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Planning Your Oracle E-Business Suite Upgrade from Release 11i to Release 12

This paper applies to customers who are looking to upgrade to the latest E-Business Suite release. It contains upgrade planning advice that currently focuses on Release 12.1.3, but that also will apply to the future Release 12.2. This paper replaces an earlier one called “Planning Your Oracle E-Business Suite Upgrade from Release 11i to Release 12.1” (My Oracle Support Knowledge Document 987516.1), extending the advice provided there with new insights gained from talking to customers at recent user conferences. It also adds some new tips on how to combine your upgrade with a platform migration or footprint expansion, move custom reports to strategic reporting solutions, and prepare for Process Manufacturing Inventory Convergence.

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Introduction

Are you still on Release 11i deciding what to do next? Are you looking for the key planning considerations around an upgrade to the latest E-Business Suite release?

This paper provides the latest upgrade planning tips gathered from customers who have already done the project, as well as from Oracle's Support, Consulting, Development, and IT organizations. It offers specific, cross-product advice to help you establish your target release, identify factors that can affect time and resources, decide between an upgrade and a reimplementation, manage custom code, minimize upgrade downtime, and more. The planning advice, currently focused on Release 12.1.3, also will apply to the future Release 12.2.

This paper replaces an earlier one called "Planning Your Oracle E-Business Suite Upgrade from Release 11i to Release 12.1", My Oracle Support Knowledge [Document 987516.1](#), extending the advice provided there with new insights gained from talking to customers at recent user conferences. It also adds some new tips on how to combine your upgrade with a platform migration or footprint expansion, move custom reports to strategic reporting solutions, and prepare for Process Manufacturing Inventory Convergence.

This is a living document that we will revise and re-publish to My Oracle Support Knowledge [Document 1406960.1](#) as we gather additional upgrade planning advice. If you have lessons learned from your own upgrade project that you would like to share with others, please contact anne.carlson@oracle.com

Business Value of Upgrading to Release 12

Release 11.5.10, the last major release of 11i, came out in November 2004. Since then, there have been two more major releases of the E-Business Suite:

- **Release 12.0**, which came out in January 2007, contained major architectural improvements to the Financials products to support global and shared service operations, improve operational efficiencies, and reduce risk.
- **Release 12.1**, available since May 2009, rounds out Release 12.0 with significant enhancements to all of the other product areas, including Procurement, Supply Chain Management, Asset Lifecycle and Service, and Human Capital Management. It also includes usability improvements and centralized life cycle management.

As you consider the business value of upgrading to Release 12.1, look not only at the new features of products that you are currently running. Also look at adjacent products that could add value to your solution. Many products are much stronger at 12.1 than they were at 11i, offering increased opportunity for process improvement and automation. Frequently, you can uptake adjacent products without much additional implementation effort because you can leverage implementation work that you have already done. The opportunity to add new modules at the 12.1 level, when combined with the new 12.1 features in products that you are currently running, may be an important part of your upgrade value proposition.

Release 12.0 Business Value

Release 12.0 introduced a new centralized architecture that improves support for shared services while standardizing and simplifying the financial infrastructure across your enterprise. It supports the centralization of the following key business functions:

- **Accounting policies are standardized across the entire enterprise** with Subledger Accounting, ensuring adherence to the same set of accounting rules.
- **Financial results are stored and easily accessible** with Ledgers and Ledger Sets to support faster and simpler period end closing.
- **Legal entities easily model legal corporate structures** and tie all related components together with Legal Entity Configurator.
- **Banks and bank accounts are centrally managed**, providing a single point of access for internal bank accounts across Oracle applications.
- **Payments are centrally disbursed and captured** with Oracle Payments, automating and streamlining integration with external financial institutions.
- **Transaction taxes are consistently managed and processed** with E-Business Tax, which offers consistent support and control of complex transactional tax requirements across the enterprise.
- **Inter- and Intra-company accounts are centrally defined** with the Advanced Global Intercompany System to improve period end reconciliation.

Release 12.0 also introduced improvements in end user productivity, including dashboards, step-by-step checklists, wizard-like pages, and consolidated single-page setups in these and other product areas:

- **Collections**
- **Payments**
- **Accounting Setup**
- **Tax**

Release 12.0 made producing all types of reports much easier, whether reports with images, charts, multiple fonts and colors, board-quality financial statements, or government-mandated forms. By delivering reports using Business Intelligence Publisher – which relies on an extract and template model – Oracle put the capability to format and publish reports in the hands of business users, enabling compliance with local reporting obligations.

In addition, Release 12.0 included enhancements across the Financials products to support global business growth at lower cost with greater control and flexibility. Here is a sample of the more than 300 new features and enhancements introduced in Release 12.0:

- **Replacement for disabled accounts**
- **Invoice line level entry and approval**
- **Partial period revenue recognition**
- **COGS and revenue matching**
- **Line level cash applications**
- **Conversion of delinquent receivables to payment plans**
- **Funds optimization with cash pooling and zero balancing**
- **Bank account-level reconciliation options and tolerances**
- **Rollback on select assets with Automatic Depreciation Rollback**
- **Streamlined receipts management with receipts tracking and receipts missing capabilities**

Release 12.1 Business Value

Release 12.1 rounds out the Financials and technology improvements in Release 12.0 with significant enhancements in all of the other product areas. Key new features in Release 12.1 and related analytics and integration solutions include:

- **Sourcing enhancements to streamline sourcing processes**, achieve sustained savings, enforce compliance, and reduce risk; these include Excel integration to run what-if analysis, Earnest Money Deposits, two-stage evaluation of Requests for Proposal (RFPs), and Cost Factors and Price Factors; new capabilities such as spend classification and analysis have also been added.
- **High volume warehouse operations support**, including advanced wave planning, demand-based forward pick replenishment, and integration with Oracle Transportation Management.
- **Optimization of supply, demand and design chains** with the new Value Chain Planning solutions in Oracle Supply Chain Management.

- **Talent Management improvements**, including summarization of all talent information in a single user-friendly Talent Profile page, recruitment dashboards, interview management, learner groups and mandatory enrollment in Learning Management, objectives management and line of sight/cascading of objectives in Performance Management; also, a new Succession Planning module, as well as continued support for Global HR and Payrolls.
- **Ability to view fully-loaded estimated costs** (including transportation, duties, and taxes) across the complete supply chain with Oracle Landed Cost Management.
- **Ability to manage vendor rebates and special price requests** and have complete visibility into the ROI for promotional funds and the effect of supplier price changes with Oracle Supplier Ship & Debit and Price Protection for Wholesale Distribution.
- **Ability to manage cash flow and payment holds** and to ensure that subcontractors satisfy contract deliverables with Subcontractor Payments for Engineering & Construction, Utilities, Oil & Gas, Telecommunications and anyone else.

Continued Releases and Innovation

Oracle continues to add functionality to the E-Business Suite as part of our “Applications Unlimited” commitment to ongoing releases and innovation for the current application product lines. We provided the 12.1.2 Release Update Pack (RUP) in December 2009, and the 12.1.3 RUP in August 2010 (12.1.3). These RUPs combine error corrections, statutory and regulatory updates, and enhancements across the E-Business Suite product areas into a single, consolidated patch set. Highlights include:

- **Service and Field Service Dispatch Enhancements** for improved Dispatch Center Workbench Task Management, Mobile Field Service technician screen personalization and auto sync; Additional Cost factor Support for more effective Scheduling of Technicians; Partnership with Trimble for GPS Support; and optimized and streamlined Service Request Creation & Management for faster data entry.
- **Supplier Lifecycle Management and Supplier Data Hub** to support extended supplier registration, profiling and performance management, along with Master Data Management capabilities such as de-duping and merging.
- **Usability enhancements across the E-Business Suite**, including Web 2.0 controls such as mouse-over and pop-ups, in-line editing of attachments, and look-ahead searching, as well as support for embedding rich content such as business intelligence reports, dashboards, and so on.

Extending the overall 12.1 release, we introduced two new products – Supplier Lifecycle Management and Supplier Data Hub. We also released new and enhanced Oracle Application Integration Architecture (AIA) integrations, as well as two new analytical applications – Incentive Compensation Analytics and Spend Classification.

Finding Additional Release 12 Business Value Information

Visit the Upgrade Solution Factory at <http://launch.oracle.com/?EBSUpgrade> to see additional Release 12.0 and Release 12.1 business value information that can help you accelerate your evaluation and planning. There you

will find presentations, videos, customer stories, white papers, Release Value Propositions and Release Content Documents specific to the each E-Business Suite product area.

In addition, check out the “Oracle E-Business Suite Release 12 and 12.1 Customer Success Stories” on the [E-Business Suite page](#) of Oracle.com. Among the 100+ customer stories described there, you will likely find a customer who looks like you, and can review the benefits they derived from doing the upgrade.

Upgrade Planning Tips

Tip #1 – Establish Your Target Release

If you are currently on 11i, regardless of your functional footprint, you can realize substantial business value by upgrading to Release 12.1, the latest major release of the E-Business Suite. Many customers have already completed the upgrade and are live on 12.1, benefitting from the Financials architecture improvements and significant enhancements across the E-Business Suite.

We continue to develop the E-Business Suite, and are actively working on Release 12.2, the next major release. Release 12.2 will contain significant advances, including a new Online Patching feature that will appeal to customers who value the high availability of their E-Business Suite systems. However, you should not remain on 11i waiting for 12.2 to come out before analyzing and planning your 12.1 upgrade, since by doing so you risk exceeding the 11i Extended Support window.

Release 11.5.10, the last major release of 11i, transitioned from Premier Support to Extended Support in November 2010. It will transition to Sustaining Support at the end of November 2013, by which time you should have completed your upgrade.

If you are still on 11i, and are not actively planning or in progress with an upgrade, we urge you to get started on a project that you can comfortably complete within the 11i Extended Support window, when you can continue to get new bug fixes, new legislative and regulatory updates, new security fixes, and new platform certifications.

We generally recommend that you target your upgrade to Release 12.1 – and more precisely, to Release 12.1.3, which is Release 12.1 plus the latest suite-wide Release Update Pack (RUP). Because 12.2 will involve mainly technical versus functional differences from 12.1, all of the functional analysis that you will do as part of your 12.1 upgrade planning will apply equally to 12.2.

As part of your upgrade project plan, you could include a milestone at which you would consider changing from a 12.1 to a 12.2 target, should 12.2 become available by that time. Or, you could proceed with your 12.1 upgrade, and plan to do the much smaller 12.1 to 12.2 upgrade after 12.2 is released.

Once you are on Release 12.1 or higher, you will be well-positioned to add value to your solution by implementing additional E-Business Suite modules or by co-existing with other products, including the Oracle Fusion Applications.

If you are already live on Release 12.0, we encourage you to consider an upgrade to Release 12.1. While the Release 12.0 to 12.1 Financials upgrade has very minor impacts, the functional advances in other product areas are compelling and mostly incremental, posing a minimal disruption to your Release 12.0 deployment.

For more information about the new features and enhancements in Release 12.1, as well as those planned for Release 12.2, see the “Oracle E-Business Suite Releases 12.1 and 12.2 Release Content Documents”, My Oracle Support Knowledge [Document 1302189.1](#).

Upgrade Path from 11i to 12.1

If you are on 11.5.9 or higher, you can upgrade directly to Release 12.1 using the R12.1 Rapid Install, available from the Oracle Software Delivery Cloud. If you are on 11.5.8 or below, you should first upgrade to 11.5.10.2, and then upgrade to Release 12.1 using the Release 12.1 Rapid Install.

If you are already on Release 12.0, apply the R12.1 Maintenance Pack (7303030) available from My Oracle Support, following the instructions in the “Oracle E-Business Suite Release 12.1.1 Maintenance Pack Installation Instructions”, My Oracle Support Knowledge [Document 752619.1](#).

