

Security, Audit and Control Features

Oracle[®] E-Business Suite 3rd Edition

Excerpt—Preface Through Chapter 2.
Introduction to Oracle E-Business Suite and ERP Systems



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Preface

This book is the third edition of *Security, Audit and Control Features Oracle® E-Business Suite* (Technical and Risk Management Reference Guide). Oracle Corp. is one of the leading developers of enterprise resource planning (ERP) applications, which are applications that integrate an enterprise's operations. Although Oracle markets JD Edwards EnterpriseOne and Oracle E-Business Suite as ERP solutions, its primary ERP product is the Oracle E-Business Suite (EBS). This third edition of the technical reference guide is one in a series of three technical reference guides providing information relating to the world's three major ERP systems. The other guides in the series focus on SAP and PeopleSoft. A related publication in the technical reference guide series is *Security, Audit and Control Features Oracle® Database, 3rd Edition*.

The purpose of this guide is to provide an update on current industry standards and identify future trends in Oracle EBS risk and control. The objective is to enable audit, assurance, risk and security professionals (IT and non-IT) to evaluate risks and controls in existing ERP implementations, and facilitate the design and implementation of better practice controls into system upgrades and enhancements. This book also aims to assist system architects, business analysts and business process owners who are implementing Oracle EBS, as well as people responsible for managing it in live production to maintain the appropriate level of control and security according to business needs and industry standards. This publication is designed to be a practical how-to guide based on Oracle EBS 12.1, with a primary focus on the Oracle EBS Financials applications.

The popularity of the earlier editions of this guide confirmed the need for a series of definitive audit guides for these products. Using a definitive approach, the authors sought to provide detail on testing techniques within the ERP products and their execution, rather than generic descriptions of the audit tests to be performed.

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1. Executive Introduction

Prior to ERP systems, an enterprise's applications were typically organized around functions or departments (e.g., sales, purchasing, inventory and finance), rather than business processes (e.g., purchase to pay, order to cash). These applications evolved independently of each other, which resulted in data redundancy and data errors across the disparate systems. More often than not, these systems had been developed on different platforms, resulting in technical diversity and the need for complex interfaces between systems.

ERP systems, on the other hand, have a business process focus. An ERP system is a packaged business software system that allows an enterprise to:

- Automate and integrate its core business processes.
- Share common data and practices across the entire enterprise.
- Produce and access information in a real-time environment.
- Provide single access to enterprisewide data.

Their relational database tables are designed around a complete set of core functions, rather than disparate modules that merely pass transaction data from one module to another. While traditional paper-based audit trails are replaced by electronic need-based logs, a unique feature of ERP systems is the standard exception reports that can be relied upon to monitor the health of a system in a real-time mode. Controls shift from detective to preventive, and traditional matching reconciliation controls are automated in the ERP software. Consequently, it makes business sense to ensure that adequate controls are properly integrated into the reengineered ERP-enabled processes.

Key factors to consider when implementing an ERP are:

- Senior management buy-in
- Data ownership
- Staff training and communication
- Configuration options
- Data conversion

The implementation of an ERP system can introduce new risks and alter an enterprise's risk profile. The first step in embarking upon an ERP initiative is to carry out a business process risk and control assessment followed by a detailed evaluation of available ERP options. A risk and control assessment requires a framework covering the areas of business process controls, application security, program change controls, data conversion controls, technology infrastructure and project management. When control issues are identified, the auditor should attempt to uncover and report to management the causes of the problem together with recommendations. In this respect, ISACA's COBIT helps meet the multiple needs of management by bridging the gaps among business risks, control needs and technical issues. COBIT 4.1 provides guidance across a domain and

process framework and presents activities in a manageable and logical structure. It provides a measure against which to judge when things do go wrong and can assist in identifying the root causes of problems. Once implemented, the ERP environment should be subjected to regular risk and control assessments scheduled at planned intervals. This process should be aligned with the enterprise's risk management framework, e.g., *The Risk IT Framework* issued by ISACA.

The first-year audit of enterprises that have implemented ERP systems needs to be carefully scoped since the enterprise may be using a combination of centralized accounting controls and decentralized operational controls. A detailed knowledge of the ERP system is necessary to effectively understand security and control issues over application areas and the technical environment prior to the use of automated diagnostic tools to review security configurations and data integrity.

In the web-enabled ERP environment, control solutions for risks associated with e-business must be developed. The traditional control framework that focused on end users accessing the system through traditional workstations must be extended to include identity management, content quality, privacy, collaborative commerce and integrity.

What Is New in This Edition

The second edition of this guide was based on release (R) 11i.10. Since then, two releases of Oracle EBS have been made available. The new releases contain additional functionality, which are explained in more detail in chapter 2. This guide covers the core financial modules (Financial Accounting and Expenditure) of Oracle EBS Release 12.1. It also contains audit programs updated for release 12.1, which contain references to COBIT 4.1. Future directions for Oracle EBS are explored, and a new chapter on continuous monitoring in the Oracle EBS environment is also included.

How This Book Is Organized

Introduction to Oracle EBS and ERP Systems

The evolution of ERP software is described—from its early beginnings in material requirements planning packages centered around manufacturing, to the present-day systems that provide enterprisewide integrated solutions. The benefits and characteristics of ERP systems are discussed. Oracle Corp. and the innovation surrounding the development of Oracle EBS are introduced. Major Oracle EBS modules and functionality are overviewed. The publication outlines the manner in which an ERP implementation and its associated business process changes transform critical elements of the business, including the control environment.

Risk Management in an ERP Environment

Business risks (e.g., business process, application and technical infrastructure security, data conversion, program interface, and project management risks) and key management controls for ERP implementations are outlined, leading to a discussion of the importance of establishing a control framework for ERP environments. The impacts on the audit following the implementation of an ERP system are also described. The purpose of this chapter is to help enterprises minimize the risk of not obtaining the significant benefits that can flow from a well-executed ERP implementation.

ERP Audit Approach

This section details how the implementation of an ERP system affects the audit process, and provides frameworks and methodologies for auditing and testing the Financials module in an Oracle EBS environment. These include a recommended Oracle EBS audit framework, how to adopt a risk-based audit approach to ERP, an overview of the Oracle EBS security concept, configurable controls and segregation of duties/excessive access. The need to identify the causes of issues arising from audit or control testing and a technique to assist in identifying the cause of issues using the COBIT framework are also described.

Auditing Oracle EBS—Core Financial Business Cycles (Financial Accounting and Expenditure) and Security

The relationship between Oracle EBS modules and the major business cycles operating within enterprises is explained. An overview of the core financial business cycles for an enterprise (i.e., financial accounting and expenditure) and their integration is provided. For each of these business cycles, the functionality of the Oracle EBS business process and their subprocesses are described from a controls perspective. Specific risks are identified, potential automated controls are outlined and sample testing techniques are suggested. Techniques for testing user access to business cycle functions and segregation of duties (SoD) are also covered.

The Oracle EBS Security sections provide an overview of the Oracle EBS Internet computing infrastructure and associated Security Administration functionality. They provide details of the risks, key controls and techniques to consider when testing security administration.

Continuous Monitoring in an Oracle EBS Environment

The tools available for continuous control monitoring within an Oracle EBS environment are explored. The main features of the Oracle Governance, Risk and Compliance (GRC) solutions are provided as an example of continuous monitoring tools. The key risks associated with these tools that should be considered as part of an audit are also discussed.

New Directions in Oracle EBS and ERP Audit

The guide concludes by looking at the various stages through which ERP auditing has progressed and looks ahead to major emerging directions for ERP auditing (e.g., improvements in application security assurance and data security assurance, and the changing compliance landscape). Oracle's Fusion Middleware products are also described with regard to the current and anticipated developments of this product, particularly in light of the current fluid business climate, where the direction for software vendors is to engage in partnerships, collaborations, acquisitions and mergers.

