Oracle® Applications

Concepts

Release 11*i*

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Oracle Applications Release 11*i*

Part No. A82932-02

Release 11*i*

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Concepts, Release 11*i*

Part No. A82932-02

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Preface

Oracle Applications Concepts provides basic information on how the Oracle Applications software and databases are configured, and how you can implement them in a network installation.

Introducing Release 11*i*

Release 11*i* is the 100-percent internet Oracle Applications suite that allows companies to run their worldwide operations from a single, centrally managed site. With the consolidation of data centers, there are fewer servers to maintain and information is not fragmented in multiple databases. Ideally, a worldwide operation could be run with one data center running one database instance, rather than multiple data centers in geographically diverse areas. The internet computing architecture of Release 11*i* enables and drives the goal of worldwide operation.

Although Oracle does not require global operation of your Oracle Applications, Release 11*i* eliminates the technical barriers to achieving the maximum degree of consolidation that makes sense in your business. As worldwide operation increasingly represents the ideal strategy for cost-effective and high quality deployment of Oracle Applications, this and future releases will expand on these worldwide operation features. To support worldwide operations, Release 11*i* provides:

- Internet Computing Architecture
- Release 11*i* enhancements
- Internationalization support
- Simplified filesystem

The chapters in this book explain each of these points in detail.

Audience

Oracle Applications Concepts explains the technology, concepts, and terminology used in *Installing Oracle Applications*, *Maintaining Oracle Applications,* and *Upgrading Oracle Applications*. You should read *Concepts* along with *Installing* if you are responsible for installing Oracle Applications. *Installing* provides instructions on using Rapid Install to install Oracle Applications products. *Maintaining* explains the utilities you use for installation and maintenance. *Upgrading* provides the step-by-step instructions for upgrading from an earlier release. These people typically use *Installing, Maintaining, Upgrading,* and *Concepts*:

- Database Administrator

  Installs and configures the Oracle database and maintains database access controls. The database administrator provides consultation on performance, monitors growth and fragmentation of the database, and performs database backup and recovery.

- System Administrator

  Ensures that hardware is correctly configured, and installs and maintains system software. The system administrator ensures the system is backed up daily and maintains security, such as by establishing system accounts. The system administrator provides first-line support for problems.

- Technical Specialist

  Responsible for designing, developing, unit testing, implementing, and maintaining the custom extensions for Oracle Applications. These extensions include modules such as interfaces, automated data conversions, reports, forms, and enhancements.

Related Documents

All the documentation related to Release 11*i* is included on the *Oracle Applications Documentation Library* CD, which is supplied with Release 11*i*. You can purchase printed documentation from the Oracle Store at http://oraclestore.oracle.com. You can also download some documentation from http://docs.oracle.com.

In addition to *Concepts, Installing, Upgrading,* and *Maintaining*, you may refer to these documents:

- *Oracle Applications Release Notes*

  The *Release Notes* provide up-to-date information on this release and its components, and may supersede the information in other manuals.

- *Oracle Applications Product Update Notes (PUN)*

    Provides information on new product features and enhancements since Release 11.

- Oracle Applications Technical Reference manuals

    List information about database structures and help determine what changes you need to make to customizations after an upgrade.

- *Oracle Applications System Administrator's Guide*

    Provides additional information you need to administer the Oracle Applications database server.

- *Oracle Applications User's Guide*

    The *User's Guide* provides an overview of Oracle Applications, including basic concepts, terminology, and navigation.

- *Oracle8i National Support Guide*

    Provides comprehensive information about Oracle's National Language Support (NLS) capabilities.

- *Oracle Financials Country-Specific User Guides*

    Contains country-specific information about responsibilities and report security groups, new country-specific features, and additional implementation steps.

Getting Help

Oracle Consulting Services and Oracle Support Services are the main sources of help for installing Oracle Applications.

Oracle Consulting Services

Oracle Consulting Services can help:

❏ determine machine size and database size required by Oracle Applications

❏ install or upgrade Oracle Applications

❏ implement Oracle Applications products

❏ customize Oracle Applications products

❏ develop custom applications for use with Oracle Applications

❏ change the character set after installation

❏ train users of Oracle Applications

Oracle Support Services

Have this information ready when you contact Oracle Support Services:

❏ your CSI number

❏ the operating system and versions of all Oracle Applications servers

❏ the release of Oracle Applications you are installing

❏ the release of Oracle Applications you are upgrading from

❏ a description of the problem as well as specific information about any error messages you received

❏ whether you have dial-in capability

❏ the number and status of the AutoUpgrade parallel workers

> **Additional Information:**   Monitoring AutoUpgrade, *Maintaining Oracle Applications*

❏ the output of the AD Configuration Utility, contained in the adutconf.lst file

> **Additional Information:**   The AD Configuration Utility, *Maintaining Oracle Applications*

1

Internet Computing Architecture

Internet Computing Architecture is a framework for three-tiered, distributed computing that supports Oracle Applications products. The three tiers are the database tier, which manages Oracle8*i* database; the application tier, which manages Oracle Applications and other tools; and the desktop tier, which provides the user interface display. With Internet Computing Architecture, only the presentation layer of Oracle Applications is on the desktop tier in the form of a plug-in to a standard Internet browser.

Oracle Applications software and other tools are deployed on a middle tier of servers known as the application tier. This tier eliminates the need to install and maintain application software on each desktop client. The software on the application tier also enables Oracle Applications to scale with load and to keep network traffic low.

The application tier servers operate very effectively over a WAN. The desktop client and application server send a minimum amount of information, such as field value comparison differences, but do not exchange graphical information such as screen painting. In a global operation with users at diverse locations, less network traffic also means less telecommunications expense

Figure 1–1   Internet Computing Architecture
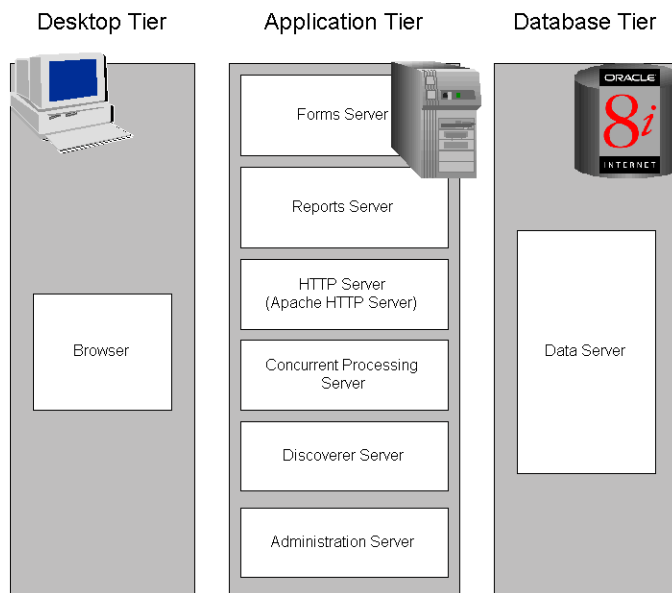
Forms-based Products

Release 11*i* includes two principal product suites: Enterprise Resource Planning (ERP) products, and Customer Relationship Management (CRM) products.

Enterprise Resource Planning (ERP) Products

The ERP products are the "back office" products familiar to users of earlier Oracle Applications releases. There are more than 90 ERP products that help your business manage important operations, including product planning, purchasing, inventory management, interacting with suppliers, order tracking, human resources, financial planning, and accounting. The ERP products are divided into several product families, such as Financials, Human Resources, Manufacturing and Distribution, and Process Manufacturing. The *Upgrading Oracle Applications* manual lists the ERP products and product families.

Customer Relationship Management (CRM) Products

Customer Relationship Management products provide the "front office" functions such as call center management, e-commerce, and internet sales and marketing. CRM products help your business build lasting customer relationships and increase

customer satisfaction and loyalty. The *Upgrading Oracle Applications* manual lists the CRM products.

Forms Server and Forms Client

The application tier software used in most ERP and CRM products is the Forms server. The Forms server mediates between the Forms client, a Java applet running on the desktop, and the Oracle8*i* database server on the back end. The Forms server produces the effects a user sees on the desktop screen and causes changes to database records based on user actions. Both the Forms server and Forms client are components of Oracle Forms. The two exchange messages across a standard network connection, which may be either TCP/IP, or HTTP with or without SSL (Secure Sockets Layer).

The Forms client can display any Oracle Applications screen, and provides field-level validation, multiple coordinated windows, and data entry aids such as list of values. A Java-enabled Web browser manages the downloading, start-up, and execution of the Forms client on the desktop. Another software component, the HTTP server, helps start a client session over the internal or external Web. The HTTP server in Release 11*i* is the Apache HTTP Server. In installations that have multiple Forms servers, only one of the Forms servers runs the HTTP server software. If you use more than one Forms server, Oracle Forms also provides a CGI script that distributes the processing load among the servers.