Once on Release 12.1, apply the 12.1.3 Release Update Pack (RUP) to obtain the latest consolidated error corrections, statutory and regulatory updates, and minor enhancements across the E-Business Suite product areas. Follow the instructions in the “Oracle E-Business Suite Release 12.1.3 Readme”, My Oracle Support Knowledge [Document 1080973.1](#). Note that you must be on Release 12.1 before you apply the 12.1.3 RUP, which is expected to be the final suite-wide RUP for the 12.1 code line.

In addition, be sure to check the R12 Recommended Patch List (for Maintenance against Release 12.1.1) on My Oracle Support for the products in your footprint, and apply any patches identified there.

Note that bug fixes to 11i created before May 2010 were included in Release 12.1.3, but afterwards may not have been included. Identify any critical, one-off patches applied to your 11i system that were made available on My Oracle Support after May 2010. Discuss with Oracle Support whether corresponding patches should be applied on top of 12.1.3.

Tip #2 – Assemble the Right Project Team

Assemble a project team that combines both technical and functional skill sets. Plan to have greater involvement from your functional application specialists and business process owners than in your prior, more technically-focused upgrades. Your functional team, working closely with your technical team, can decide how to leverage Release 12.1’s new centralized architecture and shared service capabilities to standardize and simplify the business processes across your enterprise.

Consider including the following people on your project team:

- **A project manager** – to coordinate across technical and functional teams.
- **A steering committee** – to provide project oversight and make critical decisions. Several customers have noted the importance of identifying a C- or VP-level project sponsor to promote timely issue resolution and encourage the full participation and commitment of all project participants.
- **Business process owners and subject matter experts** – to analyze business process changes, and to participate in end-to-end testing and end user training. For Financials upgrades, consider including a tax specialist who knows the tax policies in each of the regions where you do business.

- **Functional application specialists** – IT professionals with business knowledge who work hand-in-hand with business process owners and subject matter experts. A functional application specialist usually focuses on one or more product areas and manages the related setups.
- **Technical team** – one or more IT professionals who can function as a technical upgrade specialist, an operating system administrator, a database administrator, an applications server (middle tier) specialist, a performance specialist, a change management (patching) specialist, and a customization developer.
- **Testers** – both technical and functional. You will also need someone to log and track service requests (SRs) and ensure that the relevant patches are applied.
- **A training lead** – to assist in the Release 12.1 rollout to end users

If you decide to supplement your in-house team with external consultants, choose people with prior Release 12.1 experience. With the large number of customers already live on Release 12.1 or in progress with a Release 12.1 project, there is a significant pool of trained, experienced consultants. Oracle Consulting, Oracle’s partners, and Oracle’s Advanced Customer Services team offer many Release 12.1 upgrade- and implementation-related services.

Tip #3 – Allocate Enough Time and Resources

Plan for your 11i to Release 12.1 upgrade to require more time and resources than were required for your previous E-Business Suite maintenance pack upgrades, such as the upgrade from 11.5.9 to 11.5.10. An 11i to Release 12.1 upgrade involves significant changes in data model and functionality, especially in the Financials product area. Release 12.1 includes new centralized functionality to handle accounting, taxation, and access to data across organizations, with more flexible implementation options than were available in Release 11i to meet a wider variety of business needs. While the bulk of these changes were introduced in Release 12.0 of Financials, customers upgrading from 11i to Release 12.1 will face the same Financials upgrade considerations as applied to the 11i to Release 12.0 upgrade.

Many customers have asked: “How long does a Release 12.1 upgrade project take?” There is no single answer to the question, as a wide range of variables can affect your project’s duration. For example:

- **Is your current E-Business Suite system heavily customized**, requiring you to devote significant time to inventorying your custom code, evaluating Release 12.1 impacts on that code, and potentially upgrading that code to apply it to Release 12.1?
- **Does your current E-Business Suite system include complex integrations** that you will need to re-test and possibly to re-work?
- **What time and effort do you typically invest in testing changes** associated with a major new release level of your system?
- **Are you combining your Release 12.1 adoption with other systems projects**, such as upgrades to your hardware, operating system, or database?
- **Are you performing a minimal technical upgrade**, or are you fully implementing new Release 12.1 functionality?

Many systems integrators have experience completing Release 12.1 upgrade projects with a wide range of project scopes and complexity. We recommend that you consult with Oracle Consulting Services or your systems integrator to estimate the time and resources that your particular project will require.

Tip #4 – Decide Your Approach: Upgrade vs. Reimplementation

If you are moving from an existing release of Oracle E-Business Suite to Release 12.1, consider whether to perform a standard upgrade versus a reimplementation.

Let's start by clarifying what we mean by the terms "upgrade" and "reimplementation".

If you adopt Release 12.1 by newly implementing it, you install a fresh instance of the Release 12.1 software, and set it up to reflect your enterprise structure and operating practices. You then load historical data from your legacy system using public interface tables and application programming interfaces (APIs) that Oracle provides. Generally, you use custom scripts to transform your historical data into a format that is compatible with those public interfaces. When the legacy system from which you migrate your historical data is an earlier release of the E-Business Suite, then your project is described as a "reimplementation".

If you adopt Release 12.1 using the standard upgrade, you install the Release 12.1 software and then use Oracle-supplied tools and scripts to transform your historical data *in place* to the new Release 12.1 data model. The standard upgrade process converts your existing setups and your historical data to Release 12.1 – reimplementation is not required.

The standard upgrade allows you to take advantage of supported tools, scripts and documentation to move your existing Release 11i setups and historical data to Release 12.1. The upgrade is designed so that your functionality will work as it did before the upgrade. You can take advantage of Release 12.1 new features at the pace that your business can accommodate.

A reimplementation, on the other hand, allows you greater flexibility in your setup and in how you migrate your historical data using supported public interfaces. It is a project that you would generally undertake with the support of a professional services provider, such as Oracle Consulting. You would consider doing a reimplementation under circumstances such as:

- **You wish to change configurations that are not easily changed**, such as your chart of accounts definition, costing method, or calendar.
- **Your enterprise has undergone significant changes** in the number and structure of its business units and organizations since your original Oracle implementation. For example, you have grown through acquisition and you want to establish a new standard applications setup for all of your business units, which are currently running disparate application systems. You could freshly implement Release 12.1, and then migrate historical data from your existing businesses, even if some of those businesses were running E-Business Suite.
- **You are merging several E-Business Suite instances** with different charts of accounts, costing methods, or calendars into a single global instance and you would like to "start fresh", taking full advantage of new Financials features such as secondary ledgers.

While a reimplementation generally requires more effort than a standard upgrade, it should still be substantially less effort than a new implementation, where you migrate from a different legacy system to the E-Business Suite.

With a reimplementation, you need not reopen all of the setup choices made during your original E-Business Suite implementation. You can control the scope of your reimplementation to specific setup changes, and avoid the extensive business process re-engineering commonly associated with a new implementation. For example, you could do a “minimal reimplementation” in which you standardize on a new chart of accounts definition (Accounting Flexfield), while retaining other existing setups and business processes.

As you decide between an upgrade versus a reimplementation, realize that there is no right or wrong approach – only what best suits your business. In practice, we see more upgrades than reimplementations, with most customers finding that they can use the standard upgrade to get to 12.1, and then adjust their setups or create additional setups as needed – a complete re-install and reimplementation is not required.

Tip #5 – Upgrade Before Expanding Your Footprint

If you are generally satisfied with the functionality of your 11i modules, you may be weighing the value of upgrading those modules to 12.1 against the value of implementing additional modules while still on 11i. If there appears to be a higher ROI or faster time to value in implementing additional modules on 11i than in upgrading your entire footprint, your IT investment discipline may lead you to prioritize 11i footprint expansion ahead of an upgrade.

We generally advise, however, that you complete your 12.1 upgrade before adding more E-Business Suite modules. Here are some reasons why:

- **You reduce the risk of exceeding the 11i Extended Support window** by not slowing your progress towards 12.1 with new 11i implementation projects.
- **You configure and stabilize on new business processes just once** – on 12.1.
- **You obtain the benefit of latest 12.1 products and features.** Many modules are much stronger at the 12.1 level than they were at 11i.

In addition, we advise against adding more E-Business Suite modules in a separate 12.1 instance unless you plan to retain separate instances as part of your longer-term instance strategy. The effort that you would spend implementing a separate 12.1 instance and then integrating it with your existing 11i instance would detract from the effort that you could otherwise focus on your 12.1 upgrade.

Tip #6 – Don’t Split Instances to Accelerate the Upgrade of one Product Area

Some customers have asked about doing a “partial upgrade” of an E-Business Suite instance, where they would move some modules to the 12.1 level, while keeping other modules at 11i. However, this is not feasible, since the upgrade applies to *all* of the modules in an E-Business Suite instance.

Further, we usually advise against splitting to a second E-Business Suite instance to accelerate the upgrade of one product area ahead of another. By doing so, you take on the added effort and complexity of building integrations between your two instances, which would be at different release levels. Then, when you finally complete the upgrade of your 11i instance, you would face a second integration project, or else an instance consolidation.

If you are enjoying the benefits of running multiple E-Business Suite product areas in a single instance, you ultimately will save time and effort by focusing on the upgrade of all product areas at once.

Tip #7 – Decide Your Technical Scope

Evaluate the costs and benefits of separating your Release 12.1 upgrade from other systems projects, such as upgrading your hardware, moving to a new operating system, or merging multiple instances into a single global instance.

Some customers prefer to combine multiple systems changes into a single project with a single downtime, while others prefer to phase changes across multiple projects and downtimes. The benefit of a phased approach is that you simplify your troubleshooting and minimize the business risk associated with any single project, but at the cost of more total downtime and more testing of interim states. Conversely, when you concentrate multiple systems changes into a single project, you minimize downtime and testing, but you accept more complex troubleshooting and increased business risk.

Here again, there is no right or wrong approach, and different enterprises will make different technical scoping decisions based on how frequently their business allows a downtime, how long any single downtime can be, how much testing they typically apply to systems changes, and other considerations.

For our own Release 12.0 upgrade and associated systems changes, Oracle used a phased approach – completing a database upgrade and an upgrade to middle tier hardware and software as separate projects, well ahead of the Release 12.0 upgrade. By contrast, we combined the smaller 12.0 to 12.1 upgrade and an associated database upgrade into a single project with a single downtime – allowing us to minimize our testing effort.

Database and Operating System Considerations

As part of your technical scoping exercise, determine whether you need to upgrade your database or your operating system to the minimum level required by Release 12.1. If either of these components needs upgrading, decide whether to perform the upgrade before versus during your Release 12.1 downtime window.

The 10gR2, 11gR1 and 11gR2 levels of the Oracle database are certified with both 11i.10 and 12.1 of the E-Business Suite, so if you are already on one of these database levels, a database upgrade is not required. However, we generally recommend that you get to the highest database level certified for your current E-Business Suite level so that you can benefit from latest database features and a longer support window. For more information, see “Database Preparation Guidelines for an Oracle E-Business Suite Release 12.1.1 Upgrade”, My Oracle Support Knowledge [Document 761570.1](#).

Similar considerations apply to your operating system level. Check the Certifications portal on My Oracle Support and the “Oracle Applications Installation and Upgrade Notes Release 12 (12.1.1)” for your platform to determine if an operating system upgrade is required.

Systems Architecture Considerations

The Release 12.1 upgrade also involves some systems architecture changes that you can accomplish while you are still on 11i. These include the migration to the new Oracle Applications Tablespace Model, and the conversion from Single Organization to Multiple Organizations architecture.

The Oracle Applications Tablespace Model (OATM), which is based on database object type rather than on product affiliation, consolidates the number of tablespaces from two per product to just 12 for all products.

With OATM, you can optimize storage choices based on database object type and access patterns, enabling performance improvements and simplifying your administration.

We supply scripts in the upgrade process to create the tablespaces for new products, and configure the database for OATM. You must migrate existing database objects using the Tablespace Migration Utility. We generally recommend that you migrate to OATM prior to performing the 12.1 upgrade. For more information, see the “Oracle Applications Tablespace Model Release 11i - Tablespace Migration Utility”, My Oracle Support Knowledge [Document 248857.1](#).