Who Should Read This Book

This publication has been written with the business manager in mind. IT, audit and assurance professionals and security, compliance and risk management professionals will also find this publication to be highly informative and helpful. Parts of the publication are written for those looking to learn more about how Oracle EBS Financials works, as well as the strategic and risk management issues. However, for the most part, the book assumes that the reader has a fundamental working knowledge of Oracle EBS.

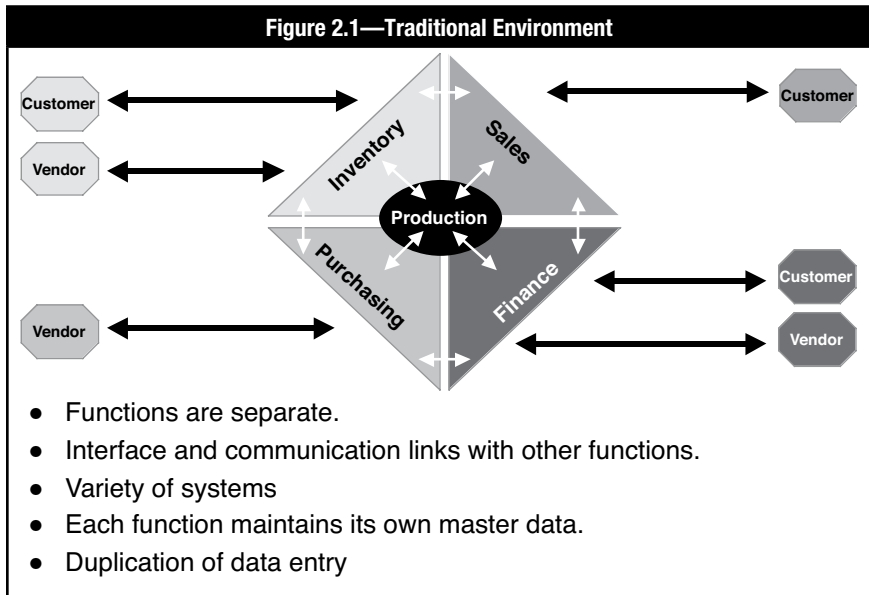
What Makes This Book Different

Although there are many books that have been written about Oracle EBS, they are focused more narrowly on implementation, business aspects or how one of the Oracle EBS modules works. This publication is unique in that it deals with aspects of risk management, audit, security and control over Oracle EBS. It contains audit/assurance programs, audit suggestions and internal control questionnaires (ICQs) for the business cycles addressed within the publication.

2. Introduction to Oracle E-Business Suite and ERP Systems

This chapter provides an introduction to ERP systems in general and Oracle EBS in particular. Key changes from previous versions of Oracle EBS are described, as well as navigation techniques and key functionality.

Before ERP systems were developed, an enterprise's applications were typically designed around functions or departments (e.g., sales, purchasing, inventory and finance), as shown in **figure 2.1**, and not by business processes (e.g., purchase to pay, order to cash). A function evolved independently and might have had support from an individual application system or a number of systems by manual or system interface. This approach resulted in delays, additional costs, data redundancy and the need for reconciliation. Frequently, business controls had a significant number of manual processes. For example, when the invoice arrived, the purchase order (PO) was either printed out again or retrieved from the files, and then stapled to the invoice. The invoice was then approved for payment. The documents may have been scrutinized once again and approved during the check payment process.



Non-ERP systems are typically designed around disparate and independent modules that transmit transaction data among themselves by means of interfaces, where the information is normally summarized (e.g., totals or balances only). In such cases, details of transactions are often difficult to ascertain, unlike the ability to drill down as provided by ERP systems.

ERP systems have a business process focus. They grew out of the need to integrate separate material resource planning (MRP) systems (used to integrate material requirements to production, demand and capacity) and financial accounting systems in manufacturing organizations. The integration of these functional capabilities into an online and real-time application system designed to support end-to-end business processes enables organizations to plan and optimize their resources across the enterprise. Oracle EBS is designed using a Relational Database Management System (RDBMS), allowing information to be shared among modules rather than passing transactional data from one module to another. The financial module in Oracle EBS is integrated with other modules, such as supply chain, sales and manufacturing. With correct configuration, the data input in the other modules is updated automatically in the financial module through seamless system integration configuration. For example, when a clerk at a shipping dock records that goods have been shipped to a customer, changes are made in order management, billing and inventory. The new transaction is used to update the revenue recognition and the cost of goods sold systems.

An ERP environment operates in line with the business—online and in real time. Oracle EBS provides online transaction processing (OLTP) with the flexibility to perform high-volume tasks in a batch process mode. Management has access to online and up-to-date information on how the business is performing. Common and consistent information is shared among application modules and users from different departments simultaneously. For example, following the implementation of an ERP, enterprises typically report completion of period or year-end closes in one or two days, as opposed to two to three weeks under their legacy system environments. Another key change brought about by the implementation of ERP systems is that the systems are owned and driven by business process owners/end users, with the technical support of IT, rather than being owned and driven by IT alone.

Enterprises implementing ERP systems can achieve significant benefits, such as:

- Improvements in:
 - Personnel deployment to more value-producing activities
 - Productivity
 - Order management cycle
 - Cash management
 - On-time delivery
- Reductions in:
 - Inventory
 - Financial close/cycle
 - IT cost
 - Procurement cost
 - Transportation/logistics cost
 - Hardware and software maintenance

The intangible benefits of an ERP implementation—while difficult to quantify—can deliver significant business value through capability improvements, including:

- Information visibility (e.g., drill-down capability, consistent and reliable information across business areas)
- New/improved processes
- Improved customer responsiveness
- Integration and standardization
- Flexibility
- Globalization

Oracle Software

Oracle Corp. products can be categorized in two broad areas: systems software and applications.

Systems software includes a platform for developing and deploying applications on the Internet and corporate intranets. Systems software products include database management software; application server software; and development tools that allow users to create, retrieve and modify the various types of data stored in a computer system. Oracle Corp. applications, which are now designed to be accessed with a standard web browser on a client computer, automate the performance of business processes and functions for Asset Lifecycle Management, Customer Relationship Management, ERP, Supply Chain Management, Product Lifecycle Management, Procurement and Manufacturing.

The software runs on a broad range of computers, including central and distributed processing servers, mainframes, workstations, personal computers, laptop computers and information appliances (such as handheld devices and mobile phones), and is supported on numerous operating systems, including Windows and variants of UNIX, such as Linux, Solaris, AIX and HP-UX.

Systems Software

The Oracle RDBMS, the key component of Oracle's Database platform, enables storing, manipulating and retrieving relational, object-relational, multidimensional and other types of data. In 2004, the Oracle Corp. introduced Oracle RDBMS 10g ("g" standing for "grid") as the then latest version of Oracle Database. Oracle Application Server 10g using Java 2 Platform Enterprise Edition (J2EE), integrates with the application server part of that database version, making it possible to deploy web-technology applications. The application server comprised the first middle-tier software designed for grid computing. The interrelationship between Oracle RDBMS 10g and Java has enabled Oracle Corp. to allow developers to set up stored procedures written in the Java language, as well as those written in the traditional Oracle Database

programming language (PL)/Structured Query Language (SQL). The latest release replacing Oracle RDBMS 10g is 11g, which is now certified with Oracle EBS. Introduced in 2007, Oracle RDBMS 11g includes additional features such as built-in testing for changes, the capability for viewing table logs, extended compression of all types of data types and enhanced disaster recovery functions.

The Oracle Developer Suite is an integrated suite of development tools for rapidly developing Internet database applications and web services. Built on Internet standards such as Java, Extensible Markup Language (XML), Common Object Request Broker Architecture (CORBA) and Hypertext Markup Language (HTML), Oracle Developer Suite contains application development tools, business intelligence tools, and database and data warehouse design tools.