Figure 1–2   Forms-based Architecture
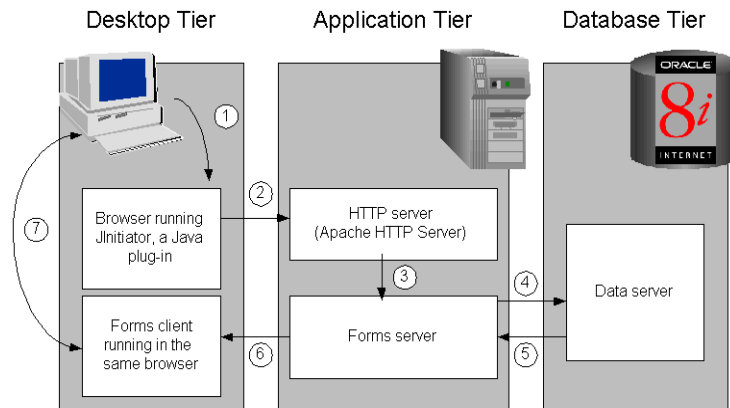
HTML-based Products

In addition to Forms-based products, Release 11*i* includes other products that are not Forms-based, such as the Oracle Self-Service Web Applications products, Oracle Workflow, and the Oracle Business Intelligence System (BIS) products. These products do not use the Forms server as the application tier software or the Forms client on the desktop, but rely on HTTP-based servers on the application tier and a Java-enabled Web browser on the desktop.

Oracle Self-Service Web Applications and Oracle Workflow

Self-Service Web Applications provide a fast and cost-effective way to get information to and from people within an organization or business. For example, Self-Service Web Applications allow customers to enter their own orders without involving the sales staff, or employees to enter their own change of address without involving the Human Resources staff. The interface is familiar to Web users, easy to work with, and doesn't require any training.

Many Oracle Applications products use Oracle Workflow to automatically enforce business rules and policies and to provide a common notification system. The Oracle Workflow monitors business processes, collects process data, and provides an e-mail and web page notification system. For example, when an employee uses Oracle Internet Procurement (an Oracle Self-Service Web product) to enter a requisition, Oracle Workflow automatically validates the requisition and routes it to the appropriate manager for approval. Release 11*i* includes the full Oracle

Workflow product and the license to customize any Oracle Applications embedded workflow.

Additional Information: *Oracle Workflow Guide*

Most Oracle Self-Service Web Applications and Oracle Workflow are designed in HTML-based tools such as HTML, XML, and JavaScript. They operate by direct connection to the Apache HTTP server. Logic is controlled through stored procedures executed by the PL/SQL cartridge and by Java servlets and JavaServer Pages (JSP) executed by the Apache JServ module. Apache communicates with the database using JDBC (Java Data Base Connectivity). The Apache HTTP Server can be the same machine used by Oracle Forms.

Figure 1–3   Self-Service and Workflow Architecture
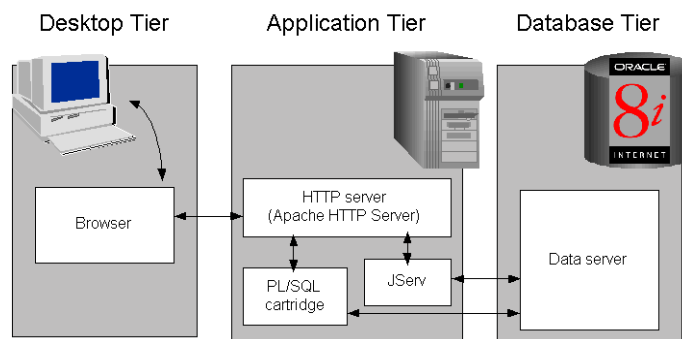
Business Intelligence System (BIS) Products

Business Intelligence System is a decision support solution integrated with Oracle Applications. Using the BIS products, a manager can query the Oracle Applications database to monitor recent business performance across multiple organizations. For example, a manager can set a sales goal and then use BIS to determine how close actual sales amounts are to the goal. A manager can set tolerances and have the system inform people when those tolerances are exceeded. With the BIS Performance Manager Framework, some corrective actions can be performed automatically. If, for example, sales actual amounts are more than 10% below goals, BIS can send automatic notifications to regional sales managers.

BIS ERP and CRM products do not use the Forms server or Forms client. Instead, BIS products use the Oracle Discoverer server and Oracle Reports server on the application tier. A Java applet running on desktop client communicates with the

HTTP server, which connects to the Discoverer server or Reports server. The Discoverer server provides ad hoc analysis; the Reports server supports data analysis and ad hoc queries, often using summary tables such as monthly aggregates of data, and returns them to the browser. The desktop browser initiates the request, the HTML server passes the request to the Discoverer or Reports server, and the Discoverer or Reports server gathers the data and returns it to the browser as HTML.

Figure 1–4   BIS Architecture
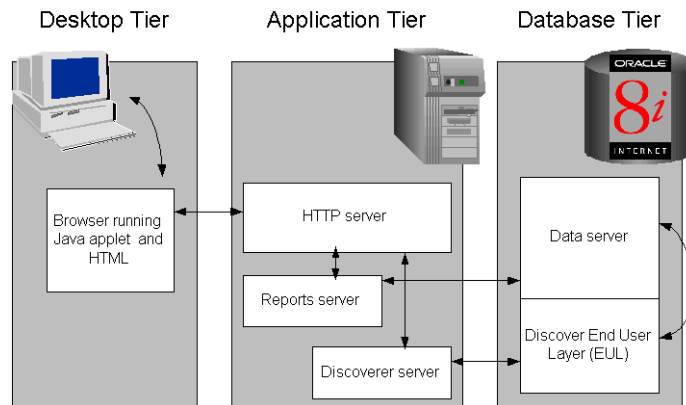
To support BIS ERP products, Release 11*i* includes a file that will generate an Oracle Discoverer End User Layer (EUL). When the EUL is generated, workbooks and queries can be saved to the database. You must, however, purchase the Oracle Discoverer Administrator's Edition, which is not included in Release 11*i*, to generate this EUL. With the Administrator's Edition, you can also create additional EULs, administer security information, and set responsibilities.

> **Additional Information:**   *Oracle Business Intelligence System User's Guide*

2

Release 11*i* Enhancements

Release 11*i* provides enhancements that improve usability, increase performance, and simplify the installation and maintenance of Oracle Applications. The Personal Homepage, new in Release 11*i*, provides users with a single point of access to all Oracle Applications products. Release 11*i* leverages the power of Oracle8*i* to substantially increase performance speed and reduce network traffic. Rapid Install automates installation and drastically reduces the time to getting Oracle Applications online. Tools that integrate with the Oracle Enterprise Manager allow easier administration of concurrent managers and centralized monitoring of the entire Oracle Applications environment.

> **Note:** Not all Release 11*i* new features are covered in the following sections. New features are embedded throughout the product suite, country-specific functionality, and supporting technologies. These new features and enhancements are discussed in the *Oracle Applications Product Update Notes.*

Personal Homepage

In Release 11*i*, each user logs in to Oracle Applications through the Personal Homepage on the desktop client. The Personal Homepage is the starting point from which you access all ERP, CRM, Self-Service Web Applications, or BIS products. Once logged into the Personal Homepage, you need not sign on again to access other parts of the system. Oracle Applications does not prompt again for user name and password, even when the you navigate to other tools and products. Oracle Applications also retains preferences as you navigate through the system. For example, if you registered in the Personal Homepage that French is your preferred language, this preference carries over whether you access Forms-based or HTML-based products.

Figure 2–1   The Personal Homepage
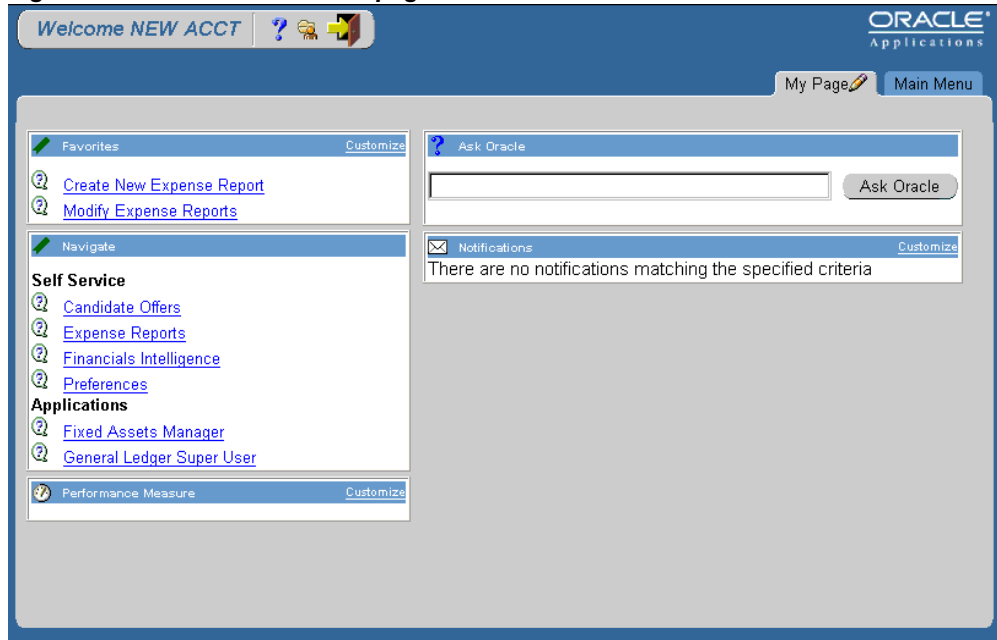
Behind the scenes, the Personal Homepage is communicating with the application tier server. For example, when you go to an Oracle Self-Service Web Applications page, the browser makes the URL request to an HTTP server web listener. The listener in turn contacts a PL/SQL cartridge, which in turn runs a stored procedure on the database server. You can customize the Personal Homepage to fit your individual needs and responsibilities

Customizing the Personal Homepage

Release 11*i* supports worldwide operations by letting each user choose a preferred language, date format, and number style using the Personal Homepage. You can set any installed language as the default language, but can also change to another installed language for each session. User preferences are stored in the Oracle8*i* database. When you log on, Application tier servers read your user preferences from the database and then format information for you based on your preferences.