In addition, the upgrade to 12.1 requires the conversion of all Single Organization architecture systems to Multiple Organizations (Multi-Org) architecture. Multi-Org architecture does not require you to use multiple operating units or sets of books, but it does enable you to use those features if desired. For more information, see the *Oracle E-Business Suite Multiple Organizations Implementation Guide*, and “Use of Multiple Organizations (Multi-Org) in Release 11i”, My Oracle Support Knowledge [Document 210193.1](#).

Tip #8 – Understand Platform Migration Options

You may wish to combine your E-Business Suite upgrade with a platform migration, perhaps because of platform support considerations, or your need for a faster, more modern platform.

Combining an upgrade to 12.1 with a middle tier migration is straightforward, since the standard upgrade freshly installs the 12.1 file system (technology stack and E-Business Suite product files) on the middle tier. You simply point the 12.1 Rapid Install at your new middle tier platform, and then continue with the standard upgrade process.

You can elect to perform a database migration as part of the same project, testing process and downtime as your 12.1 upgrade. Whether you perform your database migration in the same or a separate downtime as your 12.1 upgrade, plan to sequence it ahead of your 12.1 upgrade. This will ensure that the 12.1 upgrade gets the benefit of performance improvements associated with your new database platform.

There are several database migration methods available to you. Your choice of method will be governed by some basic considerations such as the size of your database, and certain properties of your source and target platforms, including “endian format” (byte ordering.)

If you are moving your database between platforms with the same endian format, consider using the Transportable Database process. When migrating between platforms with different endian formats, consider using Export/Import using Datapump, or the more recently-certified Transportable Tablespaces method, which is optimized for large databases.

Many customers prefer to perform their database migration in the same downtime as their E-Business Suite upgrade. However, if the production outage associated with re-platforming your database combined with an E-Business Suite upgrade is too long to be practical, you could consider doing the database migration first in a separate downtime, so long as the intermediate state is a certified configuration (for example, an 11i split tier configuration with the 11gR2 database running on 64-bit Linux.) Alternatively, you could contact Oracle Consulting for additional advice.

For more information on combining a platform migration with an E-Business Suite upgrade, see “Oracle E-Business Suite Upgrades and Platform Migration”, My Oracle Support [Document 1377213.1](#).

Tip #9 – Decide Your Functional Scope

The standard upgrade moves you from 11i to Release 12.1 with the same setups and functionality, plus some additional, default functionality around tax, subledger accounting, ledgers and payments. You then have the option to implement additional new functionality either immediately, as part of the same project, or in a subsequent project.

In general, consider whether to scope your Release 12.1 adoption as a single project that fully encompasses all of the functional and business process changes you are targeting, or to divide your adoption into multiple projects. For example, you could simplify your Release 12.1 project by performing a minimal upgrade, versus upgrading and fully implementing new features to the target state. However, depending on your circumstances, you may want to scope your adoption to include all of the features that support your return on investment as a single project.

Regardless of how you adopt Release 12.1, it provides the foundation for over 500 new features. These include the Oracle Financials accounting and tax engines and the multi-organization capability that were introduced in Release 12, as well as many new Release 12.1 features in other product areas. You can analyze the new features and implement them at your own pace at any time after your upgrade.

Tip #10 – Plan for Required Financials Setup Steps

Even a minimal upgrade requires some review of existing Financials setups, as well as additional setup of the new Financials features that come by default, such as E-Business Tax, Payments, and Trading Community Architecture (TCA) for supplier data.

Certain accounting entities (such as taxes, banks and suppliers) that were modeled by several Financials products in Release 11i are moved to a common implementation in Release 12.1. The upgrade scripts that move Release 11i Financials setups to Release 12.1 are based on assumptions, detailed in the *Oracle Financials and Oracle Procurement Functional Upgrade Guide*, of what is appropriate for most business situations. If those assumptions would lead to an outcome that is inappropriate for your business situation, plan on modifying your Release 12.1 Financials setups.

In addition, if you have setup inconsistencies among 11i products for setups that are centralized in Release 12.1, plan to resolve them before you upgrade. For example, since supplier data moves from individual product tables in 11i to common TCA tables in Release 12.1, review your 11i supplier data and remove any duplicates prior to your upgrade. Here again, the *Oracle Financials and Oracle Procurement Functional Upgrade Guide* can help, with an “iSupplier Portal” chapter that explains how supplier data is moved, and references some useful queries available on My Oracle Support (such as the “Upgrade Preparation Queries for Supplier Sites and Contacts in Release 11.5.10”, My Oracle Support Knowledge [Document 844307.1](#)).

A white paper called “Release 12 Upgrade Considerations by Product: Financials”, My Oracle Support Knowledge [Document 889733.1](#), highlights key business process changes and suggests configuration changes that can help you take advantage of new Financials functionality.

Be sure to review the 12.1 Financials implementation guides to learn how to fine-tune setups or do additional setups. In some cases, implementation choices previously made with a simple mechanism such as a profile option have been replaced by more flexible mechanisms that provide you with greater control.

In addition, plan on running the Accounting Setup Manager Pre-Update Diagnosis Report to view your Release 11i setups for Multiple Reporting Currencies, General Ledger, Global Accounting Engine, Assets, Payables, and Receivables. The report identifies 11i setups that are potentially problematic from a Release 12.1 perspective. While you can upgrade successfully without running this report and without modifying your setups, you may find it more difficult to take advantage of new Release 12.1 functionality. (See Chapter 2, “Preparing for the Upgrade”, in the *Oracle E-Business Suite Upgrade Guide, Release 11i to 12.1.1* for more information about the Accounting Setup Manager Pre-Update Diagnosis report.)

For a more comprehensive approach that also provides ongoing governance and control, consider using Oracle Configuration Controls Governor to accelerate the planning of Release 12.1 Financials setups and their validation against 11i setups. Also use Configuration Controls Governor to ensure that setup standards are consistently applied across organizations, validate that any future setup changes are properly authorized and propagated, and identify which setups have recently changed when an error occurs.

Tip #11 – Plan for Process Manufacturing Inventory Convergence

Outside of Financials, most 11i to 12.1 changes are additive – we introduced new products and new features for existing products that you can choose to implement or not, at your own pace. However, Oracle Process Manufacturing (OPM) is one area outside of Financials that includes significant architectural changes.

In Release 12, a key enhancement to Supply Chain Management is the convergence of Discrete and Oracle Process Manufacturing inventories, allowing OPM users to leverage discrete inventory features previously not available to them, and vice versa.

Starting with Release 12, OPM has tighter integration with the rest of the E-Business Suite and can take advantage of features such as vendor-managed and consigned inventory, min/max replenishment, and physical inventory and cycle counting. In particular, OPM has better integration with Oracle Warehouse Management, which allows OPM users to leverage complex picking rules, license plates, putaway rules, and task management.

Conversely, Discrete Manufacturing users can now get OPM features, such as dual unit of measure control for any item, advanced lot control, material status and enhanced inventory allocation rules, increased item search functionality, and enhanced picking rules.

If you are running Release 11i of OPM, you should plan to migrate your Oracle Process Inventory data into Oracle Inventory as part of your 12.1 project. The data migration is a three-step process:

1. Pre-downtime – use the Convergence Migration form to validate and clean up data
2. During downtime – in-line data migration occurs during the 12.1 install
3. Post-migration – data transformation to the new data model is completed

For a complete discussion of the OPM data migration process, see My Oracle Support Knowledge [Document 376683.1](#), “Oracle Process Manufacturing (OPM) Release 12.1 Migration”.

Tip #12 – Inventory Customizations and Prioritize for Upgrade

Start by doing a complete inventory of customizations, identifying those that you can eliminate because they are no longer used. Prior to our Release 12 upgrade, Oracle eliminated several un-used reports requested by users who had long since left the company.

Also determine which custom functions could be replaced by standard product in Release 12.1. You can use the Release Content Documents, available from My Oracle Support Knowledge [Document 561580.1](#), to identify new functionality in 12.1 that could replace your existing customizations. A major 11i customer with several thousand customizations observed that at least half of those were already built into Release 12.1, eliminating the need for forward-porting.

Consider the many Release 12.1 user interface (UI) improvements that may eliminate the need for existing customizations. These include a reduction in pop-ups and duplicate screens, redesigned and streamlined workflows, a reduced number of steps to complete key tasks, and an overall improvement in look and feel. In addition, consider how you might leverage Release 12.1's increased personalization capabilities, which allow you to declaratively modify the user interface look-and-feel, layout, or visibility of page content without resorting to development tools.

For international deployments, review country localization features, new starting with Release 12, that may simplify or replace your customizations (See My Oracle Support Knowledge [Document 429042.1](#).)

For any customizations that remain, validate which are most critical to your business users so that you can prioritize your upgrade effort. It may be possible to defer the implementation of some customizations until after your initial upgrade project.

CEMLI Review

Consider engaging Oracle Consulting or an Oracle partner to execute a detailed CEMLI (Customization, Extension, Modification, Localization, and Integration) framework review. Many consultants and partners have specialized tools and services to help you inventory custom code and identify upgrade impacts. For example, Oracle has a "CEMLI Services Tool" that can help you identify custom database objects (tables, views, and indexes), files (forms and pages), and configurations (flexfields, functions, and menu entries.) It is available through the following channels:

- Oracle Consulting upgrade engagement
- Oracle Advanced Customer Services standalone, self-service subscription
- Oracle On-Demand upgrade services

Tip #13 – Analyze the Impact of Data Model Changes on Customizations

For any custom code that you decide to migrate to Release 12.1, assess the impact of data model changes since 11i. For example, starting with Release 12.0, accounting data that was stored in the distribution lines of the separate 11i applications has been centralized in the new subledger accounting (XLA) tables. If you have custom reports that query the distribution lines, you may need to modify them to extract data from the new XLA tables.

The **EBS Data Model Comparison Report**, at My Oracle Support Knowledge [Document 1290886.1](#), lists changes to tables, views, indexes, sequences, triggers, packages and other database objects. The report is published for a number of source and target releases, including:

- 11.5.9 and 12.1.3
- 11.5.10.2 and 12.1.3
- 12.0.4 and 12.1.3
- 12.0.6 and 12.1.3
- 12.1.1 and 12.1.3
- 12.1.2 and 12.1.3

In addition, the **Electronic Technical Reference Manual** (eTRM) documents the full data model for Release 12.1, as well as the data models for prior releases. You can access the eTRM at <https://etrm.oracle.com>, or at My Oracle Support Knowledge [Document 150230.1](#).

Tip #14 – Analyze the Impact of Technology Changes on Customizations

In general, custom code developed using the standard Release 11i development technologies (such as Oracle Forms, Oracle Application Framework, Oracle Reports, and Oracle Workflow) and built according to Oracle's customization standards is compatible with the Release 12.1 technology stack.

However, starting with Release 12.0, Oracle E-Business Suite migrated to new technologies from these older, now-deprecated technologies:

- mod_plsql
- Oracle Reports Server Reports
- Oracle Graphics integrations with Oracle Forms
- AK mode of Oracle Application Framework

If you did custom development using any of these deprecated technologies, decide whether to migrate to newer technologies while you are still running your current E-Business Suite release, or to defer migration until your Release 12.1 upgrade downtime. See “Preparing Custom Development for the Next Oracle Applications E-Business Suite Release” (My Oracle Support Knowledge [Document 374398.1](#)) for a discussion of migration alternatives for the deprecated technologies.

In addition, Release 12 introduced support for Multiple Organizations Access Control (MOAC), which enables access to data in multiple organizations from a single responsibility. See My Oracle Support Knowledge [Document 420787.1](#) to learn how to MOAC-enable your custom forms, Oracle Application Framework pages, concurrent programs, and reports.