Application development tools include Oracle Designer, Oracle Forms Developer, Oracle JDeveloper and Oracle Software Configuration Manager. Oracle Designer allows developers to model business processes and automatically generate enterprise database applications. Oracle Forms Developer allows for the building of database applications that can be deployed unchanged in Internet and client/server-based environments. For Java programmers, Oracle JDeveloper provides a Java development tool suite for building applications for use on the Internet. Oracle Software Configuration Manager helps manage structured and unstructured data and different file types throughout the software development life cycle.

Oracle Corp. business intelligence tools and database and data warehouse design tools are designed for the Internet and provide a comprehensive and integrated suite of products that enable enterprises to address the full range of user requirements for information publishing, data exploration, advanced analysis and data mining. Business intelligence tools include Oracle Business Intelligence Beans and Oracle Reports Developer. Oracle Database and data warehouse design tools include Oracle Warehouse Builder and Oracle Discover.

Oracle EBS

Oracle EBS R12.1 is a fully integrated and Internet-enabled set of applications. Oracle EBS offers business flow applications, enabling enterprises to automate discrete business flows, such as procurement to payment or order to cash. The applications combine business functionality with technologies such as workflow and self-service applications, and enable customers to lower the cost of their business operations by providing their customers, suppliers and employees with self-service access to transaction processing and selected business information using the Internet platform. Self-service applications automate a variety of business functions, such as customer service and support, procurement, expense reporting, and reimbursement.

Main Updates in Releases 12 and 12.1

Oracle Corp. released EBS R12 in 2007, which introduced changes from R11i.10 to the application technology platform, provided changes to the security authorization concept and a new architecture for Oracle EBS Financials. The latest version, Oracle EBS R12.1, was released in 2009 and introduced changes to the other enterprise application areas (e.g., Supply Chain Management, Procurement, Customer Relationship Management and Human Capital Management). Although this book is based on R12.1, the section below briefly summarizes the major changes introduced in both R12 and R12.1.

New R12 Technology Stack

Having acquired a variety of software application vendors and their application suites, Oracle Corp. has embarked on the ambitious software engineering exercise of combining each of the disparate application suites into a consolidated application suite. The name given by Oracle Corp. to this next-generation enterprise application suite is Fusion Applications. Fusion Applications are planned to combine the best features of their current successful applications, including Oracle EBS, Siebel's Customer Relationships Management (CRM) Suite, PeopleSoft Enterprise Applications, and JD Edwards' World and EnterpriseOne Application Suites among other smaller software acquisitions and developments. With the introduction of Oracle Fusion Middleware, the previous Application Server Architecture was replaced with a Service Oriented Architecture (SOA), allowing for a more web-based, interoperable and integrated technology platform for Oracle EBS. This has also resulted in conformance of the user interface for Oracle EBS to Web 2.0 standards from R12 onward.

New Security Authorization Concept With Role-Based Access Control

With Oracle EBS R12, the core security area of Oracle User Management (UMX) comes standard with a role-based access control (RBAC) model that builds on existing function security and data security models. RBAC was first implemented in EBS R11.5.10, but fully integrated and supported with a full set of features in R12. RBAC was briefly mentioned in the previous edition of this guide, but detail has been included in this version. More information regarding the security authorization concept is provided in chapters 4, 9 and 10.

New Oracle EBS Financials R12 Architecture

There are more than 300 additional features introduced in Oracle EBS R12, including several changes to the Financial Application Architecture:¹

- **Ledger sets**—Allow processing and reporting of multiple ledgers simultaneously, including the ability to view and report, open and close

¹ Melatti, Annette; "The Business Value of Upgrading to Oracle E-Business Suite Financials Release 12," Oracle White Paper, USA, 2008

- periods, create journal entries and perform allocations across ledgers
- **Multi-organizational access control (MOAC)**—Provides role-based access to operating units, enabling the performance of multiple tasks across operating units without having to change responsibilities
 - **Subledger accounting**—Provides a rules-based accounting engine aimed at improving the monitoring, controlling, auditing and reconciling of subledger accounting entries
 - **Tax engine**—Provides a centralized repository, Oracle E-Business Tax, for managing transaction tax rules and transactions
 - **Advanced global intercompany system**—Aims to streamline the intercompany and trading reconciliation process across ledgers
 - **Bank model**—Associates bank accounts with legal entity rather than operating unit, resulting in more centralized banking options

Rapid Value Stand-alone Solutions

Another of the changes introduced by Oracle EBS R12.1 is the ability for enterprises to implement rapid value stand-alone solutions that are compatible with existing Oracle EBS R11i or R12 environments, without having to perform a major upgrade to R12.1.

Global Business Platform

A global business platform offering centralized administration of global shared services means that responsibility for functional tasks (e.g., financial reporting) across all organizational entities can now be managed centrally. This is aimed to help improve standardization and simplification throughout the enterprise.

Major Oracle EBS R12.1 Modules and Functionality

This section introduces Oracle EBS and the major applications within it. Oracle EBS applications are an integrated suite of modules identified by major business functions.

Oracle EBS applications are as follows:

- Asset Lifecycle Management
- Customer Relationship Management
- Enterprise Resource Planning
 - Channel Revenue Management
 - Financial Management (referred to also as Oracle EBS Financials)
 - Human Capital Management
- Procurement

- Product Lifecycle Management
- Supply Chain Management
 - Supply Chain Planning
 - Logistics and Transportation Management
 - Order Management
 - Price Management
- Manufacturing

Oracle EBS Financials Management

The modules contained within the Financial Management application are as follows:

- Asset Lifecycle Management
- Cash and Treasury Management
- Credit-to-Cash
- Financial Control and Reporting
- Financial Analytics
- Governance, Risk and Compliance
- Internal Controls Manager
- Lease and Finance Management
- Procure-to-Pay
- Travel and Expense Management

As the focus of this guide is on the Oracle EBS Financials application, the modules contained in the other application areas have not been specified. More information regarding the other application areas can be found on the Oracle Corp. web site (www.oracle.com).

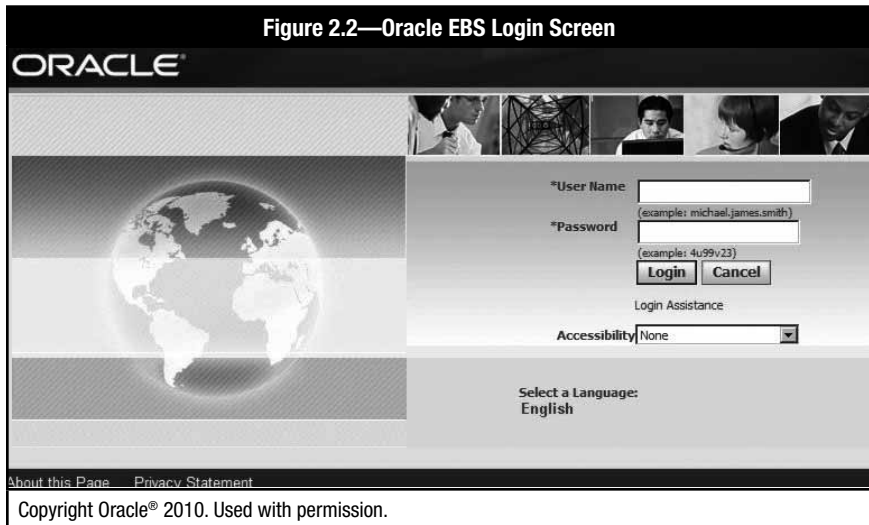
This technical reference guide is part of a series of three guides. The series is intended to be considered collectively; therefore, common business processes and related risks and control features are not covered in every guide. For example, risks and typical controls associated with human resources and payroll are considered in detail in *Security, Audit and Control Features PeopleSoft, 2nd Edition*, and inventory risks and controls are considered in *Security, Audit and Control Features SAP[®] ERP, 3rd Edition*. This guide covers in detail the key risks and controls associated with the core financial modules (Financial Accounting and Expenditure) of Oracle EBS R12.1. However, many risks dealt with in the other guides may be applicable to the core functional modules not covered in detail in this guide. For example, this publication is not focused on some of the risks associated with the more common applications, such as manufacturing and human resources, and these could be considered when planning an audit. These lists should not be considered exhaustive and will be dependent on the implementation and processes within the enterprise.