For each Oracle Applications user, the system administrator must first define a user account including a user name and default password, and assign the user responsibilities. Before a user can customize or set preferences on the Personal

Homepage, the system administrator must have defined Preferences as one of the user's responsibilities.

> **Additional Information:** Managing Oracle Applications Security, *Oracle Applications System Administrator's Guide*

As Figure 2–1 shows, the Personal Homepage can contain one or more tab pages. Each tab page is laid out in regions, such as Navigate, Favorites, Ask Oracle, and Notifications. The default tab page, the Main Menu page, is automatically created for each user and cannot be deleted. The user can add or delete all other tab pages, and thereby create an interface that clearly shows the products, responsibilities, and tools needed for daily operations.

The Navigate region provides a list of responsibilities that the system administrator assigned to the user. Favorites includes links to frequently used Self-Service Web Application or BIS product features, or to favorite URLs from outside Oracle Applications. The Ask Oracle region allows you to enter search criteria in the text box and returns a related set of links. Ask Oracle uses the Oracle8i *interMedia* engine to search for Oracle Self-Service Applications and BIS product functions. The Notifications region lists Workflow notifications sent to you. You can customize each region on the tab page to expand or limit the information it contains, or to display the information in a different format.

If Preferences is one of the responsibilities listed in the Navigate region, you can choose this item to change the session language; or to create an alias user name, specify a default language, and change date and number format. Each user can thereby set his or her own local preferences. Two users may have differing language and territory-specific sessions, whether they are located next to each other and sharing the same office, or on different continents.

> **Additional Information:** Appendix B, Customizing the Personal Homepage, *Oracle Applications User's Guide*

Oracle8*i* Features

Many improvements in Release 11*i* performance are built on underlying enhancements in Oracle8*i*. Oracle8*i*, the database for Internet computing, provides many features that improve transaction processing, data management, and scalability.

Cost-based Optimization

The Oracle optimizer evaluates many factors to calculate the most efficient way to execute a SQL statement. It uses either a *rule-based* or *cost-based* approach. Rule-based optimization was used in earlier releases, but the SQL used in Release 11*i* is tuned for cost-based optimization, and Release 11*i* requires the optimizer to use the cost-based optimization (CBO).

Using CBO, the optimizer considers the available access paths and factors in statistical information for the tables and indexes that the SQL statement will access. CBO also considers hints, which are optimization suggestions placed in a Comment of the SQL statement. First, the optimizer creates a set of potential execution plans for the SQL statement based on its available access paths and hints. Then the optimizer estimates the *cost* of each execution plan based on statistics in the data dictionary for the data distribution and storage characteristics of the tables, indexes, and partitions. The optimizer compares the costs of the execution plans and chooses the one with the smallest cost.

For some operations, such as batch processing, Release 11*i* uses CBO to achieve the best throughput, or the minimal resource use necessary to process all rows accessed by the statement. For other operations, such as accessing forms and communication with the desktop client, Release 11*i* uses CBO to achieve the best response time, or the minimal resource use necessary to process the first row accessed by a SQL statement.

Other Oracle8*i* performance enhancements used in Release 11*i*, such as partitioned tables, also require CBO.

> **Additional Information:**   The Optimizer, *Oracle8i Concepts;*
> Cost-based Optimization, *Oracle Applications System Administrator's Guide*

Database Resource Manager

The Database Resource Manager in Oracle8*i* gives the system administrator more control over processing resources in a worldwide environment. A user performing an inefficient query might impact other more important processes being performed by other users. With the Database Resource Manager, the system administrator can distribute server CPU based on business rules, and thereby ensure that the highest priority processing always has sufficient CPU.

Using the Database Resource Manager, the system administrator might, for example, limit ad hoc queries on the database to consume no more that 5% of CPU usage. The system administrator can guarantee OE users 60% of CPU resources

during business hours, regardless of the load or number of users in other groups on the system, and then give priority to batch processing jobs after business hours.

Partitioned Tables

Partitioning helps support very large tables and indexes by dividing them into smaller and more manageable pieces, which are called partitions. Once partitions are defined, SQL statements can access and manipulate the partitions rather than entire tables or indexes. Partitioning reduces access time, and partitions are especially useful in data warehouse applications, which often store and analyze large amounts of historical data.

For example, operations that involve copying or deleting data are now improved because Release 11*i* products use partitioned tables. Creating and deleting all rows of a partitioned table is a much faster operation than selectively inserting rows into and selectively deleting rows from an existing table. Operations in some products that, in earlier releases, could potentially take hours are now reduced to seconds.

Oracle Parallel Server

Oracle Parallel Server harnesses the processing power of multiple, interconnected computers all running Oracle8*i* and all attached to the same physical database. Servers (called *nodes*) are clustered and attached to a *disk farm*. In an Oracle Parallel Server environment, all nodes concurrently execute transactions against the same database. Oracle Parallel Server coordinates each node's access to the shared data to provide consistency and integrity.

By dividing a large task into sub-tasks and distributing the sub-tasks among multiple nodes, the task is completed faster than if only one node did the work. Oracle Parallel Server also provides increased performance to process larger workloads and accommodate the growing numbers of users of a worldwide operation.

In Oracle8*i*, Oracle Parallel Server allows an instance to share data that has been committed but not written to disk. Data may be in database buffers on one node and shipped over to another node to satisfy a query. This new architecture, called *cache fusion*, provides copies of blocks directly from the holding node's memory cache to the requesting node's memory cache. Cache fusion is useful when updates and queries on the same data tend to occur simultaneously. Cache fusion, introduced in Oracle8*i*, provides a scalability break-through for Oracle Parallel Server. With cache fusion, you can also build redundancy into a worldwide operation. If one node goes down, there is no need to restore from backups, and Oracle Applications will continue to be available despite the failure.

Materialized Views

Materialized views increase the speed of queries on very large databases. Materialized views are schema objects that can be used to summarize, precompute, replicate, and distribute data. They are used to precompute and store aggregated data such as sums and averages. They provide better performance in Oracle Applications products, such as the BIS products, that perform many queries on summary data.

Cost-based optimization can use materialized views to improve query performance by automatically recognizing when one can and should be used to satisfy a request. The optimizer transparently rewrites the request to use the materialized view. Queries are then directed to the materialized view and not to the underlying detail tables or views.

In distributed environments, materialized views are used to replicate data at distributed sites and synchronize updates done at several sites with conflict resolution methods. As replicas, they provide local access to data which otherwise would have to be accessed from remote sites.

Temporary Tables

In addition to permanent tables, Oracle8*i* can create temporary tables to hold data that exists only for the duration of a transaction or session. Some products, such as General Ledger, now use temporary tables during a session, then delete the data in the table at the end of the session.

In earlier releases, data from several users' sessions was written to one common table. A column in the table stored individual session IDs, so the information private to each user session could be selected from this common table. In Oracle8*i*, data in a temporary table is private to each user's session. Each session can only see and modify its own data. Locks are not acquired on the temporary table because each session has its own private data.

Unlike permanent tables, SQL statements on temporary tables do not generate redo logs for the data changes. The older implementation also required additional housekeeping, such as deleting data from the table after a commit, which is not required with temporary tables. Data from the temporary table is automatically dropped when the session terminates.

Invoker Rights

In earlier releases, if you had Multiple Reporting Currencies (MRC) or Multiple Sets of Books Architecture (MSOBA), several copies of Oracle Applications packages

existed in the database. This took more database space and required extra time to upgrade and maintain.

Release 11*i* uses the new Invoker Rights functionality of Oracle 8*i* to ensure that most packages are only installed in the APPS schema. Other schemas, such as the MRC schema, have synonyms to the packages in the APPS schema, and the corresponding packages in the APPS schema have grants to the MRC schema. PL/SQL routines use the new Oracle8*i* Invoker Rights feature to access the package in the APPS schema. In an MRC database, this can very markedly decrease the size of the database and shorten the time spent by upgrade, patch, and maintenance tasks.

> **Additional Information:** *PL/SQL User's Guide and Reference*

Rapid Install

Release 11*i* introduces Rapid Install: a wizard that helps you install a complete set of Oracle Applications at the latest available Maintenance Pack level. Rapid Install installs the required technology stack and creates the Oracle Applications database. You can use Rapid Install to install any of three environments: a production installation, a test installation, and an installation of the Vision Demo database. Each environment shares the same technology stack. In addition, Rapid Install lets you license products, country-specific functionality, and languages.

Rapid Install stores the parameters you choose in a configuration file, and then uses that file to perform the installation or upgrade. You can use the default values (a *default installation*) or supply other values (a *custom installation*), which are then written to the configuration file. After you define a configuration for your Oracle Applications system, Rapid Install installs all necessary components, and then sets up your database listeners, web listener, web server, Forms server, and Reports server.

> **Additional Information:** *Installing Oracle Applications*

Oracle Enterprise Manager

In Release 11*i*, the concurrent manager administrative interface is integrated with Oracle Enterprise Manager. Oracle Enterprise Manager provides a single point of administration for all available Oracle Applications instances on a system.

Oracle Enterprise Manager combines a central console, agents, common services, and tools to provide an integrated, comprehensive system for managing Oracle products. When you install the Oracle Enterprise Manager, you can also install the

Oracle Applications Manager. The Oracle Management Pack for Oracle Applications, also integrated with the Oracle Enterprise Manager, is a available separately. These two tools help you centrally manage all aspects of a worldwide operation.