Tip #15 – Plan for Reimplemented Customizations

Of your remaining customizations, identify those that you can upgrade with minimal investment versus those that you need to reimplement. For example, you must reimplement customizations developed using now-deprecated technologies. You may need to re-factor customizations that are partially replaced by new functionality, or rework those affected by significant data model changes.

For customizations that you decide to reimplement, carefully consider your approach. Prefer to use inbuilt configuration and personalization functionality – such as flexfields, folders, and the OA Personalization Framework – to tailor the E-Business Suite Applications to your business requirements.

Using the OA Personalization Framework, for example, you can declaratively modify the user interface of OA Framework HTML pages to produce immediate, visual feedback of changes, including:

- hiding or showing page items or regions
- adding new items
- changing prompts, titles and text
- re-ordering items or regions
- making items required

With OA Personalization Framework, there is no impact to the base page definition, and no need for a separate development tool. In general, the changes that you make are upgrade-safe – patching the base page does not affect existing user interface personalizations.

Note that for personalizations to be fully upgrade-safe, the underlying page must upgrade “like for like” – i.e., the page must still exist, must not be significantly re-designed, and must not have moved to a different development tool or product. Because the upgrade from 11i to 12.1 involves significant functionality and user interface changes, especially in the Financials area, there may be upgrade impacts to existing personalizations. For more information, see “Upgrading Form Personalizations and OA Framework Personalizations from Oracle E-Business Suite Release 11i to 12.1”, My Oracle Support Knowledge [Document 1292611.1](#).

In addition, using OA Personalization Framework, you cannot build new pages or modify existing business logic (such as data validations), and you have limited ability to change existing page flows. If you want to extend the Release 12.1 E-Business Suite applications to support your business processes, you need to use a separate development tool. Your choices include the standard E-Business Suite tools, the latest Fusion Middleware tools, or the database-centric Oracle Application Express (APEX) tool.

Extending with Oracle E-Business Suite Development Tools

For extensions that are incremental to existing business flows, where users expect the standard E-Business Suite user experience, consider using the standard E-Business Suite development technologies. These include Oracle Application Framework (using the OA Extension to JDeveloper 10g), Oracle Forms, Oracle BI Publisher, and Oracle Workflow. With these tools, you can leverage the same coding standards and user interface components that we use internally at Oracle to create extensions that are tightly integrated with the E-Business Suite. There are also some features, such as flexfields, that are only available on the standard E-Business Suite technology stack.

An index to documentation on the standard E-Business Suite development technologies is contained in “Oracle Applications Documentation Resources, Release 12”, My Oracle Support Knowledge [Document 790942.1](#).

Extending with Fusion Middleware Development Tools

For self-contained extensions, targeted to users who do not require the standard E-Business Suite user experience, consider using the latest Fusion Middleware technologies. These include the Application Development Framework (ADF), Oracle WebCenter, Oracle SOA Suite, and Oracle Business Intelligence Enterprise Edition (OBIEE). With these tools, you can extend the value of your current applications while gaining valuable IT and operational skills that you will need to prepare for Oracle's next-generation, Fusion Middleware-based applications. For example, you can:

- Create a composite application spanning E-Business Suite and one or more other applications (packaged or custom.)
- Create an advanced user interface leveraging the AJAX UI capabilities of ADF.
- Support mobile devices using ADF Mobile
- Develop a self-service extension to E-Business Suite for “casual” or “infrequent” users of the system who are unconcerned about UI consistency. For example, using ADF you could create a simplified, efficient user interface, launched from the EBS home page, which allows users to submit requisitions but not access the entire E-Business Suite. For additional examples of ADF self-service extensions, see “The Evolutionary Path: Things You Can Do Today to Prepare for Oracle Fusion Applications” at <http://www.oracle.com/us/technologies/soa/evolutionary-path-to-fusion-158669.pdf>

Releases 12.1.2 and 12.1.3 provide additional functionality that allows you to flexibly combine E-Business Suite and Fusion Middleware development technologies. For example, you can embed rich content – such as OBIEE analytics or an ADF task flow – into an OAF page to produce an advanced UI. For more on this topic, see the Release Content Document for Application Technology, linked from My Oracle Support Knowledge [Document 561580.1](#).

For more on Oracle Fusion Middleware and the benefits it provides to the E-Business Suite, see the following white papers:

- “Oracle E-Business Suite and Oracle Fusion Middleware”, <http://www.oracle.com/technetwork/apps-tech/ebusiness/whyfmwisbestmiddlewareforebs-167718.pdf>
- “Application Upgrades and SOA”, <http://www.oracle.com/us/technologies/soa/051281.pdf>

Extending with Oracle Application Express (APEX)

Consider using APEX (formerly called HTML DB) to create simple HTML screens, such as department-level extensions that you may previously have developed using mod_plsql. APEX allows you to create opportunistic, database-centric Web 2.0 applications using browser-based rapid application development (RAD). Developing with APEX requires PL/SQL skills, but no Java is required or allowed. APEX comes at no additional cost with all editions and releases of Oracle database 11g.

“Extending Oracle E-Business Suite Release 12 using Oracle Application Express (APEX)”, My Oracle Support [Document 1306563.1](#), describes how to extend Oracle E-Business Suite 12.1 functionality using APEX. Recommended architecture and security considerations are also discussed.

A Quick Note about Custom Workflows

Customers sometimes ask about upgrade impacts on 11i pre-seeded workflows that they have customized. For example, they want to know whether the standard, delivered workflows have been reimplemented in 12.1 using BPEL. The answer is “no”, Release 12.1 still uses Oracle Workflow technology for pre-seeded workflows.

The upgrade impact on pre-seeded 11i workflows that you have customized will depend on whether you have used the Workflow Access Protection feature to prevent those workflows from being overlaid by upgrade patching. If you do not protect your workflows from being revamped in an upgrade, then you will need to analyze the newly-patched 12.1 workflows and decide whether to re-apply your customizations to them. However, if you do protect your customized workflows from upgrade, then you will not get the benefit of 12.1 pre-seeded workflow enhancements. Either way, plan to fully re-test custom workflows after the upgrade to ensure that they produce the expected results. For more information, see the *Oracle Workflow Administrator's Guide*.

Tip #16 – Consider Moving Custom Transactional Reports to BI Publisher

As part of your 12.1 upgrade or a related project, consider moving custom transactional reports developed using Oracle Reports to Oracle Business Intelligence Publisher (BI Publisher). BI Publisher is the strategic enterprise reporting solution used by both the E-Business Suite and Fusion Applications for transactional (operational and statutory) reporting.

BI Publisher, formerly known as XML Publisher, supports authoring, managing and delivering all types of highly-formatted documents. End users can easily design report layouts (“templates”) using familiar desktop tools, such as Microsoft Word, Microsoft Excel, or Adobe Acrobat. BI Publisher can query or accept data from practically any data source – databases, packaged applications, web services, HTTP feeds, or file data sources. At runtime, BI Publisher merges template files with XML data to produce a wide variety of formatted outputs, including:

- Customer-ready PDF documents, such as financial statements, marketing materials, contracts, invoices, and purchase orders using colors, images, font styles, headers, footers, and other formatting and design options.
- HTML output for optimum online viewing.
- Excel output to create a spreadsheet of your report data.
- “Filled-out” third-party provided PDF documents. For example, you can use a government form in PDF as a template. At runtime, your data and template merge to produce a “filled-out” form.
- Flat text files to exchange with business partners for EDI and EFT transmission.

Oracle used BI Publisher in Release 11i.10 to deliver many external documents and transactional reports. In Release 12.0, many more delivered reports used BI Publisher, and in Release 12.1, nearly all delivered reports use it. With the BI Publisher-based reports, an XML data extract is provided along with a default layout (format template) that you can easily modify.

If you move your custom transactional reports to BI Publisher before upgrading to Release 12.1, you may need to adjust the queries that you use to produce the data extract, but your formatting will remain valid for Release 12.1.

You can use the BI Publisher data extract and layout templates that are delivered with Release 12.1 as the starting points for your own custom reports. There are more than 2000 data extracts and 2600 layout templates from which to choose.

Alternatively, you can use an Oracle-provided migration utility to convert your custom Oracle Reports to BI Publisher. The conversion process takes an Oracle Reports RDF file, which embeds both data extraction logic and report layout, and converts it to the separate data extract and layout objects required by BI Publisher. You may need to make some manual adjustments to the resulting data extract and layout objects. For more information, see Appendix D, “Oracle Report to XML Publisher Report Migration” in the *Oracle XML Publisher Administration and Developer’s Guide, Release 12*.

Tip #17 – Consider Moving Custom Analytic Reports to Oracle’s Business Intelligence Suite

As part of your upgrade or a related project, consider moving your custom analytic reports built using Oracle Discoverer to Oracle’s strategic business intelligence platform, Oracle Business Intelligence Enterprise Edition.

For over five years, Oracle’s investment in business intelligence and analytics has been focused on its strategic business intelligence platform, Oracle Business Intelligence Enterprise Edition (OBIEE) and the corresponding pre-packaged analytical applications known as Oracle Business Intelligence Applications (OBIA). These products will continue to be the basis for rich, pre-built and pre-integrated analytics for Oracle’s ERP and CRM applications, now including the Fusion Applications.

You can continue to use Oracle Discoverer with Release 12.1 to do analytic, “drill and pivot” style reporting. However, if you are developing new analytical reports or reimplementing custom Discoverer reports – for example, you are modifying them to extract data from the new subledger accounting tables – consider using the more forward-looking OBIEE platform. In particular, evaluate the pre-packaged OBIA applications and consider using them to replace your custom Discoverer reports.

Tip #18 – Review Integrations and Consider Modernizing Them

Inventory your existing integrations and make a plan to re-test and re-tune them. Consider whether certain integrations would be easier to maintain and upgrade if they were modernized using tools from the Fusion Middleware Suite. For example, look for “brittle” integrations or needless data replications, including:

- Integrations implemented using database synchronization (for example, DBLink), which depend upon a particular database schema and circumvent the application’s own validation logic.
- Integrations implemented “point to point”, where data is transformed as it moves between different data schemas used by different applications that may be evolving independently from one another. Today’s best practice is to leverage a canonical, application-independent data model that can act as a hub for all integrations. Oracle Application Integration Architecture (AIA) is Oracle’s product offering that implements a best practice canonical service model.
- Complex integrations implemented using programmatic, hard-to-debug procedures, such as those based on PLSQL, versus integrations implemented declaratively, for example using a visual BPEL process flow.
- Integrations completed as batches, which are less resilient to exception and error handling.

Decide if you should take the opportunity of the Release 12.1 upgrade or a companion project to re-implement any problem integrations. Oracle Fusion Middleware components, such as Oracle SOA Suite, can help you leverage the real-time integration capabilities made possible through the service-enablement of the E-Business

Suite achieved through the Integrated SOA Gateway. In addition, Oracle Data Integrator can be leveraged for batch-style data integrations.

We also suggest that you use Oracle B2B instead of Oracle EDI Gateway or Oracle XML Gateway to develop any new B2B integrations.

In addition, Oracle GRC offers several ways to protect business process integrity when integrations are present. You can use Oracle Transaction Controls Governor to identify changes in transaction flow or character that could indicate an unexpected change to a business process. You can also use Oracle Enterprise GRC Manager to ensure appropriate planning and testing of integrations to protect your business processes end-to-end.

Tip #19 – Avoid Upgrading Obsolete Functionality

As part of your upgrade planning, work with your user community to identify any setups, programs or seed data that you no longer use. By removing or disabling this obsolete functionality while you are still running on 11i, you can reduce the scope of your upgrade project.

For example, prior to Oracle's own upgrade to Release 12.1, we reviewed and standardized our setups, and we eliminated obsolete reports, alerts, responsibilities, and other data to reduce our testing and upgrade effort.

Tip #20 – Determine Your Data Migration Strategy

For a new E-Business Suite implementation or a reimplementation, determine a data migration strategy for historical data. If your intended migration scope is large, consider engaging an experienced migration consultant from Oracle Consulting Services or one of Oracle's partners.