Navigating the Oracle EBS R12.1 System

This section provides an overview of Oracle EBS basic navigation techniques and methods. Oracle EBS is an integrated group of applications that look and feel the same. The login process is described in the following section.

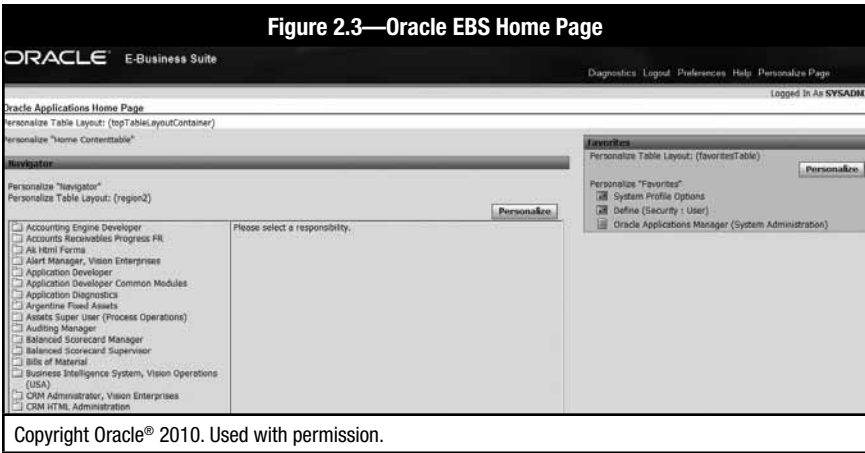
Logging In—Oracle EBS

The login screen for the EBS is displayed in **figure 2.2**.



Once users successfully log in by entering their usernames and passwords, they are presented with the EBS home page. This page allows users to access the EBS functions, grouped by responsibility, from the applications menu. Appearance of the login screen may vary between versions of the EBS, such as the CRM and the Oracle Access or Applications Manager (OAM) login pages. Users may also set preferences and navigate to frequently used functions or self-service pages from their favorites. The EBS home page can be seen in **figure 2.3**.

Responsibilities listed on the EBS home page are a level of authority assigned to a user in Oracle EBS that enables user access to functions that may be appropriate to the user’s organizational role. A user may have one or more responsibilities. The example functions list illustrated in **figure 2.3** was populated as a result of selecting the System Administrator profile.



To access a specific function, select a responsibility and then select the function to launch it. Depending on the function selected, two types of interface may be launched. These include forms-based applications that are designed to process a large volume of transactions and HTML-based applications, which may also be referred to as self-service applications. The HTML-based interface is used for low-volume and broad-use audiences because no software is required to be installed on the end user's computer. Forms-based views and HTML-based views may be seen in **figures 2.4** and **2.5**, respectively. Forms-based views and HTML-based views may also be differentiated by the icons listed on the EBS home page. These icons are shown in **figure 2.6**.

Forms-based View—Oracle EBS

When selecting a forms-based function, the Oracle Applications Navigator is launched. From the Navigator, a user can do one of the following:

- **Open forms from the Functions tab**—The Functions tab provides links to the forms that are accessible to a user's responsibility. To open a form, the function heading can be expanded and the form name can be selected.
- **Link to documents from the Documents tab**—The Documents tab can be customized to allow the user to create links to frequently used documents, e.g., POs, invoices, sales orders, employee information or plans. This feature allows the user to access these documents later. The user may create as many links as desired. Any documents opened using this feature are opened in the appropriate form window.
- **Launch business processes from the Processes tab**—The Processes tab provides graphical maps of the business processes, allowing users to view business flows across form screens and, if permitted by their responsibilities, to initiate action. The Processes tab guides users through each required function in the business process. The Process Navigator tab also launches the appropriate forms and standard reports in each step of the business process.

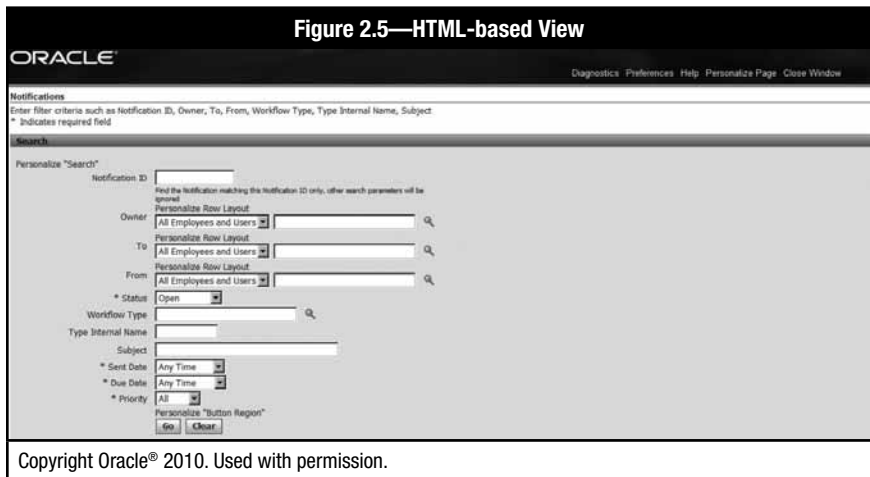
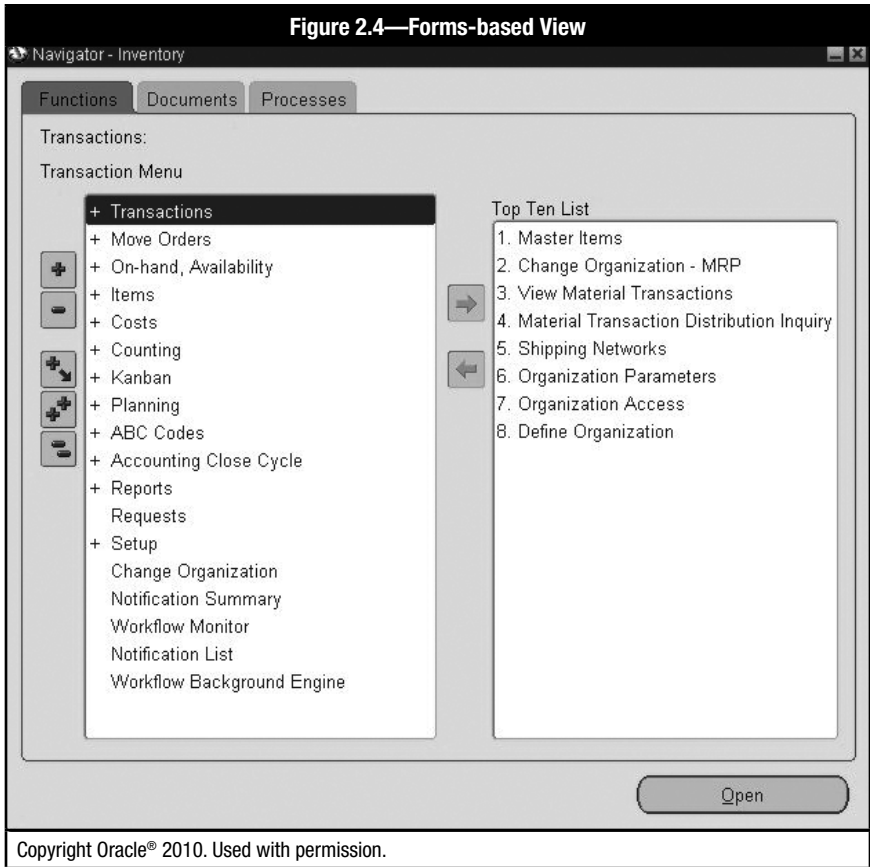
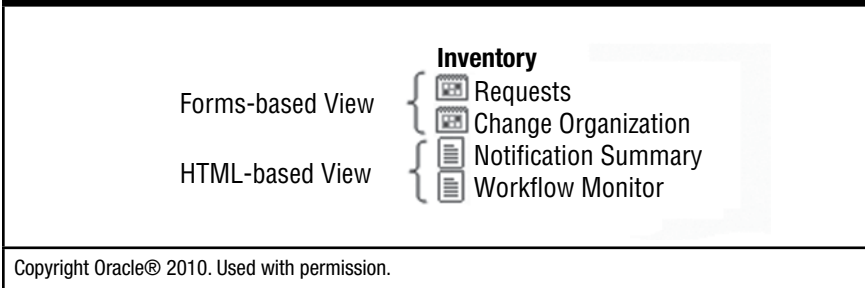


Figure 2.6—Icons



Expand or Collapse the Navigator Window List

Select one of the following to expand an expandable item to its next sublevel:

- Double click on the menu option.
- Select the menu option, and click on the Open button.
- Select the menu option, and click on the + button.

