BEA eLink Adapter for Oracle Financials

User Guide

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BEA eLink Adapter for Oracle Financials User Guide

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Preface

BEA eLink Adapter for Oracle Financials integrates Oracle applications with BEA eLink Platform applications.

Purpose of This Document

This guide describes the eLink Adapter component and gives instructions for using the tool for data format conversion. It contains instructions for installing and using the eLink Adapter component and explains how this component fits into the BEA Tuxedo environment.

Who Should Read This Document

This document is intended for system administrators who will install the eLink Adapter on various platforms, as well as programmers who will configure the eLink Adapter and set up eLink Platform services to execute information transfers with Oracle. This guide assumes knowledge of BEA Tuxedo and Oracle products.

How This Document Is Organized

The BEA eLink Adapter for Oracle Financials User Guide is organized as follows:

- "BEA eLink Adapter for Oracle Financials Overview" introduces the eLink Adapter component and explains how eLink Adapter for Oracle Financials fits into the BEA Tuxedo environment.

- "Installing BEA eLink Adapter for Oracle Financials" explains how to install the eLink Adapter component.

- "Configuring BEA eLink Adapter for Oracle Financials" provides information for configuring the eLink Adapter, BEA Tuxedo servers, and Oracle.

- "Running BEA eLink Adapter for Oracle Financials" provides information about booting the BEA Tuxedo server.

- "Error Messages" describes error and informational messages as well as actions to resolve the errors.

How to Use The Documentation

The Documentation CDROM, included in the package with your product software CDROM, contains both an HTML version of this guide and a PDF version. The HTML version should be viewed as an online browseable document. The PDF version should be used for printing.

Online Document Considerations

This guide is designed primarily as an online, hypertext guide. If you are reading it as a paper publication, to get full use from this guide you should install and access it as an online document. (Information on how to install the online documentation is available in the *BEA eLink Adapter for Oracle Financials Release Notes*.)

Note: The online documentation requires a Web browser that supports HTML 3.0. Netscape Navigator 2.02 or Microsoft Internet Explorer 3.0 or later.

Opening the information Center in a Web Browser

To access the on-line version of this documentation, open the following HTML file in a Web browser:

```
http://(directory path to eLink Adapter for Oracle Financials HTML
files)/index.htm
```

Printing the PDF File

You must have the Adobe Acrobat Reader to view and print the PDF file. If you do not
have this reader, you can obtain it free of charge from the Adobe Systems Incorporated
homesite at www.adobe.com. (Please note that the BEA eLink Adapter for Oracle
Financials Information Center contains a hot link to this site.)

Printing from a Web Browser

You can print a hard-copy version of this document, one file at a time, from the Web
browser. Before you print, make sure that the chapter or appendix you want is
displayed and *selected* in your browser. (To select a file, click anywhere inside the
frame you want to print. If your browser offers a Print Preview feature, you can use it
to verify which file you are about to print.)

Document Conventions

The following documentation conventions are used throughout this document:

Item	Examples
Variable names	Variable names represent information you must supply or output information that can change; they are intended to be replaced by actual names. Variable names are displayed in italics and can include hyphens or underscores. The following are examples of variable names in text: *error_file_name* The *when-return* value...

Item	Examples

User input and screen output	For screen displays and other examples of input and output, user input appears as in the first of the following lines; system output appears as in the second through fourth lines:
	
	`dir c:\accounting\data`
	`Volume in drive C is WIN_NT_1`
	`Volume Serial Number is 1234-5678`
	`Directory of C:\BEADIR\DATA`

Syntax	Code samples can include the following elements: ■ Variable names can include hyphens or underscores (e.g., *error_file_name)* ■ Optional items are enclosed in square brackets: [ ]. If you include an optional item, do not code the square brackets. ■ A required element for which alternatives exist is enclosed in braces { }. The alternatives are separated by the pipe (vertical bar) character: |. You must include only one of the alternatives for that element. Do not code the braces or pipe character. ■ An ellipsis (...) indicates that the preceding element can be repeated as necessary.
Omitted code	An ellipsis (...) is used in examples to indicate that code that is not pertinent to the discussion is omitted. The ellipsis can be horizontal or vertical.
Environment variables	Environment variables are formatted in an uppercase font. ENVFILE=${APPDIR}
Key names	Key names are presented in boldface type. Press **Enter** to continue.
Literals	Literals are formatted in a monospace font. `class extendSample`
Window items	Window items are presented in boldface type. Window items can be window titles, button labels, text edit box names or other parts of the window. Type your password in the **Logon window**. Select **Export** to make the service available to the client.

BEA eLink Adapter for Oracle Financials Documentation

The eLink Adapter documentation consists of the following items:

- *BEA eLink Adapter for Oracle Financials User Guide*

- *BEA eLink Adapter for Oracle Financials Release Notes*

BEA Publications

The following BEA publications are also available:

- *BEA Tuxedo Application Development Guide*

- *BEA Tuxedo Programmer's Guide*

- *BEA Tuxedo Reference Guide*

Contact Information

The following sections provide information about how to obtain support for the documentation and software.

Documentation Support

If you have questions or comments on the documentation, you can contact the BEA Information Engineering Group by e-mail at **docsupport@beasys.com** (For information about how to contact Customer Support, refer to the following section.)

Customer Support

If you have any questions about this version of BEA eLink Adapter for Oracle Financials, or if you have problems installing and running BEA eLink Adapter for Oracle Financials, contact BEA Customer Support through BEA WebSupport at `www.beasys.com`. You can also contact Customer Support by using the contact information provided on the Customer Support Card, which is included in the product package.

When contacting Customer Support, be prepared to provide the following information:

- Your name, e-mail address, phone number, and fax number

- Your company name and company address

- Your machine type and authorization codes

- The name and version of the products you are using

- A description of the problem and the content of pertinent error messages

1 BEA eLink Adapter for Oracle Financials Overview

This chapter contains the following topics:

- BEA eLink Solution Overview

- Overview of Oracle Open Interface Architecture

- Overview of the eLink Adapter for Oracle Financials Outbound Process

BEA eLink Solution Overview

BEA eLink™ provides an open Enterprise Application Integration (EAI) solution that allows applications throughout organizations to communicate seamlessly. Using EAI, you gain the long-term flexibility and investment protection you need to keep up with today's ever-changing business environment.

Typically, companies use packaged applications to automate internal operations, such as financial, manufacturing, or human resources. While they successfully address the needs of these specific areas, these proprietary platforms often do not work together. To compete today, you need a much greater exchange of information. Systems need to communicate at a process level within your own organization, as well as with customer's and supplier's systems. BEA eLink Platform is the underlying basis of

BEA eLink, a family of off-the-shelf enterprise application integration (EAI) products that leverage the BEA transaction platform to integrate existing legacy applications with customer-focused and business-to-business e-commerce initiatives.