Many customers limit their data migration scope to setup data, GL balances, reference data such as current customer and supplier lists, and open transactions such as open payables and receivables invoices. They retain historical transaction data in an 11i sunset instance, or move it to a data warehouse for future reference.

The Oracle Integration Repository is a complete catalog of the many E-Business Suite public interfaces that you can use to migrate historical data. It is part of the Oracle E-Business Suite Integrated SOA Gateway, embedded in the applications technology layer. You can access the Integration Repository by logging into your test installation of Release 12.1, choosing the Integrated SOA Gateway responsibility, and clicking the Integration Repository link.

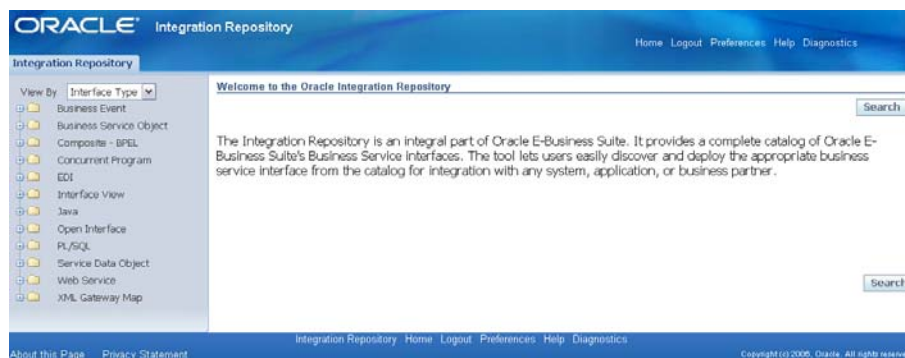


Figure 1: Integration Repository

It's important to determine whether your historical data needs cleansing to eliminate any data that is incorrect, out-of-date, redundant, incomplete, or incorrectly formatted. Typically, data that has undergone several prior upgrades or migrations can benefit from cleansing. By cleansing historical data, you can reduce data migration volume and prevent data inconsistencies in your Release 12.1 system.

For audit purposes, establish a method for reconciling migrated data with legacy data. For example, you could compare the outputs obtained from Release 12.1 reports with the equivalent reports from your legacy system. In addition, you should validate through testing that you can successfully perform Release 12.1 operations on data migrated from your legacy system.

Tip #21 – Develop a Robust Testing Strategy

We cannot over-emphasize the importance of testing to the success of your Release 12.1 upgrade project.

As for any new release, you should formulate a testing strategy that details the number of test rounds, types of testing, and who will be involved, with an overall goal of performing end-to-end testing of all of your business flows and scenarios. In addition to conference room pilot (CRP) testing to validate setups, be sure to do full functional testing with business users.

Perform multiple rounds of testing, focusing on new and changed functionality. The number of test rounds and your acceptance criteria should be carefully considered at the outset of your project, and then reconsidered before and after each test round.

The timeframe for your testing rounds should be clearly stated. Issues and slow turnaround on resolutions may affect your testing period; make sure you budget enough time for issue resolution. Agree in advance which types of issues should be considered as show-stoppers to putting Release 12.1 into production, or even to advancing to the next test round.

Your testing should be guided by detailed test scripts that you prepare in advance. You can start with the test scripts used in your original implementation, updating them to reflect new Release 12.1 functionality and process changes that you intend to implement. Be sure to specify expected test results to compare against your actual test results.

If you do not have test scripts from your original implementation, you can create test scripts by documenting what you currently do in the system. If you use Oracle's User Productivity Kit (UPK) to capture your business flows for documentation and training purposes, you can generate test scripts that reflect those flows.

Well before your anticipated go-live, begin performing test 12.1 upgrades against a copy (clone) of your existing 11i system. Test upgrades help to establish that the upgrade will fit into your downtime window, and allow for tuning of upgrade scripts as needed.

Oracle's Upgrade Test Flow

For all system changes, Oracle uses a standard test flow. We collect changes into release bundles that we promote through a series of test environments, each running a full-sized copy of our production database:

- **Build Test** – where the technical team tests changes for several weeks before handing off to business users for acceptance testing

- **User Acceptance Test** – where business users and the technical team do several weeks of full end-to-end testing, including regression testing of key transaction flows.
- **Staging Test** – where the technical team does final regression testing of key transaction flows and a full dry run of the transition outage about one week prior to production cutover.

For the 11i to Release 12 upgrade, we followed our standard test flow, but increased the number of test rounds. We also added a one-off **Technical Test** environment where our technical staff did simulations to identify any performance regressions, as well as iterative runs of the upgrade process to tune performance and minimize the duration. Just a week before go-live, we did a full dress rehearsal of the upgrade transition in the Staging Test environment, allowing us to get very accurate timings for our production go-live.

Tip #22 – Test with Upgraded and New Data at Full Volumes

Test all of your business scenarios with documents upgraded from Release 11i as well as those created in Release 12.1. Test performing operations in Release 12.1 on documents that were created in Release 11i. For example, test that an invoice created in Release 11i can have a credit memo issued against it in Release 12.1 with matching tax calculations. Or, create a payment in Release 11i, and then void it in Release 12.1. This will validate that setup differences between Release 11i and 12.1 do not create inconsistencies in a business document as it completes its flow.

In-progress workflow items should, in general, upgrade smoothly. However, validate this with testing, especially where you have customized Release 11i pre-seeded workflow processes or activities. You could consider reducing the number of in-progress workflow items by turning off applications such as iExpenses and iProcurement for some interval prior to your upgrade, and encouraging your managers to respond to pending workflow notifications.

While your initial conference room pilot testing may validate setups based on sample or demonstration data, it's critical that you do full, end-to-end testing on the complete data set that you intend to run in production. Release 12.1 data validation is even tighter than in prior releases, so you need to find whether there are any data conditions that would fail Release 12.1 validation. Note that Appendix F of the *Oracle E-Business Suite Upgrade Guide, Release 11i to Release 12.1.1* describes optional tasks that you can perform to verify that your transaction data upgraded as expected.

In addition, Oracle recommends that during user acceptance testing, you test your month-end and quarter-end close and reconciliation with full data volumes, and that you resolve any exceptions. After you go-live, consider simulating a month-end close a few days before your first actual month-end close. For more information on new streamlined close procedures, see “R12: Period-End Procedures for Oracle Financials E-Business Suite”, My Oracle Support Knowledge [Document 961285.1](#).)

Tip #23 – Do Load and Volume Testing

Because new reports and business processes may be sensitive to your data distribution, and to ensure that your system performs as expected, make sure you do load and volume testing.

Oracle's Release 12 Load and Volume Testing

Oracle's IT department has learned from experience that performance testing *any* system change is critical. For a project as major as an E-Business Suite upgrade, we significantly increase our load and volume testing.

For our Release 12 upgrade, Oracle performed "batch load tests," replaying concurrent requests pulled from our production system against a test copy of an upgraded database. This allowed our technical staff to study the behavior of reports running with different parameter settings and to detect any performance regressions.

In addition, Oracle did a six-hour "User Participation Test" on a Release 12 environment configured with full production processing capacity, allowing users to introduce a diverse and unexpected mix of transactions and batch load. While IT and business users bombarded the system with transactions and batch processes, Oracle's DBAs studied the system, looking for stress points and unexpected behaviors.

After go-live, Oracle took the precautionary step of defining special concurrent manager queues into which we could move any jobs that demonstrated performance issues. By isolating these jobs in special queues, we could control the resources they consumed and ensure that they did not have a detrimental impact on our business.

Additional Performance Advice

Oracle's Applications Performance team recommends the "Upgrade to 11g Performance Best Practices" paper at My Oracle Support Knowledge [Document 1100303.1](#). The paper can help 11i customers already live on Release 11g of the database, as well as those who are combining their 11g database upgrade with the 12.1 upgrade. It describes how to optimize the 11g database upgrade, and highlights 11g features that can help you performance-test the Release 12.1 database workload as well as avoid potential performance issues.

Tip #24 – Consider Using Automated Testing

You can create your own functional and load test suites using the Oracle Application Testing Suite (OATS), which we use internally at Oracle. OATS includes:

- **Oracle Load Testing** for scalability, performance, and load testing
- **Oracle Functional Testing** for automated functional and regression testing
- **Oracle Test Manager** for test process management, test execution, and defect tracking

OATS uses Oracle E-Business Suite Accelerators to enable automated functional testing and load testing of E-Business Suite Web- and Forms-based screens. Using the OATS graphical scripting interface, business users can record automated test scripts by stepping through E-Business Suite transactions, mimicking normal business operations. You can use that same interface to run scripts, parameterize script inputs, add custom test cases to validate content, and extend scripts programmatically in Java. In addition, you can create automated load test scripts that allow Oracle Load Testing to simulate thousands of concurrent virtual users.

In an upgrade context, you could use OATS to load test your Release 12.1 test system to ensure that it scales to the volume of transactions you anticipate in production, including worst-case peak loads.

Additionally, Oracle provides an OATS-based "Test Starter Kit" for Release 12.1.1. The Test Starter Kit includes sample test scripts, created by Oracle's Quality Assurance team, that run against an E-Business Suite Vision Demo database. You can use the sample test scripts as a model for building your own unique portfolio of regression test suites.

To read more about the OATS solution, see:

http://www.oracle.com/technology/products/oem/prod_focus/etest.html

You can download the Test Start Kit from the Oracle Application Testing Suite site linked from:

<http://www.oracle.com/technology/software/products/app-testing/index.html>.

Tip #25 – Develop an Issue Resolution Strategy

Develop an issue resolution strategy that spells out how you will address issues that arise during testing. In particular, Oracle recommends that you define an incident resolution flow for handling issues internally before you log them as Service Requests (SRs). Most customers find it helpful to maintain a prioritized issues list, tracking the details of all open and resolved issues encountered during their upgrade project.

Be sure to designate who will troubleshoot and characterize issues, and who will log and track Service Requests. If you are using the Oracle Configuration Manager (available from My Oracle Support), you can automatically associate a configuration with your Service Request and save yourself the effort of manually entering configuration data.

To learn more about working with Oracle Support to resolve issues, see My Oracle Support Knowledge [Document 166650.1](#), “Working Effectively with Global Customer Support.” Also see My Oracle Support Knowledge [Document 199389.1](#) for advice on “Escalating Service Requests with Oracle Support Services”.

Tip #26 – Take Steps to Minimize Downtime

The best way to minimize your production downtime is to do several complete test upgrades, carefully choreographing downtime activities to minimize their duration. Be sure to focus on the duration of operational tasks that you perform before and after you run the core upgrade driver, such as running clean-up scripts, taking system backups, doing final acceptance testing and so on.

See “Scheduling Time for an Upgrade” in Chapter 1 of the *Oracle E-Business Suite Upgrade Guide, Release 11i to Release 12.1.1* to learn about issues that affect downtime duration and specific actions Oracle recommends to reduce downtime. In particular, be sure to run “The Upgrade Manual Script” (TUMS) on your 11i system. TUMS examines your current configuration and generates a report that indicates which upgrade tasks do not apply to your system and can be omitted from the process (for example, a task associated with a product that you do not use, or a patch that you have already applied.)

Also, see Appendix E of *Oracle E-Business Suite Upgrade Guide, Release 11i to Release 12.1.1* to learn about functional pre-upgrade tasks that you can perform ahead of your upgrade outage to reduce downtime. For example, it describes how you can upgrade posted General Ledger journal entries before your planned downtime, leaving only un-posted and newly-posted journals to upgrade during downtime.