> **Additional Information:** *Oracle Enterprise Manager Concepts Guide* and *Oracle Enterprise Manager Administrator's Guide.*

Oracle Applications Manager

The Oracle Applications Manager provides a set of System Administration functions on a new Oracle Enterprise Manager console. These functions include starting and stopping concurrent managers, administering concurrent managers and requests, and providing details on transaction managers. You can also define and edit managers and work shifts, and view concurrent request schedules and completion options, diagnostics, log and output files, statistics, and available managers. The Oracle Applications Manager also provides access to diagnostic and status information for Concurrent Processing that cannot be found in the Forms-based System Administration interface.

Requests submitted within the standard Oracle Applications windows can be viewed from the Oracle Applications Manager console, and concurrent managers defined in the console can be accessed from within Forms-based Oracle Applications.

Oracle Management Pack for Oracle Applications

The Oracle Management Pack for Oracle Applications extends the Oracle Enterprise Manager to include monitoring, diagnosing, and capacity planning of the Oracle Applications environment. The Management Pack includes a set of tools that provide:

- an Oracle Applications-specific library for event monitoring and problem detection.

- an extensive array of real-time monitoring charts on all concurrent managers and Forms sessions.

- concurrent manager performance consumption analysis and detection of performance anomalies.

- examination of historical processing information about Oracle Concurrent Processing requests and concurrent managers.

  Additional Information: *Getting Started with the Oracle Management Pack for Oracle Applications*

3

Internationalization Support

Release 11*i* provides the enabling technology to create a single global instance that can be configured to meet the international requirements of the various organizations in your worldwide operation. International features include support for, country-specific functionality, flexible dates and numbers, and support for multiple organizations and multiple reporting currencies.

Language Support

In Release 10.7 you could run Oracle Applications in one language, referred to as the *base language*. If you needed to run Oracle Applications in more than one language, Oracle Consulting provided a customized solution. With Release 11 you could run Oracle Applications in more than one language, but the set of languages you could run was limited to the languages supported by your character set. Textual parts of Oracle Applications, such as Forms, Reports, messages, help text, menu prompts, and lists of report names were available in all active languages, but most data at the product level was still available only in the base language. This meant, for example, you could enter payment terms only in the base language, even though Forms would come up in a non-base language. For additional multilingual support in the products, Oracle Consulting provided a customized solution.

In Release 11*i*, support for the Unicode UTF8 character set removes the limitation on the number of supported languages that can be run in a single instance. The Unicode character set supports all characters in common use in all of the world's modern languages. The majority of Oracle Applications products (but not all) have been restructured in Release 11*i* to provide multilingual support at the data level. The additional multilingual support features available in earlier releases from Oracle Consulting are incorporated in Release 11*i*.

> **Additional Information:** List of Supported Languages in *Oracle Applications Release Notes*

Languages and Character Sets on the Database Tier

The Oracle8*i* database tier is installed in the US7ASCII character set by default, but can be converted to run in any other supported character set. You choose the database character set when running Rapid Install, and Rapid Install converts the database to the new character set.

The US7ASCII character set only supports American English. All other character sets vary in the number of languages they support. For example, if you need to run Oracle Applications in English and French, you might choose WE8ISO8859P15 as the database character set when running Rapid Install. WE8ISO8859P15 is a superset of US7ASCII, supports both English and French, and contains the euro symbol. If you need to support English, French, Japanese, and Arabic, you must choose the UTF8 character set, because this is the only one that supports these four languages. The *Oracle8i National Language Support Guide* provides information on supported character sets, languages supported by each character set, and tips on choosing a database character set.

> **Warning :   Before installing Oracle Applications, you should carefully consider the worldwide language requirements for your installation. The character set you choose during installation determines the languages that you can support. Review the *Oracle 8i National Support Guide* for information on all possible character sets before choosing the character set for your installation. Changing character sets after installation is an involved and expensive process, and is best avoided by initially choosing the proper character set that will meet your long term needs.**

You cannot change the character set when upgrading from an earlier release to Release 11*i*. You must first upgrade to Release 11*i* using the existing character set and, after the upgrade, change the character set.

The extended multilingual support in the Release 11*i* data model increases database storage requirements. For a new installation, consider the database space required for a single language and multiply this by the number of languages you will support. For an upgrade of an earlier NLS installation, some of the data currently in a single language structure will be converted to a multilingual structure, which will require additional storage.

> **Additional Information:**   Database Sizing, *Installing Oracle Applications*; Overview of an Upgrade, *Upgrading Oracle Applications*

Using a multi-byte character set such as the Unicode UTF8 or Japanese JA16EUC (as opposed to a single-byte character set such as WE8ISO8859P15) also affects the overall space used for language setup and transaction data.

Language and Character Sets on the Application Tier

The application tier is installed in the US7ASCII character set by default, but can be converted to run in any supported character set. You specify the application tier character set when running Rapid Install. To prevent data loss, character sets on all tiers should either be the same or should be character sets that can be converted from one to another. Some character sets allow a conversion with no data loss because the character representation in one corresponds to an appropriate character representation in the other. For example, JA16SJIS and JA16EUC are both Japanese language character sets and allow for conversion with no data loss. If a target character set does not contain all characters in the source data, replacement characters will be used and data is thereby lost.

> **Attention:** As UTF8 is a superset of all other character sets, there are no other fully compatible character sets. If you use UTF8 on any tier, you must use UTF8 on all tiers.

The HTTP servers on the application tier must use a character set supported by the browsers on the desktop tier. Not all character sets available for the HTTP server are supported by the browsers. This is the only compatibility requirement between the desktop tier and application tier. All other application tier servers, such as the Concurrent Processing server, can be configured with any other character set that is compatible with the database server.

> **Attention:** As noted earlier concerning the database tier character set, the character set on the application tier should also meet your worldwide language requirements in the future. Changing character sets for the application tier after installation is a difficult process.

By default, Rapid Install installs American English on all servers in the application tier. When you later install an National Language Support (NLS) release on these servers, you must install all other licensed languages on all servers. You cannot, for example, install French only on the Forms server with the assumption that you will

not run the Reports or Concurrent Processing server in French. All application tier servers must have the same set of languages installed.

Character Sets on the Desktop Tier

Language support, which includes support for data input methods and required character sets and fonts, must be available in the desktop client's operating system If Unicode UTF8 is installed on the applications tier, the desktop client operating system must support Unicode. You must therefore license a UTF8 font and make it available to each desktop client.

The desktop browser must be configured to input data in the required language and must handle any language-specific capabilities. For instance, Hebrew and Arabic require bi-directional support for right-to-left display, and Arabic also requires a browser capable of special character shaping.

The character set in the browser is set by the HTTP server. Users must not change their character set in the browser during an Oracle Applications session.

External Documents

External documents are those documents intended for customers and trading partners, such as bills of lading, commercial invoices, and packing slips. In Release 11*i*, you can produce many external documents in any of the active languages, simultaneously and with a single request. A customer in Italy, for example, can receive invoices printed in Italian, and a customer in Poland can receive their invoices printed in Polish. You can also print the documents to different printers based on language, and route completion notifications to different people according to the requested language. For instance, you can route all French external documents to printer A and all others to printer B. You can send completion notifications for Spanish documents to one user, and perhaps all notifications, including Spanish, sent to another. See the appendixes the *System Administrator's Guide* for a list of external documents provided in Release 11*i*.

Territory and Organization Support

Each of the organizations within a worldwide enterprise may have its own set of local requirements. In a worldwide operation, all organizations in the enterprise must have these local requirements integrated in a single instance.

Country-specific Functionality

Oracle Applications has a single common core of functionality, with country-specific extensions to meet the statutory, legal, and cultural practices of different countries. Release 11*i* supports a worldwide enterprise by installing all these extensions in the same database instance without overwriting or conflicting with each other.

Although all country-specific extensions are installed, you must license each extension before you can use its country-specific functionality. Rapid Install lists all the countries that have extensions and licenses the extensions you choose. The functionality enabled by the extension is described in the country-specific *User Guide*.

Dates and Numbers

You can enter and view dates in any valid format, such as 11/25/01 or 11-25-2001. Any format for which SQL provides a mask is valid. The only exception to flexible date formats is that Reports will always display DD-MON-RRRR.

You can also enter and view numbers with either the period (full stop) character or comma as the decimal separator. For example, you can enter 1.02 and 100,000.02 or 1,02 and 100.000,02. The only exception to flexible numeric formats is that Oracle Self-Service Web Applications always enters and displays numbers with the period as decimal separator and the comma as group separator.

> **Additional Information:**   Date Parameters, Numeric Parameters, *Oracle8i National Language Support Guide*

Regardless of the various formats users may choose to enter dates and numbers, the actual values are stored in the database in uniform canonical formats. This allows date and number values to be entered in a one format and viewed in an alternate format by another user.

Multiple Organization Architecture

You can define multiple organizations (Multi-Org) and the relationships among them in a single installation of Oracle Applications. The organization model dictates how transactions flow through different organizations and how those organizations interact with each other. Generally, a complex enterprise has several organization models, such as Internal, Accounting, and Human Resources. You can define different structures to customize Oracle Applications for your worldwide business

needs. Multi-Org is also the underlying technology for Multiple Reporting Currencies.