BEA eLink Platform provides a proven infrastructure for integrating applications within the enterprise and across the Web. BEA eLink Platform ensures high-performance, secure transactions and transparent access to mission-critical applications and information throughout the enterprise and across the Web. Figure 1-1 illustrates the eLink logical architecture and shows where the eLink Adapters fit into the process.

Figure 1-1   BEA eLink Solution
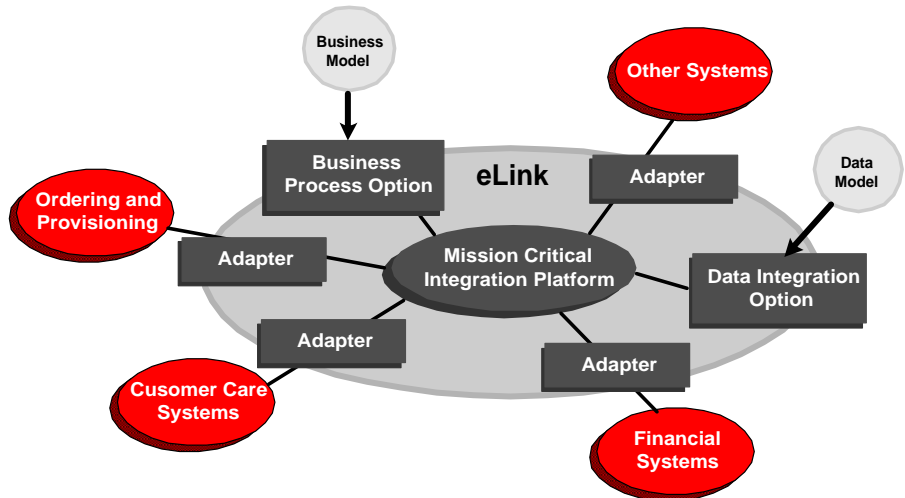
The BEA eLink Platform

The entire BEA eLink family (including all options and adapters) is highly scalable. Multiple instances of BEA eLink components can collaborate so that work is divided between eLink domains. BEA eLink includes Simple Network Management Protocol (SNMP) integration for enterprise management.

The current BEA eLink Platform leverages the BEA Tuxedo infrastructure because it is based on a service-oriented architecture. Both BEA Tuxedo and BEA eLink communicate directly with each other and with other applications through the use of services. Multiple services are grouped into "application servers" or "servers". The terms Tuxedo services/servers and eLink services/servers can be used interchangeably. Because this document is specifically addressing the eLink family, the terms "eLink service" and "eLink server" are used throughout.

The BEA eLink Platform complies with the Open Group's X/Open standards including support of the XA standard for two-phase commit processing, the X/Open **ATMI** API, and XPG standards for language internationalization. C, C++, COBOL, and Java are supported. The BEA eLink Platform connects to any RDBMS, OODBMS, file manager or queue manager, including a supplied XA-compliant queueing subsystem.

The following components operate with BEA eLink Platform:

♦ The **Data Integration Option** translates data models used by different applications into a common data format. It provides a cost-effective alternative to writing or generating programs to perform this function. It also handles complex translation with great power and scalability. The DIO leverages technology based on the TSI Mercator product, which is integrated with eLink.

♦ The **Business Process Option** helps automate tasks in the distributed global business process and dynamically responds to business events and exceptions. The BPO is currently implemented by integrating eLink with technology based on InConcert workflow management software.

■ An **eLink Adapter** provides the interface between the BEA eLink Platform and external applications with out-of-the-box functionality.

Overview of Oracle Open Interface Architecture

The Oracle Cooperative Applications Initiative references many published third party products which provide import and export capabilities and allow loose to tight integration with legacy systems and other supplier systems. Oracle Applications

products are built to be flexible by providing a number of open interfaces so you can link them with non-Oracle applications, applications you build, applications on other computers, and applications of your suppliers and customers. Oracle Applications products use interface tables and supporting validation, processing, and maintenance programs with the eLink Adapter for Oracle Financials to create its open interface architecture.

Overview of the Oracle Open Interface

This section describes the components that are generally common to all open interfaces.

Source Application

A source application passes data on to a destination application for further processing and/or storage. Typically, the data has completed processing in the source application before being passed.

Destination Application

Send data to a destination application so that it can perform further processing or provide storage.

Interface Table

The interface table is the intermediary table where the data from the source application temporarily resides until it is validated and processed into an Oracle Applications product. Table 1-1 shows the various types of interface columns in an interface table.

Table 1-1 Interface Table Columns

Column Name	Description
Identifier Columns	Uniquely identify rows in the interface table and provide foreign key reference to the destination application.

Column Name	Description
Control Columns	Track the status and monitor the error status of each row in the interface table as it is inserted, validated, processed, and ultimately deleted. Additional control columns identify who last updated the row and the last update date.
Data Columns	Store the specific attributes that the source application is sending to the Oracle Applications product.
Required Columns	Store the minimum information the Oracle Application product needs to successfully process the interface row. Some columns are conditionally required based on the specifics of the interface.
Derived Columns	Created by the destination product from information in the required columns.
Optional Columns	Not required by Oracle Applications products but can be used for value-added functionality.

Errors Table

The errors table stores all errors found by the validation and processing functions. In some cases, the errors table is a child of the interface table. This allows each row in the interface table to have many errors so that you can manage multiple errors at once. In other cases, the errors are stored in a column within the interface table, which requires you to fix each error independently.

Load, Validate, Process and Maintenance Functions

Upon population of the data in the interface tables, further integration is achieved by using the Oracle Applications load, validate, process and maintain functions. While the load function selects and accumulates data, the validate function ensures the integrity of outbound data into Oracle.

The process function processes the data, including recording transaction history, updating balances, and so on. The maintain function is accomplished from within Oracle Applications where the data transferred into Oracle is maintained through its life.

Overview of the eLink Adapter for Oracle Financials Outbound Process

The eLink Adapter for Oracle Financials enables a user program to take advantage of BEA eLink Platform to link to Oracle Applications. The eLink Adapter for Oracle Financials validates the incoming service request, transforms the data into an Oracle interface table format, populates the interface table, and invokes the appropriate interface programs to complete the request. This enables any eLink Platform compliant client application to access Oracle Applications using the eLink Adapter for Oracle Financials. Figure 1-2 illustrates an overview of the process.