In addition, Chapter 1 of the *Oracle E-Business Suite Upgrade Guide, Release 11i to Release 12.1.1* describes systems architecture changes that you can make during regular 11i maintenance windows to reduce your Release 12.1 upgrade downtime. In particular, you can convert to the new Oracle Applications Tablespace Model (OATM) and also to the new Multiple Organizations (Multi-Org) architecture while you are still on 11i. (See “Oracle Applications Tablespace Model Release 11i – Tablespace Migration Utility”, My Oracle Support Knowledge

[Document 248857.1](#) and “Use of Multiple Organizations (Multi-Org) in Release 11i”, My Oracle Support Knowledge [Document 210193.1](#))

Subledger Accounting “Upgrade by Request”

During the upgrade, existing accounting data from the subledgers is updated to the new Subledger Accounting (SLA) data model. However, you can limit the amount of subledger accounting data updated during the upgrade to reduce your downtime and save on disk space.

By default, the upgrade updates the accounting data for the current fiscal year plus any additional periods of the previous fiscal year to ensure that at least six periods are included in the SLA tables. You can change the amount of historical accounting data to be upgraded as a pre-upgrade step. This is an important decision because some SLA functionality relies on the availability of previous accounting data. For example, if you need to cancel invoices from two years ago, then you should upgrade at least two years of accounting data to SLA.

You could consider testing the upgrade of *all* of your historical accounting data. Your data volumes may be such that that you can comfortably accommodate the disk space and time required to move all of your historical accounting data to SLA during your upgrade downtime.

If you choose not to update all of your historical accounting data during the upgrade downtime, you can perform additional updating at a later point, either during daily business operations or a subsequent downtime. Confirm that any accounting data that you update post-upgrade has been validated through testing. Note that historical accounting data that you do not update to SLA remains in your database.

To learn more about Subledger Accounting “Upgrade by Request”, see Appendix G of the *Oracle E-Business Suite Upgrade Guide, Release 11i to Release 12.1.1*

For information about the patches needed for the SLA pre- and post-upgrade processes, see “*R12.0 and R12.1: FAQ for the SLA Upgrade: SLA Pre-Upgrade, Post-Upgrade, and Hot Patch*”, My Oracle Support Knowledge [Document 604893.1](#).

How Oracle Minimized Upgrade Downtime

Here’s how Oracle minimized downtime during our Release 12 upgrade:

- **Separated the database upgrade** – The E-Business Suite upgrade requires that a minimum database version be in place before the upgrade driver can run. Several months before our Release 12 upgrade, Oracle performed a required database upgrade to the then-current database version, 10g Release 2 (10.2.0.3). This was managed as a separate project with its own complete cycle of testing. For more information, see “Database Preparation Guidelines for an Oracle E-Business Suite Release 12.1.1 Upgrade”, My Oracle Support Knowledge [Document 761570.1](#).
- **Separated hardware and operating system upgrades** – Oracle has a standard footprint of middle tier hardware and software, and a shared APPL_TOP (applications file system.) Prior to our Release 12 upgrade, Oracle upgraded the middle tier hardware and operating system to a new standard, reducing the number of middle tier servers by 40%. This project was managed separately, with a transition outage several months prior to our Release 12 upgrade.

- **Completed functional tasks ahead** – A week prior to our Release 12 upgrade outage, Oracle’s applications specialists completed the functional tasks listed in the “Reducing Downtime” section (Appendix E) of the *Oracle E-Business Suite Upgrade Guide, Release 11i to Release 12.1.1*.
- **Used Subledger Accounting “Upgrade by Request”** – Using the “Upgrade by Request” option, Oracle upgraded just 8 out of 20 years of Subledger Accounting (SLA) data, reducing downtime and data volume. The remaining 12 years of SLA data remain in the database should we choose to upgrade it at a later time.
- **Created a “Master” R12 APPL_TOP** – Prior to our upgrade downtime, we created a “Master” staged APPL_TOP using our most recent test upgrade, with all file system patches pre-applied. In addition, generation of files such as forms, reports and message files was performed before the upgrade downtime.
- **Parallelized pre- and post-upgrade technical activities** – Where practical, Oracle performed technical upgrade tasks in parallel. For example, while the upgrade driver was running on the database, we performed Release 12 setups on the middle tiers, and we re-registered single sign-on.
- **Prioritized concurrent programs (requests) that must complete prior to system release** – The upgrade process itself submitted over 2000 concurrent requests. We set up a separate concurrent manager queue for these requests, so that post-upgrade testing of standard run-time requests could proceed without interference from upgrade-related processes. For more information, see the “Best Practices” section of “Oracle Applications Release 12 Upgrade Sizing and Best Practices”, My Oracle Support Knowledge [Document 399362.1](#).

Tip #27 – Identify Pre- and Post-Upgrade Patches

As you prepare for your upgrade, make sure you maintain an up-to-date list of pre- and post-upgrade patches that are required or recommended for your environment and licensed products. Apply these patches during test upgrades so that you can assess their impact and identify any additional fixes you might need. Below are some key resources to help you identify patches to include in your pre- and post-upgrade patch list:

- Review the required pre-upgrade patches identified in Appendix I of the *Oracle E-Business Suite Upgrade Guide, Release 11i to 12.1.1*. Also, see the “Oracle Applications Release Notes, Release 12.1.1”, My Oracle Support Knowledge [Document 798258.1](#), for latest release information, including information about high-priority patches.
- As needed, Oracle releases a **Consolidated Upgrade Patch (CUP)** that contains critical error corrections and performance improvements to the E-Business Suite upgrade process. Make sure you identify the latest Consolidated Upgrade Patch (see the “Oracle Applications Release Notes, Release 12.1.1”, My Oracle Support Knowledge [Document 798258.1](#)) and apply it to your Applications Code Tree (APPL_TOP) prior to running the Release 12.1 Upgrade Driver. The Consolidated Upgrade Patch is targeted specifically to customers who have not yet upgraded their environment from 11i to Release 12.1 – you need not apply these fixes to environments that have already been upgraded to Release 12.1.
- Go to the **Recommended Release 12 Patches** list on the My Oracle Support Patches and Updates tab to learn about critical patches for the products you plan to deploy. Plan to merge the appropriate patches and apply them when your Release 12.1 upgrade is complete. Some patches may need to be applied PRIOR to the upgrade to have the desired impact, so pay close attention to the patch instructions.

- For Financials customers, a list of critical pre-upgrade patches that are supplemental to the **Consolidated Upgrade Patch (CUP)** is maintained in “R12.1: Oracle Financials Pre-Upgrade Patch – Supplemental List for EBS CUP”, My Oracle Support Knowledge [Document 1127593.1](#). In addition, a list of post-upgrade Financials recommended patches is maintained in “R12.1 Financials Recommended Patches”, My Oracle Support Knowledge [Document 954704.1](#).
- For Financials customers, it is also highly recommended to review the list of Generic Data Fix patches described in My Oracle Support Knowledge [Document 874903.1](#), “What is a Generic Datafix Patch (GDF) and what GDFs are available for Payables?” In particular, pay attention to any Generic Data Fix (GDF) patches designated as “Pre-Upgrade”. These GDF patches, which should be run on 11i prior to upgrading to Release 12 or 12.1, clean up data issues introduced by known bugs that can cause issues in Release 12+ Financials.

Contact your Oracle Support representative for any additional patches you may need beyond those you have already identified.

Tip #28 – Review your System for Security Best Practices

A major upgrade is a good time to review your system for compliance with secure deployment best practices. Oracle consolidates security patches for database, application server, and Oracle E-Business Suite code in Critical Patch Updates (CPUs) that are released quarterly. Oracle strongly recommends that you apply the latest available CPU patches before you upgrade and on an ongoing basis. For more information about CPUs and advice on keeping your system secure, see My Oracle Support Knowledge [Document 403537.1](#), “Best Practices for Securing Oracle E-Business Suite Release 12”.

Tip #29 – Reexamine Roles, Responsibilities and Business Processes

You should reexamine user roles and responsibilities due to business process changes introduced starting with Release 12. For example, who should be responsible for any issues related to the new tax and subledger accounting engines? Who will read and interpret the related exception reports? Who will ensure that Multi-Org Access Control is correctly configured to show users just the information they need?

Also consider whether users have access to data and functions that are incompatible with each other from a segregation of duties (SOD) perspective. Starting with Release 12, the Oracle Applications Access Controls Governor provides the ability to analyze the entire access model, from “roles” and “responsibilities” down to the “functions” (secured operations) in the Oracle E-Business Suite. In addition, with Enterprise Transaction Controls Governor, you can evaluate all business transactions to see if any SOD violations have occurred, and if so, use Oracle Preventive Controls Governor to avoid any future violations.

With Oracle Applications Access Controls Governor, you can designate any combination of incompatible access points (roles, responsibilities, menus, or functions.) The application can then report occurrences of users with incompatible access points so that managers can modify the privileges and tasks assigned to them. Included with Applications Access Controls Governor is the ability to ask “what if?” or to simulate changes to the authorization model (menus, sub-menus, responsibilities, and so on), and to include approval steps before assigning access rights that represent an SOD risk.

If you are already using Oracle GRC, incorporating governance of Release 12.1 into your existing GRC practices and automations is straightforward. Oracle GRC is equipped to govern 11i and Release 12.1 simultaneously and holistically.

To learn more about using Oracle's GRC applications in the context of a Release 12.1 upgrade, see "Harnessing Oracle Governance, Risk and Compliance Applications to Improve Your E-Business Suite 12.1 Upgrade" at: <http://www.oracle.com/us/solutions/corporate-governance/harnessing-grc-ebs-303818.pdf> There is additional GRC-for-Upgrade collateral at: <http://my.oracle.com/site/ibu/portal/GRC/GRCforERPUpgradesFolder/index.htm>.

Tip #30 – Prepare Business Users for Changes

Be sure to involve business users from the start of your project so that they are prepared for Release 12.1 changes in look and process flow. Several Release 12.1 adopters have commented that strong support from business users has been critical to their project success, citing the power of a "we're-all-in-this-together" attitude.

Identify the functional areas where business users will see the biggest changes and concentrate your training efforts there. Business users who have participated in testing often have a good sense of where training should be concentrated. For example, in Oracle Payables, the payments process uses a new Payments dashboard, and the Invoice workbench is significantly reworked.

Plan to reinforce user learning even after your production cutover with internal documentation and job aids. Consider using Oracle's end user productivity tools, Oracle Tutor and Oracle User Productivity Kit (UPK), to help with knowledge transfer to business users.

Tip #31 – Consider Using Oracle's End User Productivity Tools

Oracle offers tools to document business processes and train end users that can help you transfer knowledge on the use of your E-Business Suite system. These tools support efficient capture of knowledge during your upgrade project, and just-in-time maintenance of knowledge after your project is over, ensuring that users always have access to the latest information.

Oracle Tutor is an easy-to-use Microsoft Word-based tool for documenting the business processes, policies, and procedures that your Release 12.1 applications will support. You can start with the model business processes delivered with Oracle Tutor and customize them to reflect your Release 12.1 implementation. Using Tutor, you can also generate role-specific end user desk manuals and a variety of other job aids.

Oracle User Productivity Kit (UPK) is a powerful tool for training end users on how to use the system to accomplish your business processes. UPK allows you to record the flow through application screens and data entry fields, creating interactive user interface simulations as well as other useful outputs, such as test scripts.

Oracle offers over 2300 pre-recorded UPK topics from across the Release 12.1 product areas. You can adapt the pre-recorded UPK topics to reflect implementation choices, creating training on how to use Release 12.1 to accomplish your business processes. The availability of UPK simulations can help end users become familiar with Release 12.1 changes before you provide them with a live Release 12.1 environment. In addition, end users who have seen the "vanilla" 12.1 functionality in the pre-packaged UPK topics are frequently more open to retiring existing customizations.

Oracle Tutor and Oracle UPK allow you to train current users on Release 12.1, and facilitate the training of new users at any point after the initial rollout. You can even deploy Tutor and UPK in the Release 12.1 online help system, allowing users to learn “just-in-time” about your enterprise’s policies and procedures by clicking the Help button on any screen.

More information about Oracle Tutor and Oracle UPK is available at <http://www.oracle.com/applications/tutor/tutor-upk-index.html>.