Select one of the following to collapse an expanded item:

- Double click on the Menu option.
- Select the Menu option, and click on the - button.

To expand or collapse several items simultaneously, use one of the following:

- **Expand all children** +->—Expands all the sublevels of the selected item
- **Expand all** ++—Expands all the sublevels of all expandable items in the navigation list
- **Collapse all** ---—Collapses all currently expanded items in the navigation list

Open a Form

Either of the following can be used to open a form:

- Select the desired menu option and click on the Open button.
- Double click on the desired menu option.

Open a Form Using a List of Values (LOV) Window

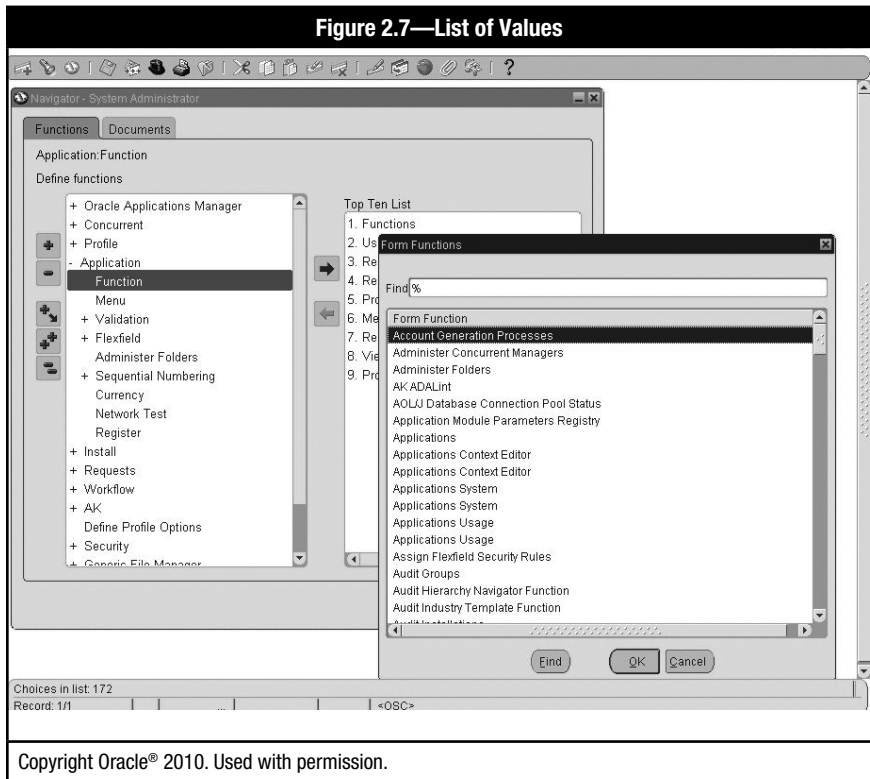
To open a form using an LOV window:

- Press the Ctrl and L keys to open an LOV window, which will bring up a list of form functions, as shown in **figure 2.7**.
- Select the desired form and click on the OK button, or create a short list by keying in a partial form name.

Top Ten List

Frequently used forms can be copied into the Top Ten List. Forms are displayed numerically. A maximum of 10 forms can be selected for each responsibility assigned to a user. To add an item to the Top Ten List, select the form and then select the Add to List button. To remove a form, select the form and then select

the Remove from List button. To open a form from the Top Ten List on the Function tab, either double click on the item on the list or enter the number of the item on the list.

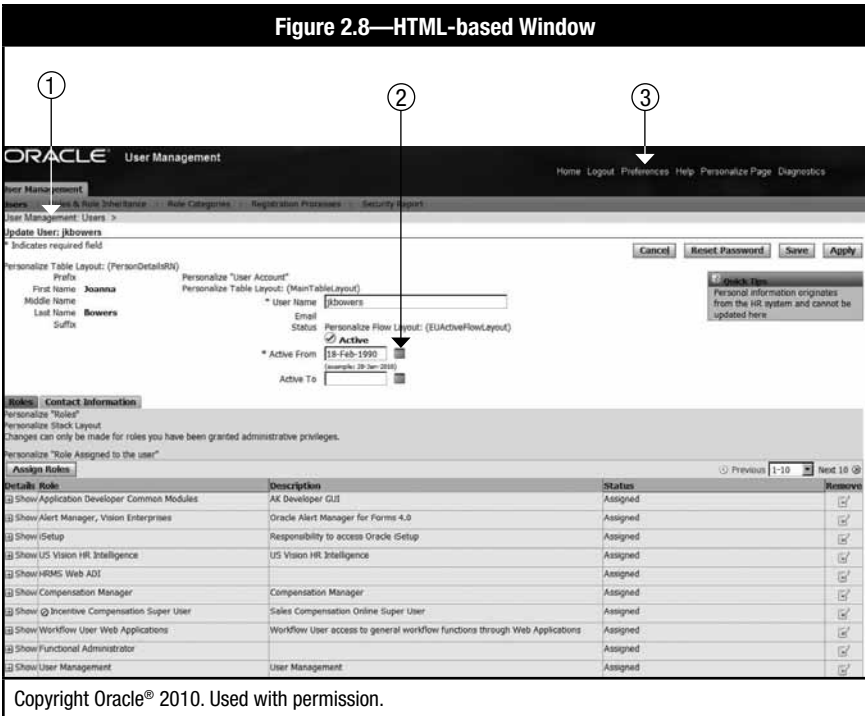


HTML-based View—Oracle EBS

When selecting an HTML-based interface within Oracle EBS, an HTML-based window is launched, as shown in **figure 2.8**. Common attributes of an HTML-based form include:

1. Navigation links
2. Date picker
3. Global navigation

Generally, the screens shown in **figures 2.8** and **2.9** are secured to prevent nonexpert users from changing their regional settings. Entry or validation errors may occur if the regional settings are set up inadequately for some users.