Figure 1-2   eLink Adapter for Oracle Financials Transaction Process Overview
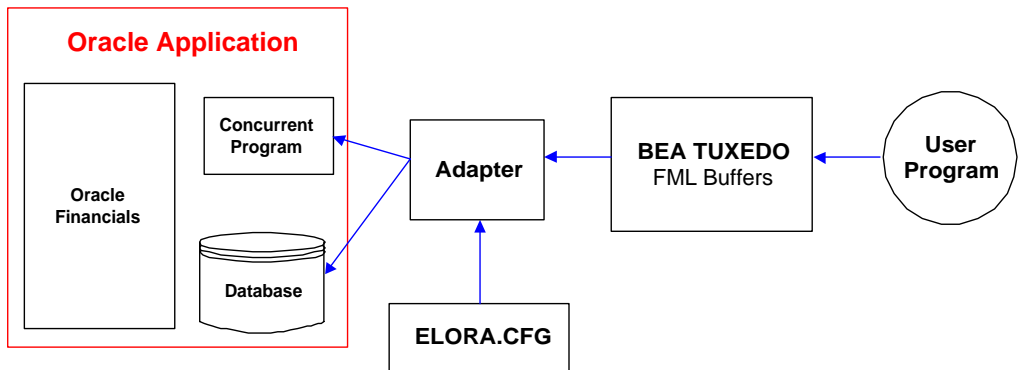
To begin the outbound process, the user program establishes a eLink Platform connection. The user program allocates a request FML32 buffer and then fills the FML32 buffer with data. After filling the buffer, the client application places a service request with eLink Platform (e.g., 'Create this Item'). eLink Platform identifies the corresponding eLink Adapter for Oracle Financials service that is capable of fulfilling the service and transfers the request to the eLink Adapter for Oracle Financials. The eLink Adapter for Oracle Financials then validates the FML32 buffer data against the

configuration file and maps it to the Oracle Applications interface table. The data is then inserted into the interface tables. Once the data is in the Interface Tables, the concurrent program specified in the configuration file is activated.

The concurrent program validates the data against the established business rules within Oracle Applications. The validated data is then put into the Oracle Applications system and is usable by the application program. At that point, a confirmation message is passed back to the client application through eLink Adapter for Oracle Financials and eLink Platform.

2 Installing BEA eLink Adapter for Oracle Financials

This chapter contains the following topics:

- Pre-Installation Considerations

- Installing eLink Adapter for Oracle Financials

- Installing on a UNIX-based Platform

- Installing on Windows NT Platform

- Installation Files and Directories

Pre-Installation Considerations

Complete the following tasks prior to installing eLink Adapter for Oracle Financials:

- Read the *BEA eLink Adapter for Oracle Financials Release Notes*.

- Install and verify the operation of the eLink Platform.

- Install and verify the operation of Oracle Applications 10.7 or higher.

Installing BEA eLink Adapter for Oracle Financials

The eLink Adapter for Oracle Financials software will run on HP-UX, Solaris, AIX, and Windows NT. Refer to the following section for installation instructions.

Installing on a UNIX-Based Platform

To install the eLink Adapter for Oracle Financials software on a UNIX-based platform, run the `install.sh` script. This script installs all the necessary software components.

As the script runs, it asks you for the following information:

- Platform on which to install the eLink software. Refer to the *BEA eLink Adapter for Oracle Financials Release Notes* for a complete listing of supported platforms.

- Directory where the eLink Adapter for Oracle Financials system is installed. You must enter a valid directory name.

The following listing provides an example of running the script. The values in bold are supplied by you during installation. To accept default values at a prompt, press Enter.

Note: The platforms and file names shown in the following listings are examples only. These values are dependent on platform configurations for your system and may vary from the example.

Perform the following steps to install the eLink Adapter for Oracle Financials on a supported UNIX platform.

1. Log on as root.

   ```
   $ su -
   Password:
   ```

2. Access the CD-ROM device.

```
# ls -l /dev/cdrom
total 0
brw-rw-rw-  1 root   sys   27,  0 September 27  10:55 c1b0t010
```

3. Mount the CD-ROM.

```
# mount -r -F cdfs /dev/cdrom/c1b0t010 /mnt
```

4. Change the directory to your CD-ROM device.

```
# cd /mnt
```

5. List the CD-ROM contents.

```
# ls

install.sh  hp
```

6. Execute the installation script.

```
# sh ./install.sh
```

7. The installation script runs and prompts you for responses. Listing 2-1 is an
   example of the installation script. The entries in bold represent user responses.

Listing 2-1 Install.sh Example

```
user@machine-> sh install.sh

01) hp/hpux1020      02) hp/hpux1100      03) ibm/aix431
04) sun5x/sol26      05) sun5x/sol7

Install which platform's files? [01-5, q to quit, 1 for list]:1

** You have chosen to install from hp/hpux1020**

BEA eLink Adapter for Oracle Financials Release 1.1

This directory contains the BEA eLink Adapter for Oracle Financials
System for HP-UX 10.20 on 9000/800 series.

Is this correct?[y,n,q]:y

To terminate the installation at any time
press the interrupt key,
typically <del>, <break>, or <ctrl+c>.

The following packages are available:

  1    eora    BEA eLink Adapter for Oracle Financials
```

```
Select the package(s) you wish to install (or 'all' to install
all packages) (default: all) [?,??,q]: 1
INF:eLinkOracle is in install phase....

BEA eLink Adapter for Oracle Financials
(9000) Release 1.1
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Directory where Oracle Financials Adapter files are to be installed
(Enter your eLink Platform directory path)[?,q]:/work/cmadm/tux65

Using /work/cmadm/tux65 as the Oracle Financials Adapter base
directory

Determining if sufficient space is available...
270 blocks are required
10112 blocks are available to /work/cmadm/tux65

Unloading /cmhome/dist/beluga-1/hp/hpux1020/eora/EORAT65.Z...
bin/ELINKORA
bin/bldconfig
bin/lic.sh
config/binfiles.eora
config/elinkadk.fml
config/elora.cfg
config/eloracli.c
config/elorafml
config/ubbelora
270 blocks
... finished

If your license file is accessible, you may instrall it now.
Install license file? [y/n]: n

Please don't forget to use lic.sh located in your product bin
directory to install the license file from the enclosed floppy.
refer to your product Release Notes for details on how to do this.

Installation of BEA eLink Adapter for Oracle Financials was
successful

Please don't forget to fill out and send in your registration card
```

8. Change the directory to your root directory.

```
# cd /
```

9. Unmount the CD-ROM device.

```
unmount /mnt
```

Installing on a Windows NT Platform

Perform the following steps to install the eLink Adapter for Oracle Financials software on the Windows NT platform.