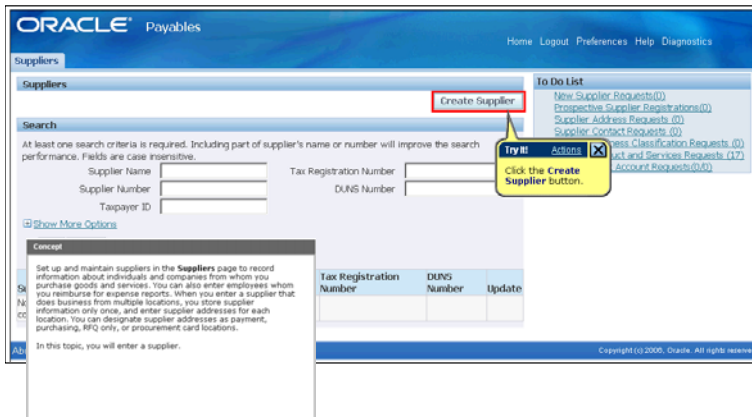


Figure 2. Oracle User Productivity Kit (UPK)

Tip #32 – Keep Your Project Team through Your First Financials Close

After your Release 12.1 go-live, plan to keep your project team within reach through your first month-end Financials close, and ideally through your first quarterly close. Because the upgrade affects your accounting and tax setups and many of your accounting processes, the project team should ensure that the initial Financials close completes as expected.

In addition, your project team can closely monitor the health of your production system, logging service requests as needed and notifying end users through broadcast e-mails of any significant issues. The project team can supplement your smaller in-house support team that normally handles end user queries.

Tip #33 – Leverage Key Information Resources

Oracle provides a wealth of information resources to help you come up to speed on the Release 12.1 upgrade process.

Release 12.1 Information Center

A good starting point is the “Oracle E-Business Suite Release 12.1 Info Center”, My Oracle Support Knowledge [Document 806593.1](#). The Info Center highlights Release 12.1 Announcements, Documentation, Release Value Propositions, Release Content Documents, Transfer of Information Online Training, Customer Advisor Webcasts, and more.

Oracle E-Business Suite Release 12.1 Info Center [ID 806593.1]

Modified 13-JAN-2010 Type BULLETIN Status PUBLISHED

[Info Center Home](#)

Reference Information

[Announcements](#)

[Documentation](#)

[Localizations](#)

[Additional Resources](#)

Lifecycle Management

[Install](#)

[Implement](#)

[Manage](#)

[Upgrade](#)

Advanced Customer Services (ACS)

Many customers have benefited from working with ACS on upgrades to and implementations of E-Business Suite Release 12.

[Learn More >>](#)

E-Business Suite Release 12.1 Highlights

Now Available: Oracle E-Business Suite Release 12.1.2
 Oracle is pleased to announce the availability of Oracle E-Business Suite Release 12.1.2. This document provides links to the downloads and release documentation. [Read full details](#)

Now Available: Oracle PA-DSS Compliance Patch for Release 12.1.2
 Oracle E-Business Suite is now Payment Application Data Security Standard (PA-DSS) compliant with the introduction of the PA-DSS mandatory patch, which must be applied on top of Release 12.1.2. [Read full details](#)

Oracle E-Business Suite Release 12.1 Release Content Documents
 These Release Content Documents communicate information about new or changed functionality introduced in Oracle E-Business Suite Release 12.1 and subsequent 12.1.x Release Update Packs and off-cycle patches. [Read full details](#)

Oracle E-Business Suite Release 12.1 Release Value Propositions
 The Release Value Propositions describe the value associated with the new features and enhancements in Oracle E-Business Suite Release 12.1. They are intended to help you assess the business benefits of Release 12.1 and plan your information technology (IT) projects and investments. [Read full details](#)

Trainings & Events

Live Webcast: Oracle E-Business Suite Release 12.1 Overview
 Join Cliff Godwin, SVP Oracle Applications Development, for this 1-hour session on Oracle E-Business Suite Release 12.1: Delivering Value in Uncertain Times. This is the first presentation in a series of E-Business Suite Release 12.1 presentations.
 ID: [824640.1](#)

Oracle E-Business Suite Release 12.1 Transfer of Information (TOI) Online Training
 Oracle E-Business Suite Transfer of Information (TOI) online courses contain information about the functional changes in Release 12.1.1. These recorded online courses are available free of charge for Oracle E-Business Suite customers via My Oracle Support.
 ID: [807319.1](#)

Figure 3. Oracle E-Business Suite Release 12.1 Info Center

“What’s New?” Documentation and Training

Your functional team should review Release 12.1 enhancements module by module, understanding new features and process changes that come by default, along with optional new features that you may want to implement.

Release Content Documents (RCDs), targeted to functional application specialists, provide a feature/function inventory of what’s new in each product area. RCDs can help you identify new functionality that could replace your existing customizations. See My Oracle Support Knowledge [Document 1302189.1](#) for RCDs describing functionality added since Release 12.0.2.

Transfer of Information online training (TOIs), also targeted to functional application specialists, enable self-service learning on how to implement and use enhancements and new features. Release 12.0 TOIs are at My Oracle Support Knowledge [Document 988725.1](#). Release 12.1 TOIs are at [Document 807319.1](#).

Release Value Propositions (RVPs), targeted to line of business owners and other senior managers, describe what’s new since 11i in terms of value to the business. RVPs are available at My Oracle Support Knowledge [Document 804373.1](#),

Upgrade Process Documents

The *Oracle E-Business Suite Upgrade Guide, Release 11i to Release 12.1.1* is the primary document of the 12.1 upgrade process. The initial chapters are targeted to database administrators (DBAs), and the appendices are targeted to functional application specialists.

The *Oracle Financials and Oracle Procurement Functional Upgrade Guide: Release 11i to Release 12* explains how Financials setup and transaction data are migrated from 11i to 12, addressing questions such as:

- **What happens to my Tax Codes?**
- **How are the new Payables Invoice Lines derived?**

- How are Legal Entities derived?
- How does the Accounting Setup Manager get set up?
- How will my Bank Accounts be migrated?
- How are Suppliers and Supplier Sites moved into Trading Community Architecture (TCA)?

Other Release 12.1 Documentation

All of the Release 12.1 documentation guides are available in HTML and PDF formats on the E-Business Suite Documentation web site at: http://download.oracle.com/docs/cd/E18727_01/index.htm. Alternatively, go to the E-Business Suite page on oracle.com at: <http://www.oracle.com/us/products/applications/ebusiness/index.html> and click on the “E-Business Suite Documentation” link.

The E-Business Suite Documentation web site provides enhanced cross-book search to help you quickly find the information you need.

For international deployments, see My Oracle Support Knowledge [Document 429042.1](#) for the additional details on country-specific localizations.



Figure 4. E-Business Suite Documentation Web Site

E-Business Suite Upgrade Advisor

The E-Business Suite Upgrade Advisor is a multi-media portal at My Oracle Support Knowledge [Document 269.1](#) that organizes key upgrade information according to project phase. Oracle’s support team updates this portal with latest upgrade information.

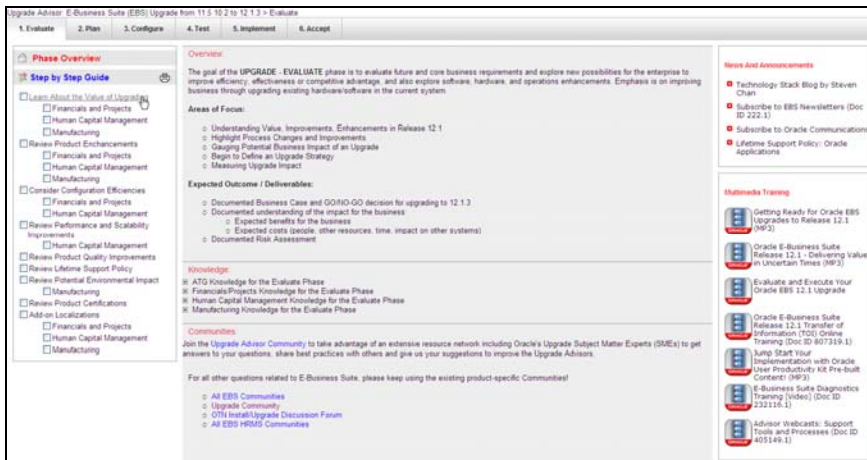


Figure 5. Oracle E-Business Suite Upgrade Advisor

Tip #34 – Leverage Key Support Resources

Make sure that you have ready access to the My Oracle Support portal at <https://support.oracle.com>, and that you understand and leverage the information, tools, and services that Oracle’s Support team provides to help you plan and execute a successful upgrade.

Maintenance Wizard

The Maintenance Wizard is a free tool (available via My Oracle Support Knowledge [Document 215527.1](#)) that provides a step-by-step, graphical user interface for performing upgrade tasks. It consolidates instructions from the upgrade guide with other relevant documents to present a complete picture of the upgrade process.

The Maintenance Wizard can help you reduce upgrade tasks by filtering out those that do not apply to you. It also indicates critical patches that your system requires. It can automatically execute upgrade tasks for you, and maintains a log with status information for all executed tasks.

You can use Oracle’s Maintenance Wizard to record the outcome of your test upgrades, annotating upgrade steps with hints, lessons learned, or advice that will help you during your production upgrade. You can even create custom steps at the appropriate spots in the tool so that custom actions won’t be forgotten on subsequent upgrade attempts. The Maintenance Wizard also keeps logs for each execution of each step, so that you have a complete record of what happened, when it happened and who did it.

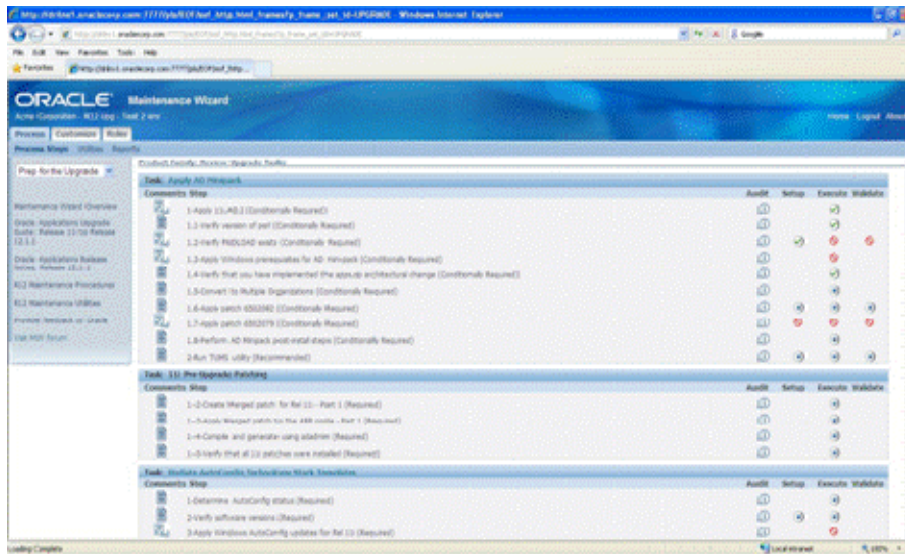


Figure 6. Maintenance Wizard

Oracle Configuration Manager

Oracle recommends that you download and install the Oracle Configuration Manager (OCM), a support tool that allows Oracle to proactively assist you with your upgrade, and with ongoing operations after your upgrade is complete.

Using Oracle Configuration Manager, you can upload the configuration of your Oracle computing environment. You can associate your configuration with information about your upgrade project that you upload via My Oracle Support. Having knowledge of both your configuration and your project allows Oracle's support engineers to proactively suggest solutions and resolve issues, while being sensitive to critical events in your business that could affect your upgrade.