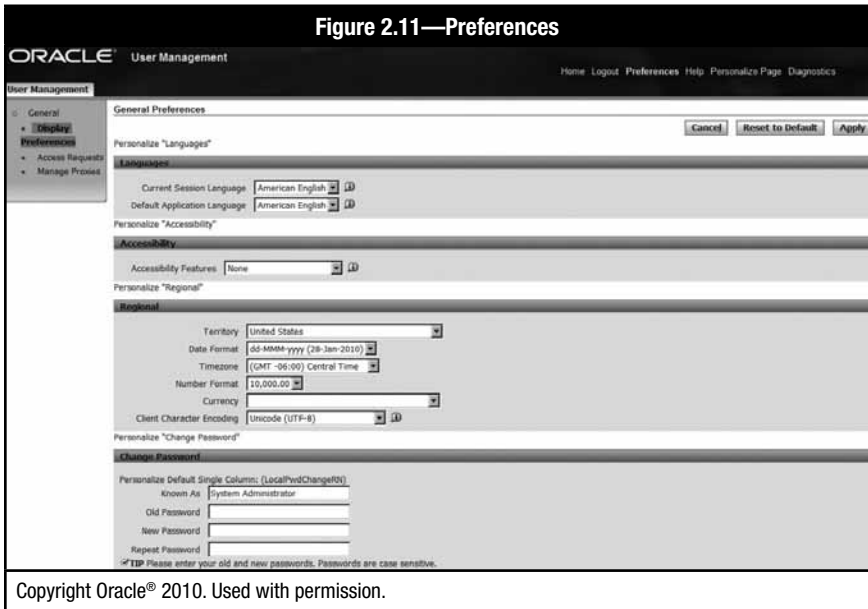
Switching Responsibilities—Oracle EBS

Users may change the responsibility that they are logged into in two ways:

1. By selecting a different responsibility from the Oracle EBS home page, as shown in **figure 2.9**
2. By using the Switch Responsibility item from the File menu, as shown in **figure 2.9**. Once it is selected, users will then be presented with a list of responsibilities from which they can select within Oracle EBS. This list will be dependent on responsibilities assigned to those particular users, as shown in **figure 2.10**.

Home Page Preferences

The ability to change certain preferences exists within a user’s personal home page. Preferences include languages, date formats and number formats, notification style, and password changes. The preferences can be changed by selecting the Preferences link in the global navigation, as shown in **figure 2.3**, on the EBS home page. Once the changes have been made, the Apply button should be clicked for the changes to take effect. The Preferences screen used to choose personal preferences is shown in **figure 2.11**.



Keyboard Shortcuts

Users can bypass the menu by using keyboard shortcuts. Keyboard shortcuts are keystrokes that perform the same functions as corresponding menu items. A list of keyboard shortcuts can be displayed by selecting Keyboard Help from the Help menu, as shown in **figure 2.12**. Many common keyboard shortcuts can be selected from the toolbar.

Figure 2.12—Keyboard Shortcuts

| Function | Key |
|------------------|----------------|
| Actions LOV | Shift+Ctrl+F8 |
| Block Menu | Ctrl+B |
| Clear Block | F7 |
| Clear Field | F5 |
| Clear Form | F8 |
| Clear Record | F6 |
| Commit | Ctrl+S |
| Count Query | F12 |
| Delete Record | Ctrl+Up |
| Display Error | Shift+Ctrl+E |
| Down | Down |
| Duplicate Field | Shift+F5 |
| Duplicate Record | Shift+F6 |
| Edit | Ctrl+E |
| Enter Query | F11 |
| Execute Query | Ctrl+F11 |
| Exit | F4 |
| Function 0 | Shift+Ctrl+F10 |

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Oracle Help

An online help feature is available in Oracle EBS. The help feature is accessed by clicking on the Ctrl and H keys or by clicking on Window Help from the Help menu. Help topics can be selected using the Contents tab or the Search tab.

Oracle Report Manager

Oracle Report Manager is an online report distribution system that provides a secure and centralized location to produce and manage real-time reports. The Oracle Report Manager can be used to submit, publish, set security for reports, and view and approve reports. There are four types of reports that can be accessed in Oracle EBS:

- **Single Report**—A complete report for a specific time period
- **Single Report Over Time**—A single report produced for different periods
- **Expanded Report**—One report displayed in a variety of ways depending upon a specific variable
- **Expanded Report Over Time**—An expanded report available for different time periods

The system administrator assigns access to the Oracle Report Manager menu items to various responsibilities.

Submitting Requests

Standard request submission is a feature that provides a common interface to run Oracle EBS reports and programs. This feature provides a set of windows for running reports and programs, as well as control over the submission and output of reports and programs. Reports can be viewed online or printed. Reports run as concurrent programs in Oracle EBS.

Concurrent processing options allow the user to:

- Specify the number of copies to print
- Select print style
- Select the printer
- Hold a request
- Specify dates and times to run a request
- Save the results in a standard file format

Requests can be run as either a:

- **Single Request**—A single report and/or program to be run. To submit a Single Request, select the Requests menu option in the Navigator window. Select the Run option. Click on Single Request in the pop-up window, and click the OK button.
- **Request Set**—A collection of reports and/or programs that the user can group together. All the reports and/or programs of a Request Set can be submitted in a single step using a single transaction. To submit a Request Set, select the Requests menu option in the Navigator window. Select the Run option. Click on Request Set in the pop-up window, and click the OK button.

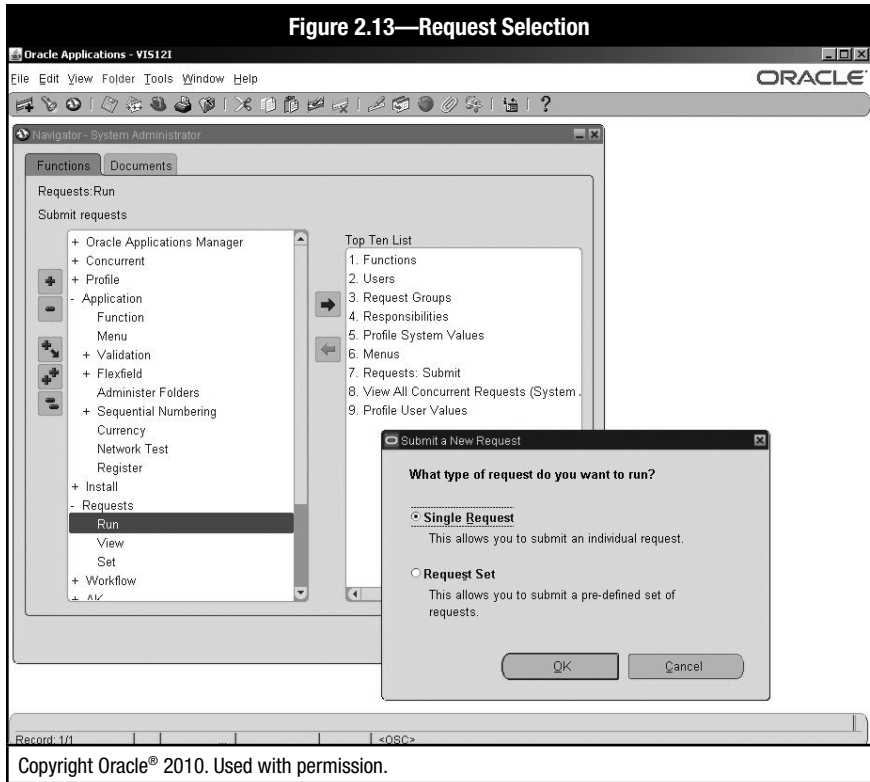
Figure 2.13 shows the step of selecting between a Single Request and Request Set.

To view submitted requests, select the Requests menu option in the Navigator window. Users are then directed to the Find Requests window in which they are able to define the search criteria as shown in **figure 2.14** on page 23. If All My Requests is selected, a list of all reports will be generated, as shown in **figure 2.15** on page 24.

Oracle EBS allows the security of output requests to be set for sharing by users who have the same responsibility or to not be shared at all (Profile option). If not shared (default behavior), even the System Administrator does not have access to the output of the request by the application. The screen in **figure 2.15** is available in the administrative mode or end user's mode.

Searching in the Application

To search within the application, click on the Find icon on the toolbar. This will invoke a search within a given field. Only certain fields allow searches to be performed. The number of options available will depend on the field selected and the application setup. The Search forms allow the user to enter % (for all)



or a combination of letters (e.g., ora%) for which to search. **Figure 2.16** on page 25 shows an example of using the Search function to find a responsibility. To retrieve a group of records based on more sophisticated search criteria, the Query by Example function can be used. Query by Example allows the user to specify search criteria in any field in the current block that can be queried. The search criteria can contain specific values, wildcard characters or query operators.

