021) in JD Edwards EnterpriseOne U.S. Payroll
- Item Ledger / Account Integrity Report (R41543) in JD Edwards EnterpriseOne Inventory Management

Ensuring high quality data by using these techniques will aid the effective completion of table conversions and will assist greatly in the seamless operation of your JD Edwards EnterpriseOne solution after the upgrade is complete.

Tip #12—Inventory Your System

All configuration elements of your enterprise system should be inventoried and the current configuration items (versions) should be copied and stored for technical change management control.

Upgrading is analogous to moving; before starting, you have to make sure you know where all your belongings are and that they are being handled appropriately. Early in your project, be diligent in gathering this information through composing and completing a preliminary upgrade questionnaire. Among the key considerations to include in your inventory process should be:

- Customizations, extensions, and modifications
- Localizations
- Interfaces, APIs, and integrations
- Third-party products
- Hardware
- Software releases and patches, including operating system, database, and JD Edwards EnterpriseOne applications and JD Edwards EnterpriseOne Tools release

Tip #13—Prepare a Go Live Checklist

Once you have completed the initial planning, create a checklist of criteria to guide the ultimate deployment of the upgraded solution. The planning activities should allow you to develop a robust checklist to assess appropriate “go/no-go” decision

points. Creating this checklist as soon as possible is a good way to organize project goals, validate your plan, and identify your success criteria before the pressure is on to complete the project. Keep this checklist updated as the project progresses, and document completion times for individual tasks within the checklist.

Tip #14—Understand and Mitigate Project Risks

Early in the project, a risk analysis should be undertaken to determine project risks such as resource contention, other projects going live at the same time, and so on. For risks that have a high probability of occurring and have a large impact, specific mitigation plans should be developed. These plans describe, in advance, what actions to take if the risk becomes reality. The analysis and plans need to be reviewed on a regular basis throughout the project.

Look for key points of failure, especially in the area of resource loading for your technical and business specialists. If you lack bench strength in any particular areas, develop a plan to supplement and back up critical personnel.

Prepare Your Technical Environment

While many of the activities required for a successful upgrade project involve end users and net change for the applications, you must also manage the changes to your technical environment carefully.

Tip #15—Evaluate Your Architecture

There are several key technological decisions to make that will affect your project. Changing any part of the architecture increases the complexity of the upgrade project, and careful planning is required to determine when to make this change as well as to account for the technical work required. If you are not planning on changing the architecture (although it may be mandatory for you to change your architecture depending on the version of the applications you are on currently), it is important to clarify this throughout your organization and create consensus to minimize disruptions.

It is imperative that these assessments be made early on to remove uncertainty and allow the project team to focus on other upgrade related details.

- **Hardware Platform:** Hardware changes need to be fully considered and evaluated prior to planning your upgrade. Hardware changes will add to the complexity of your project. In many cases the hardware change should take place prior to the upgrade or after the upgrade is complete. If it is determined that the hardware change must take place prior to the upgrade due to data size requirements, CPU capacity, platform age, or the desire to change the complete hardware stack to a different technology, detailed planning of each step must take place after referring to the Minimum Technical Requirements(MTRs) on the Oracle Web site. The MTRs will indicate which platform will support which versions of JD Edwards

EnterpriseOne and related tools as well as the hardware drivers and patches required. Typical life expectancy of a hardware platform is 3 to 5 years.

- **Database:** Database requirements generally are a factor in choosing to upgrade. Size requirements and database features will contribute to the decisions made in upgrading the database. High availability and disaster recovery database capabilities continue to improve. These qualities should be evaluated when determining which database platform is right for your business. Refer to the MTRs when making upgrade decisions. Not all versions of a database are supported by each JD Edwards EnterpriseOne Tools release.
- **Middleware:** One of the key decisions is which middleware platform you will use. JD Edwards EnterpriseOne supports both the IBM WebSphere products as well as Oracle Fusion Middleware. In choosing your middleware, be sure to understand the licensing requirements early to ensure that contractual issues will not become a barrier as the project moves forward. The middleware options are feature rich and each should be considered for future growth requirements.
- **Unicode:** Another key decision is whether you will convert your database to Unicode. Most customers have data in a non-Unicode format. There are benefits and costs to each approach. In either case, a clear direction in this area will clarify hardware and project requirements and help you focus on planning a successful upgrade.
- **Web Architecture:** Moving forward, all JD Edwards EnterpriseOne products will be 100 percent Web client architected. This development creates an enormous flexibility as to where your clients can reside, but it will also change the requirements in the supporting architecture. Refer to the MTRs to determine client hardware and software requirements. If remote development is required, this should be taken into consideration to ensure necessary developer access.