The types of organizations that can be defined include business groups, sets of books, legal entities, balancing entities, operating units, inventory organizations, HR organizations, and organizations in Oracle Projects and Oracle Fixed Assets. The set of books organization, for example, is a financial reporting entity that uses a particular chart of accounts, functional currency, and accounting calendar. A legal entity represents a legal company for which you prepare fiscal or tax reports. You assign tax identifiers and other legal entity information to this type of organization.

With the various organization types, you set up different organization models depending on your enterprise needs. For instance, using the accounting, distribution and materials management functions in Oracle Applications, you define the relationships among inventory organizations, operating units, legal entities, and sets of books to create a multilevel company structure or organization model.

When you run Oracle Applications products, you first choose an organization - either implicitly by choosing a responsibility, or explicitly in a Choose Organization window. Each window and report then displays information for your organization only.

Multiple Reporting Currencies

The Multiple Reporting Currencies (MRC) feature allows you to report and maintain accounting records at the transaction level, in more than one functional currency. You do this by defining one or more reporting sets of books, in addition to your primary set of books.

In your reporting sets of books, you maintain records in a functional currency other than your *primary functional currency.* Primary functional currency is the currency you use to record transactions and maintain your accounting data within Oracle Applications. The primary functional currency is generally the currency in which you perform most of your business transactions and the one you use for legal reporting. A reporting functional currency is a currency, other than your primary functional currency, that you need for reports.

MRC is based on Multi-Org, and requires a primary set of books and a reporting set of books. In the primary set of books, the functional currency is always the primary functional currency. The reporting set of books is a financial reporting entity associated with a primary set of books. The reporting set of books has the same chart of accounts and accounting calendar as the primary set of books, but usually

has a different functional currency. The reporting set of books allows you to report in a different functional currency than that of your primary set of books.

You must define a separate set of books for each of your reporting functional currencies. For each set of books you use with MRC, you need to specify which is the primary set of books and which are the reporting sets of books. You then assign the reporting sets of books to the primary set of books. You must also define a primary responsibility to correspond to your primary set of books, and a reporting responsibility to correspond to each reporting set of books.

> **Additional Information:**   *Multiple Reporting Currencies in Oracle Applications*

NLS-independent Application Servers

In Release 11, an application tier server was required for each language and territory configuration a user might have. For example, to process French and German Forms requests, you needed to start one Forms server for French and one for German. Even if two users both ran French, but one set the territory to France and the other to Switzerland, you would need to install two Forms servers and two Reports servers to support these two users. In Release 11*i*, you no longer need to set up a server for each user's set of NLS preferences. All application tier server processes can start with any NLS configuration.

Application tier processes must be started with the same character set that was chosen for the server in Rapid Install. All other user NLS settings (such as language, territory, date style, and number format) are passed with each user request to the application tier servers, and the servers start up sessions configured with those NLS settings.

NLS Settings

Earlier releases relied on operating system environment settings for runtime NLS requirements. In Release 11*i*, user runtime NLS settings are stored as profile option values in the database.

The profile options for language and territory are configured at site level when running Rapid Install. The language you choose for the base language is used for the language profile option. The default user territory you choose is used for the territory profile option. Rapid Install does not set date and numeric formats. Based on the territory profile setting, default Oracle8*i* date and numeric formats are used.

Although the system administrator can reset date and numeric formats after Rapid Install, we recommend you accept the defaults provided by the territory setting.
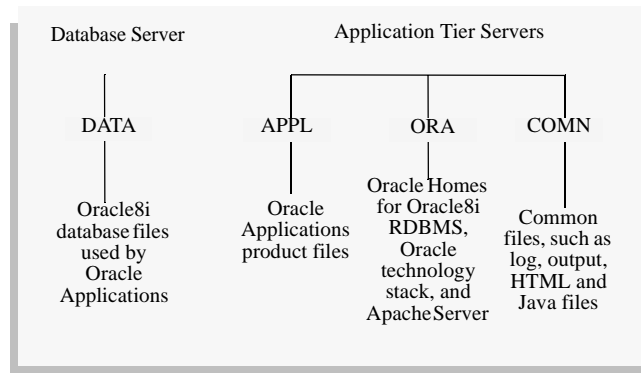
The site level profile values provide the default NLS settings for all end users. Users inherit these values the first time they log on to Oracle Applications using the Personal Homepage. A user can continue to use the default values or change any of the four NLS settings to alternate values. The updated values are stored in the database at the profile user level. The user's current session is reset to use the updated user level profile values and all future sessions will be started with the new values.

4

File System

In Release 11*i*, no Oracle files are stored on the desktop client, and the database server holds only database files. All Oracle Applications product files, technology stack files, common files, and Oracle Enterprise Manager files are held in the *file system* on the application tier servers. *Environment settings* indicate the location of files in the file system. This chapter discusses the environment settings and file systems in detail.

Figure 4–1   Database Server and Application Tier Server File System

```
   Database Server          Application Tier Servers


      DATA              APPL        ORA         COMN

                                Oracle Homes
                                for Oracle8i
    Oracle8i            Oracle      RDBMS,      Common
  database files      Applications  Oracle    files, such as
    used by          product files  technology  log, output,
    Oracle                         stack, and   HTML and
  Applications                     Apache Server  Java files
```

Environment Settings

Oracle Applications uses *environment settings* to control program execution. The environment settings are defined when you install Oracle Applications. Many

settings are defined by information you provide when running Rapid Install, though other settings have constant values for all installations.

> **Additional Information:** Installation Defaults in *Installing Oracle Applications* lists the environment settings Rapid Install creates and their default values.

In the sections that follow, the value that an environment setting contains is indicated by braces. For example, *<dbname>* is the database name as contained in the ORACLE_SID or TWO_TASK environment setting.

How Environment Settings Are Stored

On UNIX servers, environment settings are stored as environment variables in environment files. On Windows NT servers, the information is stored in the Windows Registry.

On UNIX servers, environment files hold the environment variable settings for each Applications Top directory. Each Applications Top directory has a main environment file, *<dbname>*.env, which named after the database instance associated with the installation. For example, if you install a test database named APPTEST, Rapid Install assigns the default name of the main environment file to APPTEST.env in UNIX. On Windows NT, there is an additional main environment file called *<dbname>*.cmd. You may choose a different name for the main environment file with the AD Administration Utility, but you cannot change the name when running Rapid Install.

> **Additional Information:** Installation Defaults in *Installing Oracle Applications* also provides the name of the environment file that defines each of the environment variables.

On Windows NT, environment settings are stored in the Windows Registry under the following key:

```
HKEY_LOCAL_MACHINE/SOFTWARE/ORACLE/Applications/11.5.0/<dbname>
```

> **Additional Information:** *Maintaining Oracle Applications* explains how to generate and run an environment file on Windows NT.

The *<dbname>*DATA Directory

The *<dbname>*DATA file system contains the .dbf files of the Oracle Applications Oracle8*i* database. Rapid Install installs all the system, data, and index files in up to four different disks on the database server. You can specify mount points for these different disks and directory names on the database server during installation.

The concurrent managers use temporary files located on the Oracle8*i* server. You may specify up to three separate locations for these files when running Rapid Install, AutoUpgrade, or the adadmin utility. Most temporary files are written to the location specified by the APPLTMP environment setting, which is set by Rapid Install. If you choose, Oracle Reports temporary files can be directed to a separate location determined by the REPORTS60_TMP setting.

Applications also produces temporary PL/SQL output files used in concurrent processing. These files are written to the location specified by the APPLPTMP environment setting. The APPLPTMP directory must be the same directory as specified by the utl_file_dir parameter in your database initialization file. Rapid Install sets both APPLPTMP and the utl_file_dir parameter to the same directory. During an upgrade with AutoUpgrade, you must provide the utl_file_dir parameter value for the APPLPTMP environment setting.

> **Attention:** Some Oracle Applications utilities use your operating system's default temporary directory even if you define the environment settings listed in the previous paragraph. Be sure to have available disk space for these default directories as well as those denoted by APPLTMP, REPORTS60_TMP, and APPLPTMP.

The *<dbname>*APPL Directory

Oracle Applications files are stored in the *<dbname>*APPL directory. Rapid Install saves the name of this *<dbname>*APPL directory in the APPL_TOP environment setting.
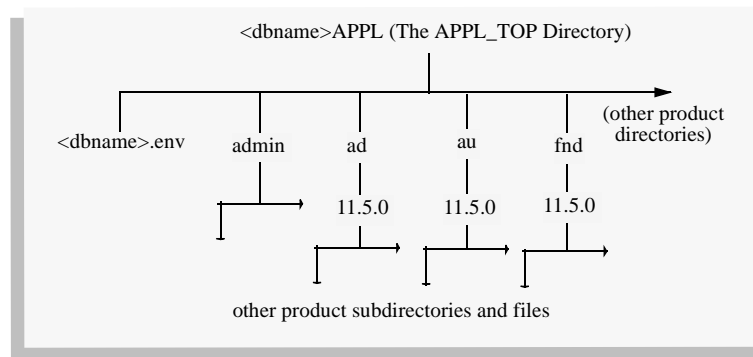
Figure 4–2   The APPL_TOP Directory

Figure 4–2 shows the location of the main environment file, the <dbname>.env file, and four product directories. Rapid Install creates a directory tree for every Oracle Applications product in this APPL_TOP directory.

Within the APPL_TOP directory, files associated with a product are installed under the product's top-level directory, which is stored in the *<prod>*_TOP environment setting. The *<prod>* portion of this environment setting is the product's short name, such as ad, au, fnd, gl, and inv. The corresponding *<prod>*_TOP environment settings are AD_TOP, AU_TOP, FND_TOP, GL_TOP, and INV_TOP.