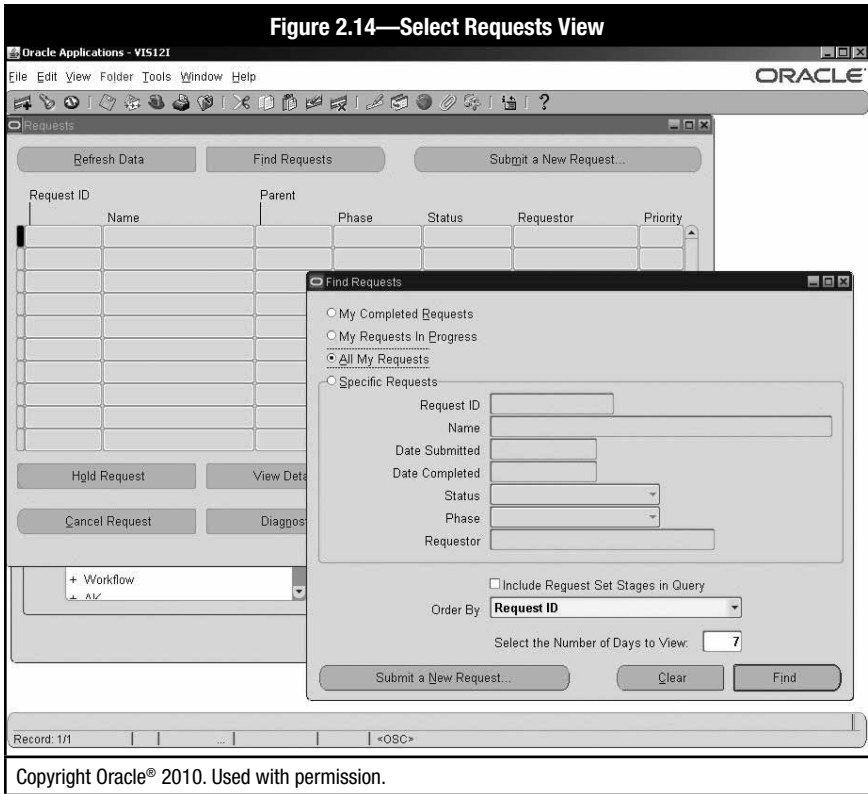
Printing a Window

To print the current window:

- Select Print from the toolbar.
- Change any of the options required within the standard Microsoft Windows Print window, and execute the print job by clicking the OK button.

Saving Work

When work is saved in Oracle EBS, the underlying database is updated with the new information. Oracle EBS also performs a validation of the work when saving it. Any incomplete or invalid data are flagged, and a message is displayed. The incomplete or invalid information will not be saved.



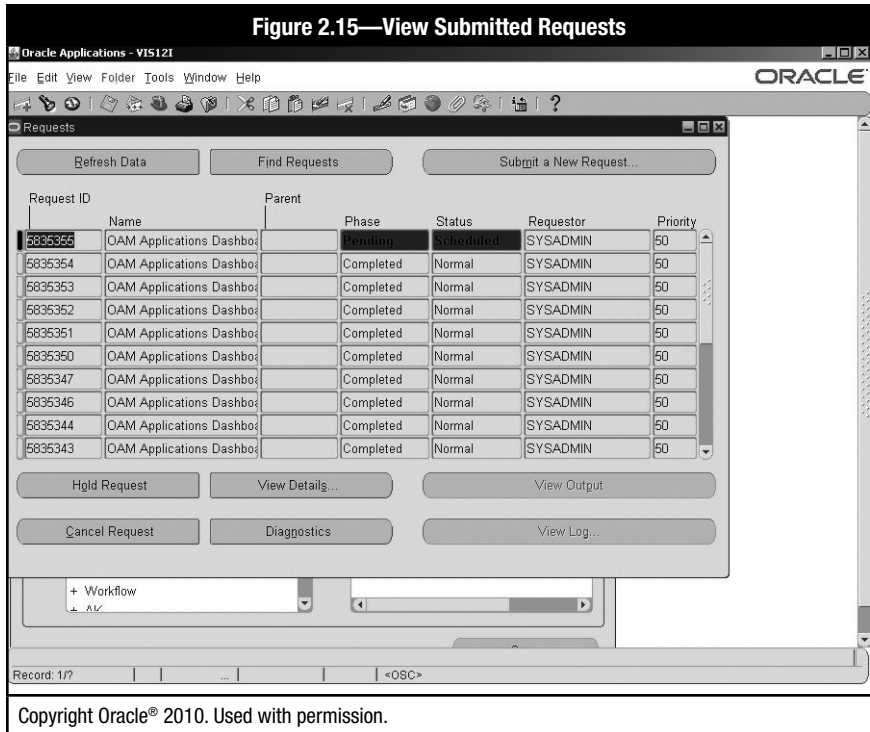
To save work, select Save from the toolbar. To save work and update the process in the Navigator window, select Save and Proceed from the File menu.

Query and Export

This feature allows records to be exported in a multiple row block to a tab-delimited file (shown in **figure 2.17** on page 26) that can be opened using many standard desktop applications. The data to be exported can be controlled using the Query functions of the form. Columns can be reordered or removed in folder forms before export. Depending on how the application has been configured and implemented, this functionality may not be available in some enterprises.

To export records, the following is necessary:

- Run a query on the records. Queries can be run in a form/function by using the Find or Query by Example options as discussed previously.
- Ensure that the cursor is in the multirow block that contains the records to be exported.
- Select Export from the File menu in the taskbar.
- After the extraction process has finished, select either Open This File From Its Current Location or Save This File to Disk. The file is saved in a .tsv format that can be opened by, for example, Microsoft Excel.

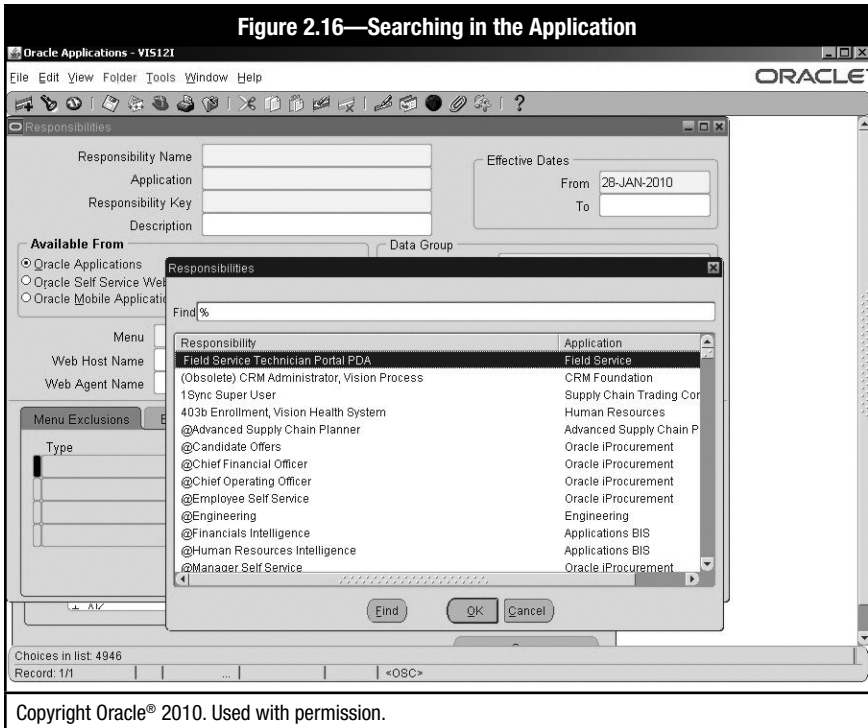


Exporting more than 100 records results in a prompt asking users whether they would like to:

- Stop (stops after first 100)
- Continue (selects the next 100)
- Continue to End (selects all the records matching the query criteria)

The Export feature should not be used to export large numbers of records (greater than 1,000) since system performance can be affected. The number of records that the query brings up can be seen by the record count in the bottom left corner of the screen.