The Oracle Configuration Manager includes a data collector that is designed to track key Oracle and system parameters for each host on which it runs. The collected data is sent via secure HTTPS to My Oracle Support, where we maintain a secure and updated view of each host's configuration. Oracle collects only configuration information, such as installed patches; deployment dates, versions, and type; deployed components and applications; configuration files; and network configurations. Using the collected information, My Oracle Support provides security and product alerts, patch advice, and system health checks that are specific to your computing environment. To view the full catalog of system health checks available via the Oracle Configuration Manager, see the "My Oracle Support Health Check Catalog" at My Oracle Support Knowledge [Document 868955.1](https://www.oracle.com/support/knowledge/868955.1).

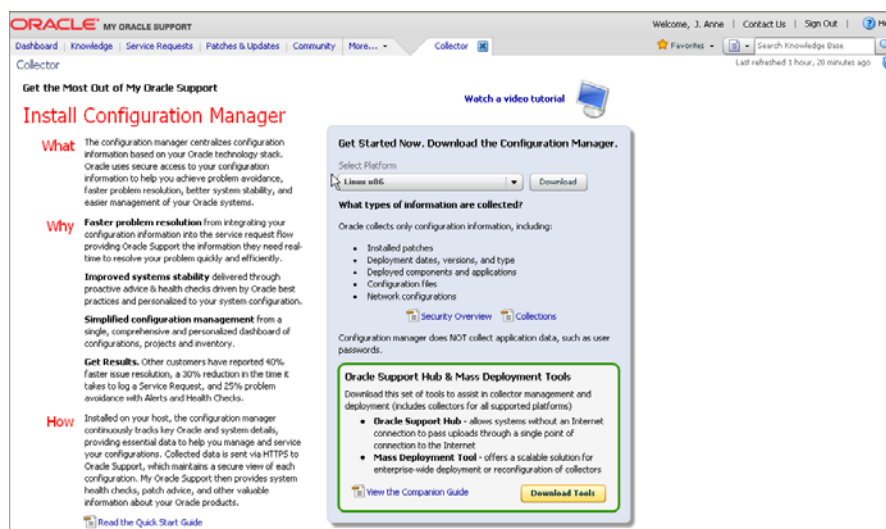


Figure 7. Oracle Configuration Manager: Collector

Oracle Application Management Pack for E-Business Suite and Oracle Applications Manager

We also recommend that you install tools such as the Oracle Application Management Pack for Oracle E-Business Suite or the Oracle Applications Manager. These tools can proactively monitor your Oracle E-Business Suite test and production systems, sending alerts to warn your system administrators of any incidents. You can also configure these tools to take corrective action on common issues and to reduce the impact of any incidents. For more details on the Oracle Application Management Pack for Oracle E-Business Suite, see My Oracle Support Knowledge [Document 982302.1](#), “Getting Started with Oracle Application Management Pack and Application Change Management Pack for Oracle E-Business Suite”. For more on the Oracle Applications Manager, see the *Oracle E-Business Suite System Administrator's Guide* Documentation Set.

Oracle E-Business Suite Diagnostics

Set up the Oracle E-Business Suite Diagnostics framework and understand how to use it so that you can transmit diagnostic reports to Oracle Support.

Oracle E-Business Suite Diagnostics consist of a toolset and tests to help you collect and analyze information about your E-Business Suite setup and processing issues. You can use these diagnostics after each test upgrade to identify and troubleshoot any issues. Once you are satisfied with the outcome of your test upgrades, it's a good idea to save your diagnostic output so that you can compare it with the diagnostic output that you get just after your production upgrade. You can also use the diagnostics after you go live to help troubleshoot any issues that may arise.

Oracle E-Business Suite Diagnostics are easy to use, designed for both functional and technical users. The diagnostic tests do not alter your setup or transactional data in any way. They enable you to avoid issues, resolve issues on your own, or obtain diagnostic output that you can upload with a Service Request to speed Oracle's resolution of your issue.

Oracle E-Business Suite Diagnostics are automatically installed with Release 12.1, and the latest versions of the toolset and tests are available through a standard patch. See My Oracle Support Knowledge [Document 342459.1](#) for more information.

Oracle's Solution Support Center

You may wish to take advantage of the highly personalized services available from Oracle's Solution Support Center, part of Oracle's Advanced Customer Services team. One enterprise customer related that they contacted the Oracle's Solution Support Center at the start of their Release 12.1 upgrade project. The Solution Support Center then performed a "Customer Success Assessment", and based on that recommended a catalog of services that included customized training and knowledge transfer. In addition, the Solution Support Center joined with the customer's hardware vendor to evaluate the customer's topology, hardware, and software – which resulted in a change to the customer's planned CPU and memory configuration. In this case, the customer found it beneficial to engage an on-site "Solution Support Center Engineer" to work alongside of the in-house project team.

Tip #35 – After Your Go-Live, Stay Current with Latest Code

After your upgrade is complete, and you are live on Release 12.1, stay current with the latest available code.

For 12.1, we have released two suite-wide Release Update Packs, 12.1.2 and 12.1.3. Since there are no further suite-wide RUPs planned for 12.1, we advise that you get to the terminal 12.1.3 RUP level.

If you are still on the 12.0 release, be sure to get to 12.0.6, or better yet, perform a maintenance pack upgrade to 12.1.3.

To ensure that you have up-to-date fixes and performance improvements for the patching infrastructure and for the application technology and management products, we recommend that you stay current with the latest AD and ATG Family RUPs.

Also stay current with product family RUPs for the products you are running. We release an annual HRMS product family RUP in the middle of the year. To stay up-to-date, you should always apply the latest HRMS product family RUP.

We provide quarterly Critical Patch Updates (CPUs) that consolidate security fixes - stay current with those, as well.

In addition, monitor the Release 12 Recommended Patches list on My Oracle Support and apply the recommended patches for products you have deployed.

Note that Oracle also maintains a document highlighting Release 12.1 Financials recommended patches at My Oracle Support Knowledge [Document 954704.1](#).

Oracle appreciates that customers are sometimes reluctant to apply the latest RUP or critical patch because they are concerned about the time needed to apply and test these recommended fixes. Since the alternative may be to cycle through the time-consuming process of identifying, reporting, qualifying, fixing, and testing fixes for what ultimately are found to be known issues, customers should consider whether it is more efficient to proactively apply RUPs and critical patches at their earliest maintenance opportunity.

The benefit of staying current with latest E-Business Suite RUPs is that when you do need a critical fix, you can keep the size of that fix to a minimum. Because you are current with existing maintenance patches, you minimize the list of dependent patches that could otherwise lead to the need for extensive testing at an inopportune moment.

Conclusion

Release 12.1 includes major architectural improvements in the Financials products to support global and shared services operations, as well as significant enhancements to all of the other E-Business Suite product areas. You will see business value in doing the 12.1 upgrade regardless of your 11i functional footprint.

As part of your upgrade value assessment, look not just at the new features of products that you are currently running – also look at adjacent products that might add value to your solution. Adding modules is relatively low cost since you are leveraging implementation work that you have already done.

With Release 12.1 having been available since May 2009, many customers are already live on it or in the process of going live. There is a large and growing ecosystem of consultants and partners with 12.1 upgrade experiences with whom you can connect.

It is important that you establish a timeline that allows you to complete your upgrade project within the 11i Extended Support window, which goes through November 2013.

With the benefit of the lessons learned contained in this white paper, we hope that you are well-positioned to plan and execute a successful Release 11i to Release 12.1 upgrade. If you have lessons learned from your own project that you would like to share with others, please contact anne.carlson@oracle.com

DOCUMENT REFERENCES

MY ORACLE SUPPORT DOC ID	TITLE
1302189.1	Oracle E-Business Suite Releases 12.1 and 12.2 Release Content Documents
752619.1	Oracle E-Business Suite Release 12.1.1 Maintenance Pack Installation Instructions
1080973.1	Oracle E-Business Suite Release 12.1.3 Readme
761570.1	Database Preparation Guidelines for an Oracle E-Business Suite 12.1.1 Upgrade
248857.1	Oracle Applications Tablespace Model Release 11i – Tablespace Migration Utility
210193.1	Use of Multiple Organizations (Multi-Org) in Release 11i
1377213.1	Oracle E-Business Suite Upgrades and Platform Migration
844307.1	Upgrade Preparation Queries for Supplier Sites and Contacts in Release 11.5.10
889733.1	Release 12 Upgrade Considerations by Product: Financials
376683.1	Oracle Process Manufacturing (OPM) Release 12.1 Migration
1290886.1	EBS Data Model Comparison Report
150230.1	eTRM
374398.1	Preparing Custom Development for the Next Oracle Applications E-Business Suite Release
420787.1	Oracle Applications Multiple Organizations Access Control for Custom Code
1292611.1	Upgrading Form Personalizations and OA Framework Personalizations from Oracle E-Business Suite Release 11i to 12.1
790942.1	Oracle Applications Documentation Resources, Release 12
1306563.1	Extending Oracle E-Business Suite Release 12 using Oracle Application Express (APEX)
961285.1	R12: Period-End Procedures for Oracle Financials E-Business Suite
1100303.1	Upgrade to 11g Performance Best Practices
166650.1	Working Effectively with Global Customer Support
199389.1	Escalating Service Requests with Oracle Support Services

604893.1	R12.0 and R12.1: FAQ for the SLA Upgrade: SLA Pre-Upgrade, Post-Upgrade, and Hot Patch
761570.1	Database Preparation Guidelines for an Oracle E-Business Suite Release 12.1.1 Upgrade
399362.1	Oracle Applications Release 12 Upgrade Sizing and Best Practices
1127593.1	R12.1: Oracle Financials Pre-Upgrade Patch – Supplemental List for EBS CUP
954704.1	R12.1 Financials Recommended Patches
874903.1	What is a Generic Datafix Patch (GDF) and What GDFs are Available for Payables?
403537.1	Best Practices for Securing Oracle E-Business Suite Release 12
806593.1	Oracle E-Business Suite Release 12.1 Info Center
1302189.1	Oracle E-Business Suite Releases 12.1 and 12.2 Release Content Documents
988725.1	Oracle E-Business Suite Release 12.0 Transfer of Information (TOI) Online Training
807319.1	Oracle E-Business Suite Release 12.1 Transfer of Information (TOI) Online Training
804373.1	Oracle E-Business Suite Release 12.1 Release Value Propositions
429042.1	Introduction to Add-On Localizations for R12
269.1	E-Business Suite Upgrade Advisor
215527.1	Maintenance Wizard Overview
868955.1	My Oracle Support Health Checks Catalog
982302.1	Getting Started with Oracle Application Management Pack and Application Change Management Pack for Oracle E-Business Suite
342459.1	E-Business Suite Diagnostics Overview

CHANGE RECORD

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Author: Anne Carlson

Key Contributors: John Abraham, Isam Alyousfi, Samer Barakat, Scott Bangert, Nadia Bendjedou, Krithika Bhat, Eric Bing, Jacques Bouchet, Bill Bounds, Sarah Bowen, Donna Buhlig, George Buzsaki, Steven Chan, Chris Cianciolo, Nigel Cooper, Kevin Dahms, Ivo Dujmovic, Stuart Dunsmore, Robert Farrington, Pamela Fisher, Linda Fishman, Cliff Godwin, Barry Greenhut, Lester Gutierrez, Dennis Horton, Kevin Hudson, Mazen Khanfar, Kirsten Klagenberg, Srikanth Krishnan, Adam Lief, Scott Lockridge, Amrita Mehrok, Annette Melatti, Nira Mitra, Uday Moogala, Seamus Moran, Anand Naik, Rondy Ng, Lisa Parekh, Udayan Parvate, Ognjen Pavlovic, Mark Peachey, Elke Phelps, Victoria Pickard, Deep Ram, Krishna Prasad Ramkumar, Vasu Rao, Nick Reichenbach, Angelo Rosado, Simer Sahani, Jen Sherman, Nayyar Siddiqui, Veshaal Singh, Siddarth Sinha, Mark Stebelton, Leslie Studdard, Anand Subbaraman, Murali Subramanian, Andy Tremayne, Terrance Wampler, Mildred Wang, Lauri Williams, Sara Woodhull, Nick Zaveri, Markus Zirn

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



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