For compatibility with earlier releases, Rapid Install creates another directory, named for the version number, within the product's short name directory. Therefore, as shown in Figure 4–2, the value contained in the AD_TOP environment setting is APPL_TOP/ad/11.5.0, and the AD_TOP environment setting points to the APPL_TOP/ad/11.5.0 directory. Similarly, the value of AU_TOP is APPL_TOP/au/11.5.0, and the AU_TOP environment setting points to the APPL_TOP/au/11.5.0 directory. This is the same for all directories except for the admin directory.

> **Additional Information:**   The Preface of *Upgrading Oracle Applications* lists all Oracle Applications products and their short names.

Rapid Install creates a new Applications top directory when you upgrade. Rapid Install does not delete any existing product files from earlier releases, but unloads new product files in a new *<dbname>*APPL directory tree.

Each Applications top directory is associated with a single Oracle Applications database instance on the Oracle8*i* Server. If you install both a Vision Demo

environment and a test environment, you must use Rapid Install to lay down two file systems: one for each environment.

Core Technology Directories

The admin, ad, au, and fnd directories are the core technology directories.

- The admin directory holds files used for the preliminary install or upgrade steps for all Oracle Applications products. Subdirectories in this admin directory hold the log and restart files that record the actions performed by installation and upgrade utilities and scripts.

- The ad (Applications DBA) directory contains the installation and maintenance utilities such as AutoUpgrade, AutoPatch, and the adadmin utility.

- The au (Applications Utilities) directory contains PL/SQL libraries used by Oracle Forms and Oracle Reports, Oracle Forms source files, and a copy of all Java files used to generate the desktop client.

- The fnd (foundation) directory contains the forms and C object libraries, and scripts that are used to build the Oracle Applications data dictionary.

Product Directories

Each *<prod>*_TOP directory, such as APPL_TOP/gl/11.5.0, contains subdirectories for product files. Product files include forms files, reports files, and some files to install or upgrade the database (but tables and other database objects are stored separately on the Oracle8*i* database server). To display data entry forms for Oracle General Ledger, for example, Oracle Applications accesses files in the forms subdirectory under the 11.5.0 directory.

Figure 4–3   Location of a Product Directory
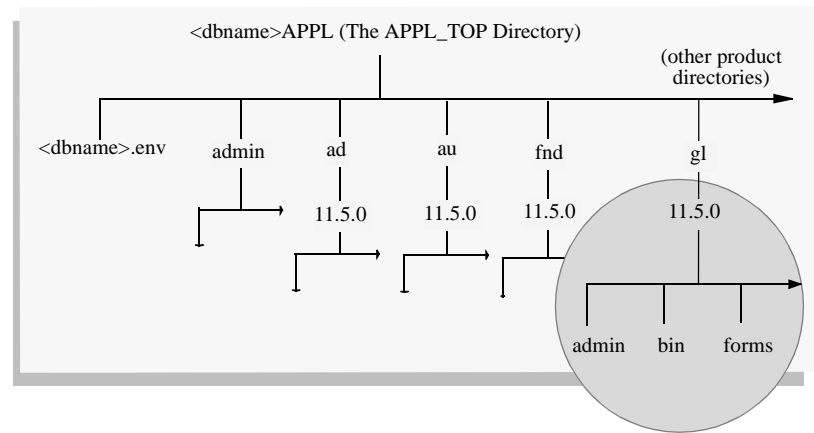
Within each *<prod>*_TOP directory, the product's files are grouped into subdirectories according to file type and function. Figure 4–4 expands the inset in Figure 4–3 to show the full directory structure.
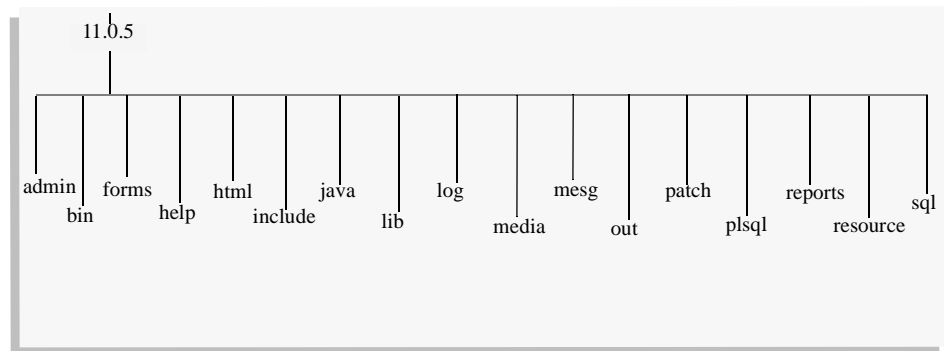
Figure 4–4   Basic Product Directory Structure

Table 4–1 summarizes the product subdirectories and the types of files each one may contain. Not all products contain all the subdirectories listed in Table 4–1.

> **Note:**   In addition to the files associated with each product subdirectory, directories may also contain backup files produced by AutoPatch. Backup file names usually end with the capital letter O.

Table 4–1   Applications Directory and File Types

Subdirectory Name	Description
admin	Contain files used by AutoUpgrade to upgrade each separate product. Note that this directory (APPL_TOP/<prod>/admin) is not the APPL_TOP/admin directory. The APPL_TOP/admin directory contains preliminary install and upgrade steps for all Oracle Applications products. This APPL_TOP/<prod>/admin directory contains product-specific upgrade information. See the AutoUpgrade chapter in *Maintaining Oracle Applications* for further information.
■ driver	Contains .drv files (driver files). AutoUpgrade processes in several phases, and each phase is controlled by a driver file.
■ import	Contains DataMerge files used to upgrade seed data.
■ odf	Contains object description files (.odf files) used to create tables and other database objects.
■ sql	Contains SQL*Plus scripts used to upgrade data, and .pkh, .pkb, and .pls scripts to create PL/SQL stored procedures.
bin	Contains concurrent programs, other C language programs and shell scripts for each product.
forms	Contains Oracle Forms portable source file (.fmb) files, and generated runtime (.fmx) files (Oracle Forms form files).
help	Contains the online help source files. These files are imported to the database during installation. Within this directory are subdirectories for each language you choose to install.
html	HTML, Javascript, and Java Server Page files, primarily for Self-Service Web Applications products. Like help files, HTML files are in language subdirectories.
include	Contains C language header (.h) files that my be linked with files in the lib directory. Not all products require this directory.
java	Contains .class files (Java class files) and .jar files (Java ARchives), which are copied to JAVA_TOP during installation.

Table 4–1   Applications Directory and File Types

| Subdirectory Name	Description
lib	Contains files used to relink concurrent programs with the Oracle8*i* Server. These files include:
	■ object files (.o) with compiled code specific to one of the product's programs;
	■ a library file (.a) with compiled code common to the product's programs;
	■ a makefile (.mk) that specifies how to create new C programs for the .a file and .o files.
log and out	Contains output files for concurrent programs:
	■ .mgr (master log file for concurrent manager)
	■ .req (log file for a concurrent process)
	Note: log and out subdirectories under a product directory are not used if you set up a common directory for log and output files except in FND_TOP. See the Log and Output Files section in this chapter for more information.
media	The desktop client displays text and graphics from the .gif files in this directory.
mesg	Forms display messages at the bottom of the screen and in popup boxes. Concurrent programs also print messages in the log and output files. These messages are translated and stored in message files separate from the forms and concurrent programs. This directory contains the .msb files (binary message files used at runtime), and language-specific message files (such as a US.msb file for American English and a D.msb file for German.)
patch	Updates to the data or data model use this directory to store the patch files.
plsql	Location where .pll files (PL/SQL library files for Oracle Reports) are unloaded, later in the installation they are moved to the plsql subdirectory in the AU_TOP directory.
reports	Contains Oracle Reports .rdf files for each product, which are platform-specific binary report files. Reports for each language are stored in subdirectories of the reports directory.
resource	Contains .pll files (PL/SQL library files for Oracle Forms), which, like the files in the plsql directory, are later copied to AU_TOP.

Table 4–1   Applications Directory and File Types

Subdirectory Name	Description
sql	Contains .sql files (SQL*Plus scripts) for concurrent processing.

Language Files

When you install Oracle Applications in a language other than American English, each product tree includes directories that use the NLS language code. These directories hold translated data, form, html, message, and report files. The language directory in Figure 4–5 is D, which designates German. The data loader files in the D subdirectory of admin contain the German translation of the product seed data. The D subdirectory of reports holds Oracle Reports files translated into German.

Figure 4–5   Language Directory Structure
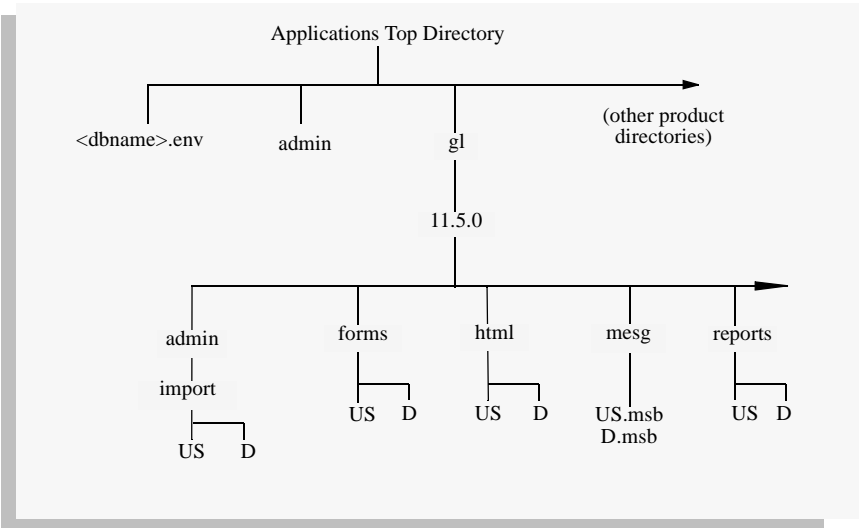
The US subdirectory in the forms directory of Figure 4–5 holds Oracle Forms forms in American English. The D directory in the forms directory holds the same forms translated into German. The mesg directory holds message files in both American English and German.