Tip #16—Calculate New Hardware Sizing

Given the potential changes to your current system configuration, it is absolutely vital to get an accurate sizing for your new architecture. The combination of expanded JD Edwards EnterpriseOne product functionality, technological changes, anticipated changes in the way you use the applications, and possible implementation of new modules could all impact sizing requirements for the upgraded solution.

Accurate sizing information will help you decide whether you can reuse current hardware, need to increase hardware resources, or should consider upgrading one or more of your servers. Similarly, sizing considerations are important whether or not you intend to upgrade in place (with potential reuse) or will switch to a new hardware platform during the upgrade process. Performance and load testing can

help determine if the hardware is adequate to support your production requirements.

Tip #17—Identify Custom Code and Scripting

Any custom code integrated with JD Edwards EnterpriseOne may be impacted during an upgrade. When the upgrade process brings your custom changes into the new target release, it relies on the system code associated with the objects. Objects that are incorrectly coded to system codes outside the 55–59 range will be considered obsolete and not brought forward. To avoid this potential complication, you should make sure that all custom changes are coded properly well in advance of your upgrade project to ensure that these custom changes are brought forward to the target release.

All interfaces, form customizations, and customized reports will require extensive testing to ensure that they have not been affected by changes to tables or APIs in the upgraded software. Custom responsibilities and menus must be reviewed and potentially updated as well. In some cases, customizations can be removed after an upgrade if new features and functionality satisfy the business requirements previously met by the custom code.

Tip #18—Defragment and Reorganize Your Database

From a general database perspective, there are a few actions that can be completed to assist the upgrade project. To optimize the efficiency of the system as you upgrade, you should defragment and reorganize the database to the greatest extent possible beforehand. Your database administrator should be able to use current database management tools to accomplish this goal.

Tip #19—Study and Adhere to Current Minimum Technical Requirements

A critical step in ensuring success is adhering to the technical requirements for your system. This applies to the release currently in production as well as the release to which you are moving. Make sure that you review these requirements early in the project to ensure that you have the right components and understand any updates or changes and how they will affect your upgrade plan.

Current information on MTR's can be located on Customer Connection.

Upgrade Verification

After the technical upgrade processes are completed, an inventory check should be completed to confirm that all components were updated correctly and are behaving properly.

Tip #20—Implement the Most Current JD Edwards EnterpriseOne Tools Release and Patches

In addition to the basic installation steps, it is critical to get “code current” in the new environment before you invest in the testing, configuration, and validation associated with going live. This process requires the most current aggregate fixes to be applied, such as updates and JD Edwards EnterpriseOne Tools. For all JD Edwards EnterpriseOne release upgrades, the current planner ESUs and JD Edwards EnterpriseOne Tools release should be installed immediately following the installation of the deployment server. The Change Assistant tool can be leveraged to apply all available ESUs to the applications.

Upgrade Your Data

Once the system is installed, you should turn your attention to data considerations. This step is a critical one in your upgrade success, and often the most time-sensitive.

Tip 21—Minimize Application Data to Upgrade

There are several steps to take to prepare your application data for the conversion. The first step is to minimize the amount of data you need to upgrade. If you have a defined archiving and purge strategy for your data, be sure to apply it before the upgrade. If a defined data strategy does not exist in your organization, strongly consider implementing one.

Another important step is to run and review application integrity reports. These reports help you ensure that data is complete and accurate and help to prevent issues when processing data through the conversion (see Tip #11 “Ensure the Quality of Your Data”).

Tip 22—Test with a Copy of the Production Database

Converting your data accurately and efficiently depends on the quality and makeup of the data itself. Working with a current copy of your production data will give you valuable information about how the testing process should be structured, as well as how long it will take to complete. Typically, your first conversion will be the longest and the most difficult.

Copy your production data into your development or prototyping environment before beginning the technical upgrade steps. As you progress through the upgrade project, continue to work with accurate, current data, taking a fresh copy as directed in your upgrade path documentation. This consideration not only ensures the highest data quality, but will provide more accurate upgrade data conversion activity time estimates during performance testing.

Tip 23—Leverage Existing Test Scripts and Plans

To prepare test scripts for use during the testing cycles, begin with the test scripts utilized during the original implementation and augment them to include testing of

the new features and functionality. Also consider any modifications needed for process flow changes related to the upgrade.