1. Insert the product CD_ROM and click the **Run** option from the **Start** menu. The **Run** window displays. Click **Browse** to select the CD_ROM drive. Change directories to the winnt directory and select the Setup.exe program. Click **OK** to run the executable and begin the installation. The following **Welcome** screen displays. Click **Next** to continue with the installation.

Figure 2-1   Welcome Screen
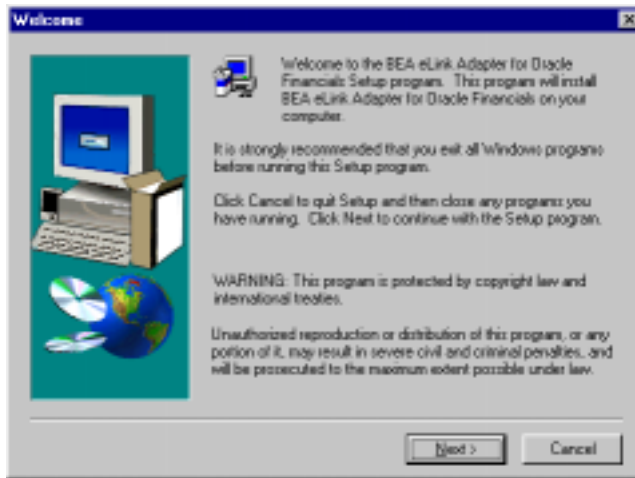
2. The BEA Software License Agreement displays. Click **Yes** to accept the terms of the agreement and continue with the product installation. Click **No** to exit the installation process.

Figure 2-2   BEA Software License Agreement Screen

3. The **User Information** screen displays after the License Agreement. Enter the name of the eLink Platform System Administrator in the **Name** field. Enter the name of your company in the **Company** field. Click **Next** to continue with the installation.

Figure 2-3   User Information Screen
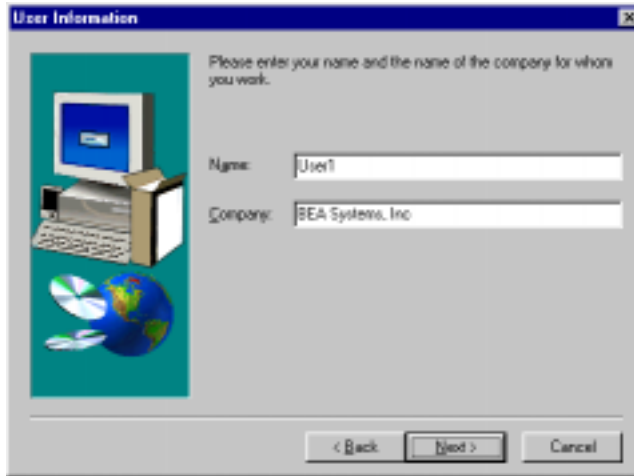
4. The **Install License File?** option screen displays next. You may select **Yes** to install your BEA Software License File, or you may select **No** to bypass this step and continue installing the eLink Adapter for Vantive software. If you select **Yes**, continue with Step 5. If you select **No**, continue with Step 7.

Figure 2-4   Install License File? Screen

5. The **Select License File Source Directory** screen displays. Enter the directory path where your license file resides in the field. You can browse and click directories by clicking the **Browse** button. Typically, the license file is installed in the `Tuxedo/udataobj` directory.

   If you entered a valid directory path, click **Next** to continue with the installation. Go to Step 7. If you entered an invalid directory path, go to Step 6.

Figure 2-5   Select License File Source Directory Screen
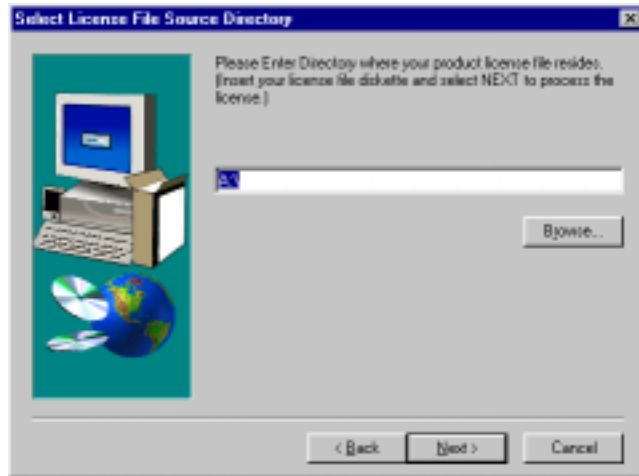
6. If you do not enter a valid directory path for your license file, the installation software generates an error message dialog box. You can select **Yes** to enter a valid directory path, or you can select **No** to continue with the installation. If you select **No**, the installation software automatically searches for the Tuxedo software. If it finds Tuxedo installed, the installation software completes the process. If Tuxedo is not found, the installation software aborts the process.

> **Note:** If you select **No**, the installation continues but an error is generated in the ulog.*mm/dd/yy* file indicating that the product is unlicensed. Please refer to the "Using the License Key" section of the *BEA eLink Adapter for Oracle Financials Release Notes* for instructions on using the license file.

Once you have entered a valid directory path, click **Next** to continue with the installation. Go to Step 7.

Figure 2-6   Invalid License File Directory Dialog Box

7. A progress bar displays showing the status of the installation.

8. The **Setup Complete** screen displays notifying you that the BEA eLink Adapter for Vantive product is installed on your system. Click **Finish** to complete the Setup process.

Figure 2-7   Setup Complete Screen
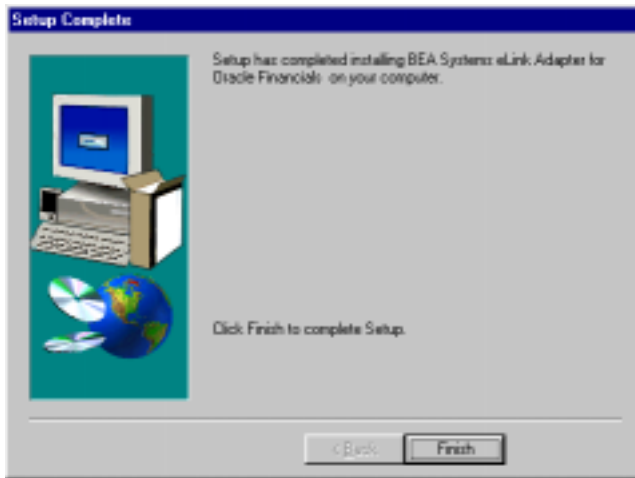
Uninstalling eLink Adapter for Oracle Financials on Windows NT

Perform the following steps to uninstall the eLink Adapter for Oracle Financials on a Windows NT system.