The Oracle EBS Financials RXi Reports Administration Tool is a tool that can be used to design the content and layout of the RXi reports without changing the underlying report code. There are approximately 45 reports in the General Ledger (GL), Payables, Receivables, Fixed Assets, Cross-Product and Globalizations modules where the RXi tool can be used. The RXi Reports Administration Tool allows the same report to be printed using a number of different layouts and contents. This means the data items that are included in the report can be selected.



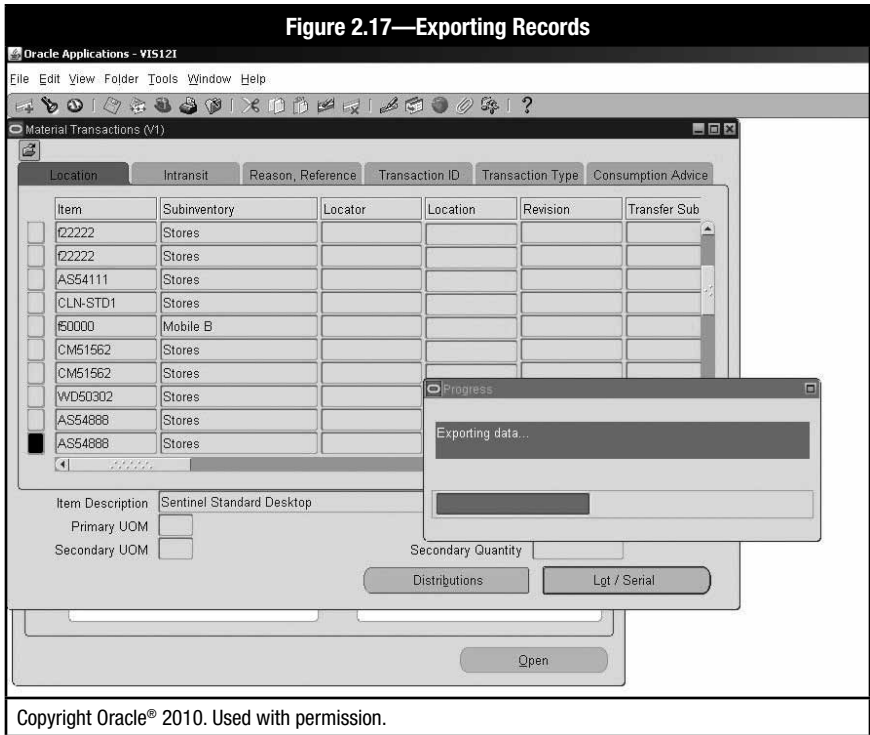
The following requirements may be addressed by the RXi tool:

- Provide multiple layouts with different contents for the same report.
- Remove column(s) from a given layout.
- Modify column formatting features, such as length, title, display, sequence and amount format.
- Modify page formatting features, e.g., report titles, page number display and parameters display.
- Modify grouping and summarizing features.
- Generate reports in text, HTML, comma-separated values (CSV) and tab-delimited formats.

Exiting From Oracle EBS

There are two ways to exit from Oracle EBS:

- If using a Forms-based application, select Exit Oracle Applications from the File menu, or click on the Close button (closes the active program or file) in the top right corner of the Oracle EBS window. Select Save or Discard Changes when exiting from Oracle Applications.
- If using an HTML-based application, click on the Logout link in the global navigation area.



Fundamental Changes in Business Controls

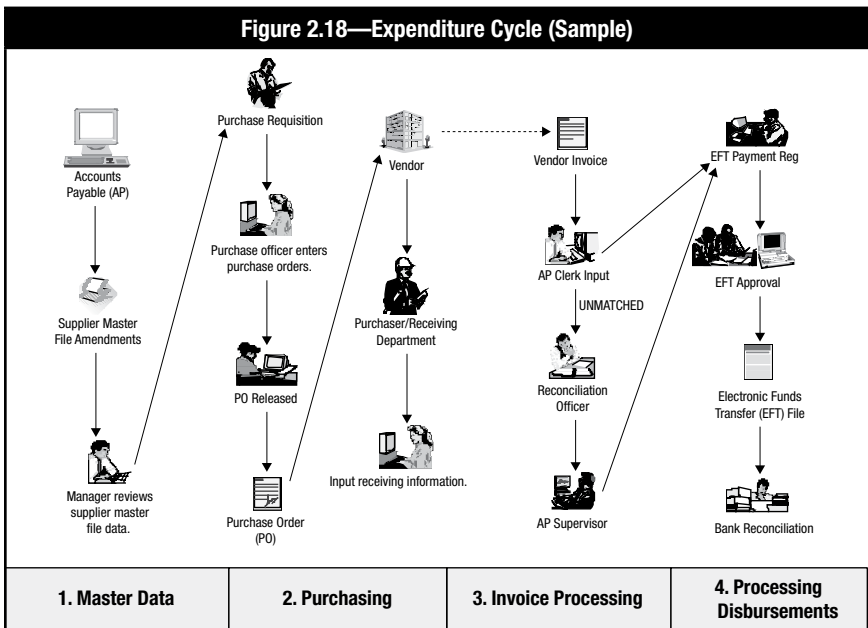
An ERP implementation and its associated business process changes affect critical elements of the enterprise, resulting in increased business, process, system and project risk. Some reasons for the increased risk include:

- Decisions taken on erroneous real-time information are often irreversible or costly to set right.
- Batch-oriented controls are not the focus in an online and real-time environment.
- Traditional (paper-based) audit trails are lost.
- Access requirements have expanded vastly to include field personnel and, increasingly, suppliers and customers.
- Master data changes can have a significant impact on transactional data across multiple business processes and business units, due to the integrated nature of Oracle EBS.
- A single significant point of failure exists.
- There is potential erosion of SoD since end-to-end business processing now occurs in one system.

As a result, the integrity and control structure supporting ERP-enabled business processes must also be transformed. ERP systems can change internal controls in three fundamental ways:

- **The method of control**—From rechecking and revalidating paper-based records to online monitoring and measurement
- **The point of control**—From multiple validations of transactions, often based on printed outputs and source documents, to a single validation at the point of creation, often an online approval
- **The amount of control**—From many redundant, process-impeding controls to fewer automated and strategic controls

Consequently, it makes business sense to ensure that these enhanced controls are integrated into the reengineered and ERP-enabled processes. **Figure 2.18** shows the four main steps in the expenditure (noninventory) business cycle for an ERP-enabled enterprise. Some examples of fundamental changes in business controls are described in the following sections.



Case 1—Three-way Match

An educational institution employs three-way matching on POs, goods receipts and invoice processing. POs are entered and approved online under delegated authority. Goods receipt information entered online is matched to the PO quantity and tolerances set for over/under receipt. When the invoice arrives, a three-way matching process occurs, whereby the quantity on the PO is matched to the quantity on the goods receipt, and the amount on the invoice is compared

to the amount on the PO. If these fields match within preset tolerance levels, the transaction passes for payment. This matching process effectively reduces the extensive manual and paper-based control activities, such as printing already approved POs and stapling them to the back of invoices for reapproval at invoice receipt and again at the payment stage. Controls have moved to the beginning of the process in an electronic form.

Case 2—Evaluated Receipt Settlement

When a food company loads POs into its system, orders are validated against vendor master data details already loaded into the ERP application system. Details of contractual arrangements and prices with vendors have also been loaded into the system. When the goods are received, there is a two-way match on quantity and, providing it matches within preset tolerance limits, the vendor is paid based on the set payment terms. There is no need to process a physical invoice. Oracle EBS, for purposes of accounts payable (AP) processing, can generate an invoice within the system. The controls in this example reside at the beginning of the process cycle—at the approval of requisitions or orders and receiving of the goods/services.

These two cases demonstrate that controls are being shifted from detective to preventive and traditional matching reconciliation controls are automated in the Oracle EBS software.

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