If these materials do not exist from the original implementation or previous upgrade, create them and store them in a library. This material can save significant time in preparing for upgrade testing.

Tip 24—Turn off Database Triggers

If your system has any database triggers, you typically want to disable these while the data is being upgraded. It is important to understand the purpose of these triggers and make a decision about whether they can all be disabled. In some cases, it is possible to do the conversion with the triggers on, although this may slow processing.

Tip 25—Perform Index Management

If custom indices were created for reporting or other purposes in your previous release, they will need to be reevaluated and created after the upgrade is complete if they are still determined to be necessary.

Training

While many of the existing skills your team has will serve you well in your upgrade project, it is extremely important to obtain training to learn the new features, business processes, and other changes that will help your staff become more efficient and effective with the new version.

Tip 26—Train End Users on the New Solution

When you first implement the system, your end users must be trained from the ground up to use the new application. However, during your upgrade, you will likely have experienced users who are already familiar with the basics. This fact can both assist and impede your upgrade project effort. Your end users, most importantly those who will be testing the system, must have good information about how the resulting solution will be different, whether the changes are functional, user interface, or technical in nature. These considerations will prevent issues from being reported that are the result of misunderstandings, and better position overall acceptance of the new solution.

Applicable training is available through the Oracle University Web site; additionally, training and informational Webcasts can be found on the Customer Connection Web site.

Tip 27—Get Specific Technical Training

The project team and support team must be proficient in the new technologies introduced in the latest release. Team members must also understand the new architecture and performance best practices. An assessment is recommended to

reconcile the skills needed to support the development and maintenance of the new release. This consideration is especially critical for a successful upgrade initiative.

Applicable training can be located on the Oracle University Web site; additionally, training and informational Webcasts can be found on the Customer Connection Web site.

Tip 28—Optimize Training Processes

One of the best ways to reduce the number of issues you have to track, research, and resolve is to train your users at an optimal timeframe. Although many of the core functional and administrative business processes are similar between releases, training will give your users the information they need to identify true issues from intended changes. As such, the timing of this functional training is important. While you may want key users to be trained early on to give input to the project and assess impact, most users prefer training proximate to going live on the new system so they don't have to remember what they have learned over a long period of time without applying this knowledge.

Post-Upgrade Activities

Once the core technical upgrade has been completed, there are several additional steps to ensure success.

Tip 29—Secure Functional User Buy-In

Functional validation of the system is a key task. Most projects employ functional users, away from their main responsibilities, to accomplish this objective.

Though it may be self-evident, if you have functional users complete testing, they must see the value of the process and share the project goals to complete the task effectively. Typically, these resources are setting aside important tasks to participate in the upgrade initiative, so take the time to solicit both management and individual cooperation. Once this cooperation is achieved, ensure that you are allocating enough time to complete a thorough testing cycle.

Tip 30—Testing Scope

A comprehensive testing effort is one of the key steps to finishing the upgrade and going live on the new release. As such, it is important that you consider the testing element of the upgrade as a major software update. Typically, a full, integrated test including user acceptance testing and performance testing is performed to exercise all the business processes the organization will use. You may choose to use automated testing tools; in most cases, this automated approach should be augmented with human testing as well.

Tip 31—Deciding to Go Live

Ultimately, the decision to start running the business on the new solution must be made internally. As you approach the milestone of a new JD Edwards EnterpriseOne solution, make sure that the team has enough information to enable a defensible “go” or “no go” decision. The go-live checklist created earlier in the upgrade process should be leveraged to verify that the success criteria have been achieved.

Make sure that all affected groups are represented in this decision from both the business and IT perspectives. If you have a formal steering committee, it is the appropriate decision making body. If for some reason there is no steering committee, call a meeting for this purpose, gathering input from the stakeholders ahead of time and fostering the communication that will allow for an informed and broadly supported decision.

UPGRADE TOOLS

There are a number of automated tools to assist in the patching, release management, and upgrade process.

Support Assistant

Support Assistant is a helpful tool for a successful upgrade. In addition to helping gather information to triage and troubleshoot issues, Support Assistant creates an XML document as an output that is easy to email to project team members, share with consultants that are involved in the project, and send to Oracle Support if the need arises. Also, the Install Verification profile in Support Assistant should be executed right after the target release is installed to check the basic setup of the newly installed system.