1. Click the **Start** button, and then point to **Settings**. Point to the folder that contains **Control Panel**, and then click **Control Panel**.

2. Double-click on the **Add/Remove Programs** option from the **Control Panel** listings to access the **Add/Remove Programs Properties** window.

3. In the **Add/Remove Program Properties** window, select **eLink Adapter for Oracle Financials** from the program list and click the **Add/Remove** button.

4. You are prompted by a message box asking if you are sure you want to completely remove the software and its components. Click **Yes** to continue with uninstalling. Click **No** to cancel uninstalling.

5. The uninstall process for eLink Adapter for Oracle Financials begins. The **Remove Programs From Your Computer** screen displays. Click **OK** to complete the uninstall process.

Figure 2-8   Remove Programs From Your Computer Screen
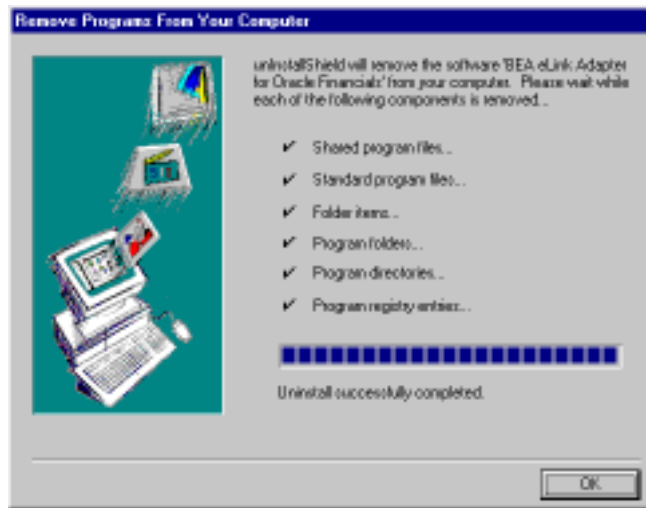
Distribution Libraries and Executables

The eLink Adapter for Oracle Financials CD-ROM contains the libraries and executable programs shown in table 2-1. After installing the eLink Adapter for Oracle Financials software, verify that these libraries and programs are installed on your system.

Table 2-1 Distribution Libraries and Executables

Directory	Files
bin	ELINKORAO bldconfig
config	elinkadk.fml elora.cfg eloracli.c elorafml ubbelora setenv
lib	libadk.(dll) (sl) (o)

3 Configuring BEA eLink Adapter for Oracle Financials

Configuring the eLink Adapter for Oracle Financials consists of the following basic tasks:

- Defining the Server

- Establishing Database Connectivity

- Configuring eLink Adapter for Oracle Financials

- Creating the FML Definition File

Defining the Server

Before running the eLink Adapter for Oracle Financials, you must identify the ELINKORAO server in the UBBCONFIG file. A sample UBBCONFIG file (called UBBELORA) is provided on the installation CD-ROM. You can use this sample file as a base for creating your own UBBCONFIG file. Listing 3-1 shows the syntax for defining the ELINKORAO server in the UBBCONFIG file.

Listing 3-1   Syntax for ELINKORAO Server Definition in the UBBCONFIG File

```
*SERVERS
   ELINKORAO SRVGRP="identifier" SRVID="number'
   CLOPT=" -- -C configuration_file_name"
```

For information about the SRVGRP, SRVID, and CLOPT parameter syntax and definitions, refer to the *BEA Tuxedo Reference Manual*.

CLOPT=" -- -C *configuration_file_name*"
        specifies the eLink Adapter for Oracle Financials configuration file.

Establishing Database Connectivity

You must perform the following steps in order to connect to the Oracle Application database:

1. Configure NET 8 (formerly SQL*NET) to enable users to connect to the Oracle Applications database objects (such as tables, stored procedures, and synonyms).

2. Identify an Oracle database userid and password to access Oracle tables and perform an insert on the created tables. The userid and password are specified in the server section of the eLink Adapter for Oracle Financials configuration files. For definition and syntax requirements for ELORA_user and ELORA_password, refer to the "Defining the SERVER Section" on page 3-4.

Configuring eLink Adapter for Oracle Financials

The `elora.cfg` file controls the operation of the eLink Adapter for Oracle Financials server (`ELINKORAO`). Following are the sections of the configuration file and the parameters you can define for each section. A sample configuration file is provided in the "Sample eLink Adapter for Oracle Financials Configuration File" on page 3-8.

Note: `elora.cfg` is a generic filename. You can name this file anything you choose, but the filename must match the `-C configuration_file_name` parameter you specify in the eLink Platform `UBBCONFIG` file. (See "Defining the Server" on page 3-1 for instructions on configuring the `ELINKORAO` server in the `UBBCONFIG` file.)

The eLink Adapter for Oracle Financials configuration file is divided into the following sections:

■ `SERVER`

Defines the server parameters and list of services.

■ `service_name`

For every service listed in the `SERVER` section, you must create a new section with the name of the service as the section name. This section lists the concurrent programs and interface tables associated with the service.

■ `program_name`

For every concurrent program listed in the *service* section, you must create a new section with the name of the concurrent program as the section name. This section defines the parameters for the concurrent program.

■ `interface_table_name`

For every interface table listed in the *service* section, you must create a new section with the name of the interface table as the section name. A utility is provided as part of the installation to assist in configuring this section. For more information, see "Defining the inferface_table_list Section" on page 3-6.

Defining the SERVER Section

The syntax for the SERVER section of the eLink Adapter for Oracle Financials configuration file is as follows:

Listing 3-2   Syntax for SERVER section

```
*SERVER
   DATE_FORMAT="date_format"
   ELORA_USER="userID"
   ELORA_PASSWORD="password"
   SERVICE_LIST="service_name_1", "service_name_2"
```

Specify the following parameters in the SERVER section:

DATE_FORMAT

> The date format to be used by all services. This allows the eLink Adapter for Oracle Financials to interpret dates passed to it and map them to the "date" data type columns in Oracle Applications.

ELORA_USER

> Oracle Applications database user ID.

ELORA_PASSWORD

> Oracle Applications database user password.

SERVICE_LIST

> Lists all services you want to run with the eLink Adapter for Oracle Financials. You can include multiple services, with each service name separated by a comma.