Additional Information: *Oracle8i National Language Support Guide*

Distributing Files Across Several Disks

The Oracle Applications file system on the application tier requires a significant amount of disk space. Choosing a *multi-node installation* in Rapid Install, you may distribute the Oracle Applications files across as many as four disk drives. Figure 4–6 illustrates a distributed directory structure.

**Figure 4–6   Distributed Directory Structure**
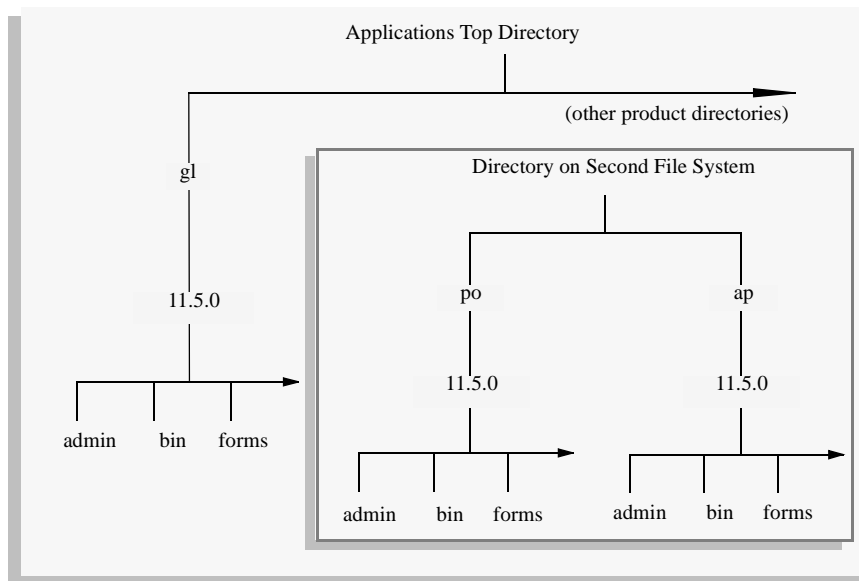
In this example, Oracle General Ledger product files are stored in one APPL_TOP, with Oracle Purchasing (po) and Oracle Payables (ap) files stored in a second APPL_TOP directory on a different file system. You define which file system holds each product's directory tree using Rapid Install. The *<dbname>*.env file lists each of the *<prod>*_TOP directories, so the system knows which products are contained in which directories on which disks.

Note, however, that when distributing the files across disks, all four core technology directories (admin, ad, au, and fnd) must always be on the same disk and must share the same directory structure.

The *<dbname>*ORA Directory

Oracle Applications supports running with data in a database of one version, while linking Oracle Applications programs using the tools from a second or third version of the database server. This is known as *multiple Oracle Homes.* This model allows Oracle to support features in later database server versions and still maintain compatibility with an earlier release. As shown in Figure 4–7, Release 11*i* has three Oracle Homes.

Figure 4–7   Multiple Oracle Homes in Release 11i
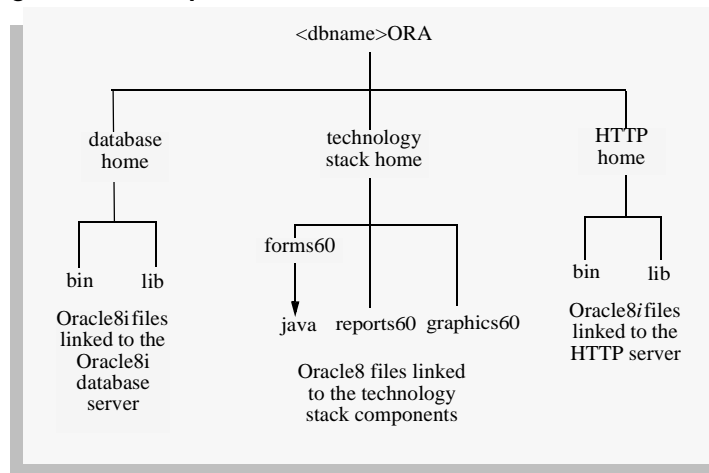
The *database home* contains the files for creating and maintaining the Oracle8*i* database on the database server. The *technology stack home* contains library and object files the AD Relink Utility uses to link Oracle Applications programs with Forms-based tools on the Forms server and Report server. The *HTTP home* contains the object and library files used to link with the HTTP server.

The Release 11*i* database home and HTTP home contain Oracle8*i* object and library files. The Release 11*i* technology stack home uses libraries from the Oracle8 server technology stack, which includes Oracle Forms, Oracle Reports, Pro*C, PL/SQL, and SQL*Plus.
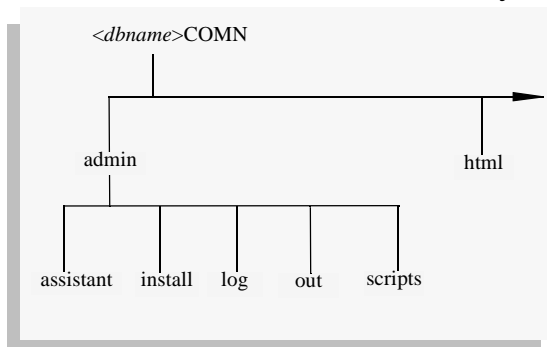
The *<dbname>*COMN Directory

The *<dnname>*COMN directory contains files that are used by several different Oracle Applications products (or all Oracle Applications products), or that are used with third-party products.

Figure 4–8   The <dbname>COMN Directory
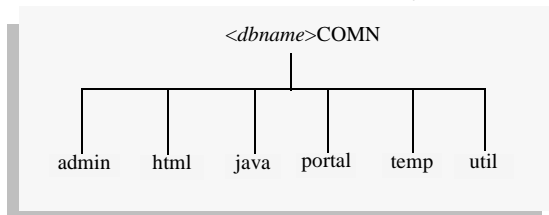
The admin directory in the *<dbname>*COMN directory contains the log and output directories for concurrent managers. When the concurrent managers run Oracle Applications reports, they write the output files, as well as diagnostic log files and temporary files, to the log and out directories in this admin directory.

Figure 4–9   The <dbname>COMN/admin Directory

You can change the location the concurrent managers write these files to, so that, for example, the log and output files are written to directories in each *<prod>*_TOP directory. The default, however, is to write the files to the log and out directories in the *<dbname>*COMN/admin/log and *<dbname>*COMN/admin/out directories.

> **Additional Information:**   Overview of Concurrent Processing, *Oracle Applications System Administration Reference Manual*

The admin/assistants directory (known on Windows NT as the "admin/assistant" directory) of the admin directory contains the License Manager utility. You use the License Manager to license additional products or languages after installing Oracle Applications.

> **Additional Information:**   License Manager (LicenseMgr), *Maintaining Oracle Applications*

The admin/install directory contains scripts and log files used by Rapid Install during installation. The admin/scripts directory contains scripts to start and stop services such as listeners and concurrent managers.

The OAH_TOP environment setting points to the html directory. The Oracle Applications html sign-on screen and Oracle Self-Service Web Applications html files are installed here. If you install a language other than American English, the html top directory contains subdirectories, named by language code, for the translated html files. The html directory also contains other files used by the html-based products, such as java server page files, java scripts, xml files, and style sheets. Rapid Install copies the html-based product files from each *<prod>*_TOP directory to subdirectories in OAH_TOP.

The JAVA_TOP environment setting points to the java directory. Rapid Install installs all Oracle Applications class files in the Oracle namespace of this JAVA_TOP directory. The java directory holds third-party java files used by Oracle Applications as well as other zip files.

Most Java code used by Oracle Applications is version-controlled in the apps.zip file contained in the AU_TOP directory. Patches, for example, update individual classes in apps.zip under the AU_TOP directory, and from this apps.zip file JAR files are generated both in the JAVA_TOP and the *<prod>*_TOP directories. The same apps.zip file exists in both the AU_TOP and JAVA_TOP directories.

The portal directory contains the Rapid Install Portal files. The Rapid Install Portal is a web page that includes the post-install tasks that may be necessary for your installation, Server Administration scripts, installation documentation, and online help. Using a browser, you can view the Rapid Install Portal after you run Rapid Install.

> **Additional Information:**   Accessing the Rapid Install Portal, *Installing Oracle Applications*

The temp directory is used for caching by some processes such as Oracle Reports. The util directory contains the third-party utilities licensed to ship with Oracle Applications. These include, for example, JRE, JDK, and the unzip utility.