Note that Support Assistant is a free tool for all customers on maintenance and can be found on the Customer Connection Web site.

www.peoplesoft.com/corp/en/support/online_support/support_assistant/index.jsp

Change Assistant

In an upgrade project, Change Assistant is a critical tool to help you get current fixes when you install the new release, and to apply fixes according to your change management strategy through the project and beyond.

Change Assistant allows a single point of entry to facilitate software updates and fixes. This application utilizes a navigational tree to help manage your deployment processes and enhance your search capability over Update Center and Customer Connection information. The tool is available to all customers' current on maintenance and can be accessed from the Update Center.

www.peoplesoft.com/corp/en/update_fix/kgwrapper.jsp?app=uc

Software Update Impact Analysis Tool

The Software Update Impact Analysis tool allows you to review a software update to determine what objects will be affected, any prerequisites required, which SARs are included, and more. This valuable tool is used with Change Assistant to understand the affect an update will have on your system, particularly after the initial effort to get all fixes current.

The Software Update Impact Analysis tool is found on the Software Updates menu inside JD Edwards EnterpriseOne.

Visual Compare Tools

JD Edwards EnterpriseOne provides three tools to help with the retrofit process: Visual Compare for Applications, Visual Compare for ER, and Visual Compare for UDC Descriptions and Data Dictionary Glossary.

The JD Edwards EnterpriseOne Visual Compare tools enable you to compare two versions of JD Edwards EnterpriseOne objects including applications, event rules, named event rules, user defined code descriptions, and the data dictionary glossary. For example, if you apply an update containing an application in which you made custom modifications, you will need to retrofit that object. Visual Compare lets the developer compare the updated application or named event rule to the custom object in the central objects data source of any defined path code, specification, or ESU backup.

JD Edwards EnterpriseOne Visual Compare tools provide a detailed, onscreen comparison. You can change the target object (your local version) within the utility by moving lines directly from the source. You can also remove or disable lines. In addition to providing an onscreen comparison, you can print a report detailing the changes as well.

ORACLE FUSION

The transition to the next generation of applications is a worthwhile journey that you should undertake if and when your business needs warrant it. The course for this journey has been set, it can be started today, and it provides benefits in three key focus areas: better business insight, more adaptive business processes, and superior ownership experience. Oracle's investments are focused in these areas, and all future releases of our applications will raise the bar in all areas. The preponderance of feedback from business managers and users of enterprise software falls into these three categories.

Our investments in these three areas have resulted in substantial benefits with the 2006 delivery of JD Edwards EnterpriseOne 8.12. Beyond this major release and the future JD Edwards EnterpriseOne application releases delivered under the Applications Unlimited commitment, the final step to a single, convergent, next-generation applications product line will embody the results of our design decisions and unwavering focus in these areas. The convergent product line will embed

business intelligence closer to the heart of the system, so users can attain better business insight in the context of a workflow for decision making. Oracle's investment in a service oriented architecture, done right, with appropriate degrees of flexibility in how processes are configured, will eliminate the business/IT divide. Our holistic approach to reducing your total cost of ownership assures you that we are improving every aspect of your experience with our software—installation, patching, upgrading, maintenance, and end user productivity.

CONCLUSION

As part of Oracle's commitment to Applications Unlimited, JD Edwards EnterpriseOne continues to evolve, offering greater value and providing new advantages for your business. Upgrading JD Edwards EnterpriseOne is key to realizing the maximum return on your Oracle investment.

Each organization must evaluate the costs, risks, and rewards of an upgrade in the same way they would evaluate a new business proposal. This white paper outlines best practices to enhance your upgrade project's success and add value to your organization. As a next step, consider engaging with Oracle Consulting or an experienced Oracle partner to determine your best options going forward.

Oracle Consulting is ready to help you analyze, plan, and execute a JD Edwards application upgrade, in a lead or supporting role, as your organization requires. Tight integration across Consulting, Development, Support, Education, and Global Delivery puts the entire Oracle team behind your success. To learn more, contact your local Oracle Consulting representative at +1.800.633.0615, or visit oracle.com/consulting.



Best Practices for Upgrading JD Edwards EnterpriseOne

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Contributing Authors: John Long, Rudy Lukez, Rick Retzko, Dan Stern, Seth M. Williams

Oracle Corporation
World Headquarters
500 Oracle Parkway
Redwood Shores, CA 94065
U.S.A.

Worldwide Inquiries:
Phone: +1.650.506.7000
Fax: +1.650.506.7200
oracle.com

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