Defining the service_name Section

For each service listed in the SERVICE_LIST parameter, you must create a section with the service name as its title. The syntax for the *service* section of the configuration file is as follows:

Listing 3-3   Syntax for the *service* section

```
*service_name
   CP_NAME_LIST=program_name_1, program_name_2
   INTERFACE_TABLE_LIST=interface_table_1, interface_table_2
```

Specify the following parameters in the *service* section:

service_name

> The name of the service you want to run with the eLink Adapter for Oracle Financials.

CP_NAME_LIST

> List of concurrent programs associated with the service.

INTERFACE_TABLE_LIST

> List of interface tables associated with the service.

Defining the program_name Section

For each concurrent program listed in the CP_NAME_LIST parameter, a separate section must be created with the concurrent program name as the section name. The syntax for the *program_name* section is as follows:

Listing 3-4   Syntax for the *program_name* section

```
*program_name_1
   OA_CPROGRAM_NAME=program_short_name
   OA_CPROGRAM_DESC=program_description
   OA_USERNAME=user_name
   OA_RESPONSIBILITY=responsibility_name
   CP_ARGUMENT_FLD_NAME=FML32_tag_name
```

Specify the following parameters in the *program_name* section:

OA_CPROGRAM_NAME

> The concurrent program short name in Oracle Applications.

OA_CPROGRAM_DESC

A description of the program. This can be used to help track the requests in Oracle Applications.

OA_USERNAME

The registered Oracle Applications name of the user who has the privileges required to run the specified concurrent program.

OA_RESPONSIBILITY_NAME

The Oracle Applications responsibility name under which the specified concurrent program can be accessed. The OA_USERNAME specified above must include this program in its list of responsibilities.

CP_ARGUMENT_FLD_NAME

The FML32 tag name where the parameters for this program are stored.

Defining the inferface_table_list Section

For each interface table listed in the INTERFACE_TABLE_LIST parameter, a separate section must be created with the interface table name as the section name. The bldconfig utility included on the installation CD-ROM automatically creates the interface table entries in the server configuration file.

Following are the steps required to run the bldconfig utility.

1. From a command prompt, type **bldconfig**.

2. Type your Oracle username.

   Please enter your Oracle username: *username*

3. Type your Oracle password.

   Enter password: *password*

4. Type the database alias specified by the Oracle database connectivity parameters.

   Enter connect string: *database_alias*

   This can be obtained from the tnsnames.ora file located in the ORACLE_HOME directory. It contains all service names for all databases and interchanges on the network.

   At this point, the utility attempts to connect with Oracle using the connectivity information supplied. If the connection is successful, you will see the connection

status, and you can proceed to step 5. If the connection is unsuccessful, a message followed by `Oracle error` indicates the reason for which the utility is unable to establish a connection with Oracle database.

5. Enter the name of the eLink Adapter for Oracle Financials Financials configuration file.

   `Do you want to enter the config file name?` **Y or N**

   Enter N to direct the utility to use the `elora.cfg` file in the current directory as the default service eLink Adapter for Oracle Financials configuration file.

   Enter Y and provide the full directory path and user-defined name of the configuration file when the following prompt displays.

   `Please enter the file name with complete path:`

   This path and filename is where the `bldconfig` utility writes the configuration information. If the specified configuration file exists, then the output from the `bldconfig` utility is appended to it. If the file does not exist, a new file is created with the name provided, and the output content is written into it.

6. Enter a valid table name.

   `Please enter the Table name:` ***table_name***

   Provide a valid table name in the Oracle Applications database instance to which the `bldconfig` utility is connected and for which the details of the table section in the eLink Adapter for Oracle Financials configuration file are intended. To determine the table name, consult with your Oracle Application database administrator.

   If the utility is able to access the database table supplied, it provides the following status messages.

   `"Working…"`

   The `bldconfig` utility is writing the data to the configuration file

   `"Transaction completed"`

   The configuration file has been created. The utility generates a line for each column of the interface table. You may delete unused columns to create a less cluttered file. The `bldconfig` utility adds an interface table entry in the configuration file for the supplied table name. It has the following format:

   ```
   *interface_table_name
   database_column=datatype,{Y | N},fml:
   ```

In the previous interface table entry, the following definitions apply.

interface_table_name
> specifies the name of the interface table queried.

database_column
> specifies the column name of one of the columns in the interface table.

datatype
> specifies the data type for the column in the interface table.

Y | N
> initially specified by `bldconfig` utility based on the settings in the database. The service requires this column. Specify Y if the column is required, or specify N if it is not required. If the column is determined to be required for a service this value can be changed from N to Y. If the column is required by the database it cannot be changed from Y to N.

fml:
> specifies the name of the FML32 field to be associated with the database column. If an FML32 field name is specified, there *must* be a matching field in the FML32 buffer. Specify a null string for cases where no data exists for the FML32 field.

Note: Within a table definition, FML32 field names must be unique in the first 30 characters of the name.

An example of an interface table entry follows.

```
*MTL_SYSTEM_ITEMS_INTERFACE
INVENTORY_ITEM_ID=NUMBER(22),N,fml:
```

Sample eLink Adapter for Oracle Financials Configuration File

Listing 3-5 is a sample configuration file for the eLink Adapter for Oracle Financials.

Listing 3-5   Sample Configuration File

```
# The following section contains adapter instance level parameters and options
*SERVER
ELORA_USER=apps@appsdb
ELORA_PASSWORD=apps
SERVICE_LIST=Create_Cash,Create_Item
DATE_FORMAT=DD-MON-YYYY

*Create_Cash
INTERFACE_TABLE_LIST=CE_STATEMENT_HEADERS_INTERFACE,
CE_STATEMENT_LINES_INTERFACE
CP_NAME_LIST=Import_Cash

*Create_Item
INTERFACE_TABLE_LIST=MTL_SYSTEM_ITEMS_INTERFACE
CP_NAME_LIST=Import_Items

*Import_Items
OA_CPROGRAM_NAME=INCOIN
OA_CPROGRAM_DESC=
OA_USERNAME=SYSADMIN
OA_RESPONSIBILITY_NAME=Inventory GUI
CP_ARGUMENT_FLD_NAME=F_IC_ARG

*Import_Cash
OA_CPROGRAM_NAME=ARPLABIM
OA_CPROGRAM_DESC=
OA_USERNAME=SYSADMIN
OA_RESPONSIBILITY_NAME=Cash Management
CP_ARGUMENT_FLD_NAME=F_IC_ARG


*MTL_SYSTEM_ITEMS_INTERFACE
SEGMENT11=VARCHAR2(40),N,fml:F_SEGMENT11
SEGMENT12=VARCHAR2(40),N,fml:F_SEGMENT12
REVISION_QTY_CONTROL_CODE=NUMBER(22),N,fml:F_REVISION_QTY_CONTROL_CODE
QTY_RCV_EXCEPTION_CODE=VARCHAR2(25),N,fml:F_QTY_RCV_EXCEPTION_CODE
RECEIPT_DAYS_EXCEPTION_CODE=VARCHAR2(25),N,fml:F_RECEIPT_DAYS_EXCEPTION_CODE
LOT_CONTROL_CODE=NUMBER(22),N,fml:F_LOT_CONTROL_CODE
SERIAL_NUMBER_CONTROL_CODE=NUMBER(22),N,fml:F_SERIAL_NUMBER_CONTROL_CODE
SOURCE_TYPE=NUMBER(22),N,fml:F_SOURCE_TYPE
BOM_ITEM_TYPE=NUMBER(22),N,fml:F_BOM_ITEM_TYPE
WIP_SUPPLY_TYPE=NUMBER(22),N,fml:F_WIP_SUPPLY_TYPE
ALLOWED_UNITS_LOOKUP_CODE=NUMBER(22),N,fml:F_ALLOWED_UNITS_LOOKUP_CODE
OUTSIDE_OPERATION_UOM_TYPE=VARCHAR2(25),N,fml:F_OUTSIDE_OPERATION_UOM_TYPE
ATO_FORECAST_CONTROL=NUMBER(22),N,fml:F_ATO_FORECAST_CONTROL
SET_PROCESS_ID=NUMBER(22),Y,fml:F_SET_PROCESS_ID
```

```
*CE_STATEMENT_HEADERS_INTERFACE
STATEMENT_NUMBER=VARCHAR2(50),Y,fml:FH_STATEMENT_NUMBER
BANK_ACCOUNT_NUM=VARCHAR2(30),Y,fml:FH_BANK_ACCOUNT_NUM
STATEMENT_DATE=DATE(7),Y,fml:FH_STATEMENT_DATE
BANK_NAME=VARCHAR2(30),N,fml:FH_BANK_NAME
BANK_BRANCH_NAME=VARCHAR2(30),N,fml:FH_BANK_BRANCH_NAME
CONTROL_BEGIN_BALANCE=NUMBER(22),N,fml:FH_CONTROL_BEGIN_BALANCE
CONTROL_TOTAL_DR=NUMBER(22),N,fml:FH_CONTROL_TOTAL_DR
CONTROL_TOTAL_CR=NUMBER(22),N,fml:FH_CONTROL_TOTAL_CR
CONTROL_END_BALANCE=NUMBER(22),N,fml:FH_CONTROL_END_BALANCE
CONTROL_LINE_COUNT=NUMBER(22),N,fml:FH_CONTROL_LINE_COUNT
RECORD_STATUS_FLAG=VARCHAR2(1),N,fml:FH_RECORD_STATUS_FLAG
CREATED_BY=NUMBER(22),N,fml:FH_CREATED_BY
CREATION_DATE=DATE(7),N,fml:FH_CREATION_DATE
LAST_UPDATED_BY=NUMBER(22),N,fml:FH_LAST_UPDATED_BY
LAST_UPDATE_DATE=DATE(7),N,fml:FH_LAST_UPDATE_DATE

*CE_STATEMENT_LINES_INTERFACE
BANK_ACCOUNT_NUM=VARCHAR2(30),Y,fml:FL_BANK_ACCOUNT_NUM
STATEMENT_NUMBER=VARCHAR2(50),Y,fml:FL_STATEMENT_NUMBER
LINE_NUMBER=NUMBER(22),Y,fml:FL_LINE_NUMBER
TRX_DATE=DATE(7),Y,fml:FL_TRX_DATE
AMOUNT=NUMBER(22),N,fml:FL_AMOUNT
BANK_TRX_NUMBER=VARCHAR2(30),N,fml:FL_BANK_TRX_NUMBER
CUSTOMER_TEXT=VARCHAR2(80),N,fml:FL_CUSTOMER_TEXT
CREATED_BY=NUMBER(22),N,fml:FL_CREATED_BY
CREATION_DATE=DATE(7),N,fml:FL_CREATION_DATE
LAST_UPDATED_BY=NUMBER(22),N,fml:FL_LAST_UPDATED_BY
LAST_UPDATE_DATE=DATE(7),N,fml:FL_LAST_UPDATE_DATE
USER_EXCHANGE_RATE_TYPE=VARCHAR2(30),N,fml:FL_USER_EXCHANGE_RATE_TYPE
ORIGINAL_AMOUNT=NUMBER(22),N,fml:FL_ORIGINAL_AMOUNT
CHARGES_AMOUNT=NUMBER(22),N,fml:FL_CHARGES_AMOUNT
```

Creating the FML Definition File

The eLink Adapter for Oracle Financials uses fielded buffers to store user requests and responses. A fielded buffer is a data structure that associates the name of a field with an identifier that includes the storage location as well as the data type of the field.

A filled in request buffer from a client program is transformed into the Oracle Applications interface table rows by the eLink Adapter for Oracle Financials. A request_id and/or an error message is encapsulated in a response buffer and is passed back to the client program. Refer to the *BEA Tuxedo FML Programmer's Guide* for more information on FML32.

You must define the FML32 fields for the ELINKORAO server. The syntax for defining the response buffer fields is as follows:

Listing 3-6 Syntax for field definition table for eLink Adapter for Oracle Financials

```
# name                  number    type    flags    comments

ELINK_ADAPTER_ERR        'n'      string    -          -

ELINK_ADAPTER_ERR_CODE   'n'      string    -          -

ELINK_APP_ERR            'n'      string    -          -
```

The FML32 fields you need to define are as follows.

ELINK_ADAPTER_ERR

     stores the details of the errors specific to the eLink Adapter for Oracle Financials.

ELINK_ADAPTER_ERR_CODE

     stores the category code for the adapter-specific errors.

ELINK_APP_ERR

     stores the Oracle Applications/database level errors (SQL errors). In a successful transaction, this field stores the request ID from the Oracle Applications program. If multiple programs are being run, multiple instances of this field are returned, each containing the request ID for the corresponding program in sequence.

4 Running BEA eLink Adapter for Oracle Financials

Running BEA eLink Adapter for Oracle Financials consists of the following basic tasks:

■ Booting the BEA eLink Adapter for Oracle Financials Servers

■ Sample Client Program

Booting the BEA eLink Adapter for Oracle Financials Servers

The BEA eLink Adapter for Oracle Financials server boots as part of the eLink Platform application using standard eLink Platform utilities, such as `tmboot`. The eLink Adapter for Oracle Financials reads the server configuration files and attempts to connect to the specified Oracle database. Once the eLink Adapter for Oracle Financials establishes a connection with the application, the outbound server (`ELINKORAO`) advertises its configured services.

Sample Client Program

The sample application provided, `eloracli.c`, builds an FML32 buffer with the required fields for the Create_Cash service defined in the sample eLink Adapter for Oracle Financials configuration file, `elora.cfg`. After building the buffer, a `tpcall()` is issued for the service. Upon return, the response buffer is checked for the return data. For the location of the sample application, refer to Chapter 2, "Installing BEA eLink Adapter for Oracle Financials."

A Error Messages

This chapter contains descriptions of error and informational messages that may be encountered either while using the eLink Adapter for Oracle Financials or from Oracle Applications.

BEA eLink Adapter for Oracle Financials Error Messages

The following table contains a description of error, informational, and warning messages that may be encountered while using the eLink Adapter for Oracle Financials

201	**ERROR: Could not initialize the Oracle adapter server**	
	Description	The specified eLink Adapter for Oracle Financials service could not be started because of an initialization failure.
	Action	Check the command line arguments to the oracle adapter.
	See Also	Chapter 4, "Running BEA eLink Adapter for Oracle Financials."
202	**ERROR: An error with the adapter configuration data**	
	Description	Could not retrieve the environment variables in the eLink Adapter for Oracle Financials configuration file.
	Action	Check the USER and ELORA_PASSWORD environment variables.
	See Also	Chapter 3, "Configuring BEA eLink Adapter for Oracle Financials."

203	ERROR: No Entry found '<Message_Name>'	
	Description	The specified message is not supported by this service of the eLink Adapter for Oracle Financials.
	Action	Check the message name with the list of supported ones in the configuration file(s).
	See Also	Chapter 4, "Running BEA eLink Adapter for Oracle Financials."
204	**ERROR: Invalid value/argument error**	
	Description	Validation of the FML32 buffer integrity failed.
	Action	The number of MSG_NAME, MSG_START, MSG_END occurrences in the received FML32 buffer does not match.
	See Also	Chapter 3, "Configuring BEA eLink Adapter for Oracle Financials."
205	**ERROR: An FML error occurred**	
	Description	An error occurred while storing data in the FML32 buffers.
	Action	An FML32 field has been specified in the interface table but does not exist in the FML32 buffer. Resolve the mapping of the FML32 field between the FML32 buffer and the interface table.
	See Also	Chapter 3, "Configuring BEA eLink Adapter for Oracle Financials."
206	**ERROR: Service Advertisement Failed**	
	Description	Unable to advertise the service.
	Action	Check the Server program.
	See Also	Chapter 3, "Configuring BEA eLink Adapter for Oracle Financials."
207	**ERROR: Required parameter -C missing**	
	Description	Required parameter -C is missing in one of the Arguments in Configuration file.
	Action	Check the configuration file.
	See Also	Chapter 3, "Configuring BEA eLink Adapter for Oracle Financials."
208	**ERROR: Unable to process configuration file <config file name>**	

Description	Unable to process configuration file <config file name>	
Action	Check the configuration file.	
See Also	Chapter 3, "Configuring BEA eLink Adapter for Oracle Financials."	
209	**ERROR: Not a valid service request**	
Description	Unable to advertise the service.	
Action	Check the server program.	
See Also	Chapter 3, "Configuring BEA eLink Adapter for Oracle Financials."	
210	**ERROR: No Entry found for the required column <Column_Name>**	
Description	A column value with REQUIRED='Y' is missing in FML32 buffer.	
Action	Populate the corresponding FML32 buffer field with appropriate valid value(s).	
See Also	None	
211	**ERROR: Invalid data type specified**	
Description	The data type is not supported by the eLink Adapter for Oracle Financials Applications.	
Action	Correct the data type in the configuration file and restart the server.	
See Also	Chapter 3, "Configuring BEA eLink Adapter for Oracle Financials."	
212	**ERROR: Unable to submit the request**	
Description	The eLink adapter is unable to submit a request with Oracle Applications concurrent manager.	
Action	Check the concurrent program name, short name and required/optional parameters.	
See Also	Chapter 3, "Configuring BEA eLink Adapter for Oracle Financials."	

Oracle Applications Messages

The following table contains a description of error, informational, and warning messages that may be encountered while processing a user's service request against Oracle Applications. Refer to your eLink Adapter for Oracle Financials documentation for more information on these messages.

5000	**ERROR: ORA-01034: Oracle not available**	
	Description	Oracle was not started up. Possible causes include the following:
		1. The SGA requires more space than was allocated for it.
		2. The operating system variable pointing to the instance was improperly defined.
	Action	Refer to accompanying messages for possible causes and correct the problem mentioned in the other messages. Retry after Oracle has been initialized. If Oracle has been initialized, then on some operating systems, verify that Oracle was linked correctly. See the platform-specific Oracle documentation.
	See Also	Oracle Server Messages Manual
50001	**ERROR: ORA-01040: invalid character in password; logon denied**	
	Description	There are multi-byte characters in the password or some characters in the password are not in the US7ASCII range.
	Action	Retry password with valid characters.
	See Also	None
50002	**ERROR: ORA-02024: database link not found**	
	Description	The database link to be dropped is not found in the dictionary.
	Action	Correct the database link name.
	See Also	Oracle Administration reference Manual
50003	**ERROR: ORA-03114: not connected to Oracle**	

Description	A call to Oracle was attempted when no connection was established. It may also happen if communication trouble causes a disconnection.
Action	Re-run the program.
See Also	None

50004	**ERROR: ORA-01017: invalid username/password; logon denied**
Description	User name does not exist in the database. Or username/password is invalid for the connecting database.
Action	Define the valid username/password in UBBCONFIG file.
See Also	None

50005	**ERROR: ORA-06564: object name does not exist**
Description	The named object could not be found. Either it does not exist or you do not have permission to access it.
Action	Create the object or get permission to access it.
See Also	None

5006	**ERROR: Internal Error: Unable to allocate memory**
Description	Unable to perform memory allocation in the program.
Action	Please close some of the applications and restart the application
See Also	None

5007	**ERROR: Concurrent program failed**
Description	Concurrent program returned error message.
Action	Please refer Oracle Applications View request screen for more details.
See Also	Oracle Application Concurrent Programs

5008	**ERROR: ORA-12154: TNS:could not resolve service name**
Description	Unable to connect to Oracle database.
Action	Verify the username/password/connect string.

See Also   None