Glossary

administration server

The server from which the system administrator runs programs that maintain and update an Oracle Applications database. For example, AutoUpgrade and AutoPatch are both run on this machine to install, upgrade, or update the database, which resides on the database server.

applet

A Java program that is downloaded to a desktop client from an HTTP server, and run within a Java-enabled web browser.

application servers

Servers that reside in a middle tier, between the desktop clients and database tier. Desktop clients send their requests to application servers, which process the request by sending it to another server, such as the database server. The desktop clients never connect directly to the database server. The Forms server and HTTP server are types of application servers. See also *tier*.

applmgr

The login used to install and upgrade Oracle Applications. This account owns the Oracle Applications product files.

APPS schema

An ORACLE schema that has access to the complete Oracle Applications data model.

AutoUpgrade

The Oracle Applications upgrade program.

background process

A non-interactive process that runs in an operating system environment and performs a task.

bandwidth

The amount of data that can be sent through a network connection, measured in bits per second (bps). The speed and capacity of a network depend on both bandwidth and latency. See also *latency*.

base language

The language used for seed data and setup data for tables that are not structured for multilingual support.

browser

See *web browser*.

certificate file

Contains the identity of a "trusted source" that the desktop client uses to guarantee the authenticity of a JAR file. Information contained within the certificate file allows the desktop client to decrypt the digital signature of a JAR file. If the identity can be confirmed, the desktop client assumes the JAR file is safe to download and execute. See also *digital signature*.

character set

A set of encoded binary values that represents the letters, numerals, and punctuation marks of a language, or of a group of languages that use similar written symbols. For example, the WE8ISO8859P1 character set can be used by English and many other languages that use a Latin-based alphabet and Arabic numerals. Terminals and printers handle text data by converting these encoded values to characters. A character set may also be called a *codeset*.

client/server architecture

A configuration in which one or several servers perform database processing or other functions for applications that are run on clients. Software must be installed on each client before the client can interact with the servers. Client/server architecture is superseded by Internet Computing Architecture in Release 11*i*.

codeset

See *character set*.

command

An instruction or request for the system to perform a particular action. An entire command can consist of the command name, parameters, and qualifiers.

command file

A file containing a predefined sequence of commands to be executed by the operating system.

concurrency

The simultaneous access of the same data by multiple users.

concurrent manager

A process manager that coordinates the processes generated by users' requests to run various data-intensive programs. An Oracle Applications product group can have several concurrent managers.

concurrent process

A task run by a concurrent manager. A concurrent process runs simultaneously with interactive functions and other concurrent processes.

concurrent processing server

An Oracle Applications server that runs time-consuming, non-interactive tasks in the background.

concurrent queue

A list of concurrent requests awaiting completion. Each concurrent manager has its own queue of pending requests.

concurrent request

A request issued to the concurrent processing server when you submit a non-interactive task, such as running a report.

customization

Enhancements to an Oracle Applications system made to fit the needs of a specific user community.

data dictionary

A set of database tables and views that contains administrative information about users, data storage, and privileges. It is created and maintained automatically.

database

A collection of data, stored in tables, and objects, such as stored procedures and triggers. The term can also refer to the software used to create, store, and manage this data—for example, the Oracle8*i* server.

database administrator (DBA)

The person who prepares the Oracle8*i* server and Oracle tools for an installation or upgrade of Oracle Applications, and performs maintenance on them after the installation. The DBA has access to the ORACLE SYSTEM and SYS accounts.

database instance

A running ORACLE system. There is always a one-to-one correspondence between an ORACLE instance and a system global area (SGA).

database object

A logical entity created and stored in a database. Tables, views, synonyms, indexes, sequences, stored procedures, materialized views, and triggers are all examples of database objects.

database server

A machine on which the database holding Oracle Applications data resides. The database server processes SQL and Java requests from other machines, such as Forms servers, HTTP servers, and concurrent processing servers.

database space

The amount of disk space used by a set of database objects.

demonstration product group

A product group that includes predefined transaction data for Oracle Applications products. It is used primarily for system testing and user training. See also *product group*.

dependent product

An Applications product that is not licensed, but whose files are shared in part by a fully installed Applications product. A dependent product is also known as a *shared product*.

desktop client

A computer that sends user requests to the forms server and handles responses such as screen updates, pop-up lists, graphical widgets, and cursor movements.

digital signature

A means of guaranteeing the authenticity of a program or collection of data, such as a JAR file. It is typically an encrypted message that contains the identity of the code's author. See also *certificate file.*

distributed concurrent processing

See *parallel concurrent processing.*

distributed directory structure

Applications product files installed in more than one file system, as when there is insufficient disk space in a single file system for all Applications product files.

environment file

A command file that sets environment variables. Only servers running UNIX use environment files—Windows NT servers use the Windows registry instead.

environment setting

A parameter that controls the behavior of Applications and Applications programs for your installation. Environment settings are stored as environment variables on UNIX servers and as registry keys or environment variables on Windows NT servers.

environment variable

A variable maintained by the UNIX shell that can be referenced by any program running within the shell. Environment variables hold values used by many Oracle programs and utilities.

On Windows NT, a string consisting of environment information, such as a drive, path, or filename, associated with a symbolic name. You use the System option in the Control Panel or the set command from the Windows NT command prompt to define environment variables.

Export utility

An Oracle8*i* server utility used to write database data to operating system files external to the database. These files can then be used with the Import utility to read the data back into the same database or into a different one.

extension

The second part, or suffix, of a filename, used to indicate the type or purpose of the file. For example, the extension .sql indicates a SQL*Plus script. See also *filename.*

form

A logical collection of fields, regions, and graphical components that appears on a single screen. Oracle Applications forms resemble paper forms used to run a business. You enter data by typing information into the form.

Forms client

A Java applet that runs on a desktop client and provides the user interface and interaction with a forms server.

Forms server

A type of application server that hosts the Forms server engine. It mediates between the desktop client and the database, providing input screens for the Forms-based products on the desktop client and creating or changing database records based on user actions.

functional currency

In Multiple Reporting Currencies, a currency other than your primary currency.

Gigabyte (GB)

A unit of memory or disk space equal to 1,073,741,824 bytes. One Gigabyte is equal to 1,024 Megabytes. Often rounded to 1,000,000,000 bytes.

GUI (Graphical User Interface)

An interface used with personal computers and workstations that allows the user to access fields and regions of the screen with a pointing device, typically a mouse. The acronym is pronounced "goo-ee".

HTML (Hypertext Markup Language)

A simple language used to format documents, predominantly for viewing with a web browser. Portions of text or images, called hypertext, can be associated with other documents.

HTTP (Hypertext Transfer Protocol)

The TCP/IP-based network protocol used to transmit requests and documents between an HTTP server and a web browser.

HTTP listener

A program on an HTTP server that accepts and processes incoming HTTP requests from web browsers.

HTTP server

An application server that runs an HTTP listener, and sends out web pages in response to HTTP requests from remote browsers. See *HTTP listener, web browser.*

Import utility

An Oracle8*i* server utility used to read operating system files written by the Export utility. You use it to restore data into a database.

index

A database object associated with a table and used by the Oracle8*i* server to locate rows of that table quickly.

initialization parameters

Parameters defined in an initialization file that configure an Oracle8*i* server database. The parameters affect how the database performs.

Internal concurrent manager

A concurrent manager process that monitors, controls, and dispenses requests to all other concurrent manager processes.

Internet Computing Architecture

A computing model in which various functions are distributed among three tiers of servers: the desktop clients issuing user requests, the database servers providing the database and database processing, and a middle tier that mediates connections between the two.

intranet

A network of computers that are internal to a company. A company's intranet is basically a local extension to the globally-distributed Internet, which is a global inter-connected network of computers and smaller computer networks.

Java

A computing language used, among other things, to produce programs that can be downloaded and run on a desktop client using a web browser. It is also used to produce platform-independent programs that run on a server, either interactively or when invoked through a request from a web browser. See also *applet* and *servlet.*

JAR (Java Archive) file

A collection of Java classes compressed into a files for faster download to a desktop client.

Java class

Components of a Java program that define objects and operations performed on objects. Java class also identifies an operating system file that contains a program or part of a program written in Java.

JDBC (Java Database Connectivity)

A Java programming interface that enables Java programs to access the Oracle8*i* server.

JVM (Java Virtual Machine)

An interpreter that translates a compiled Java program, called bytecode, to machine code. JVM makes Java portable, because each operating system's JVM translates bytecode to instructions that the microprocessor can execute. A Java-enabled web browser has an internal JVM that allows it to execute applets or applications written in Java.

LAN (Local Area Network)

A limited-distance, high-speed, data communications network that allows various data processing resources to be connected and shared. A LAN is a network contained within a single physical site (one or more buildings), as opposed to a WAN. See also *WAN*.

latency

In networking, the amount of time it takes a packet of data to travel from a source to its destination. The speed and capacity of a network depend on both bandwidth and latency. See also *bandwidth*.

load balancing

Distributing tasks to the server that is least busy when several servers are handling the same workload. Using load balancing, the HTTP server connects the Forms client to the Forms server that has the lightest load. This server is called the "least loaded host."

LOCAL

Under Windows NT, an environment setting that identifies the network alias of an ORACLE instance running on the local machine or on another networked machine. This variable overrides any setting for ORACLE_SID and causes the Net8 software to manage the connection request. See also *ORACLE_SID* and *TWO_TASK*.

log in

To perform a sequence of actions that establishes communication with the operating system or a secured program, such as the Oracle8*i* Server or Oracle Applications, and sets up default characteristics for the session.

Megabyte (MB)

A unit of memory or disk space equal to 1,048,576 bytes (1024 x 1024). Often rounded to one million bytes.

Multiple Organization Architecture (Multi-Org)

A single installation of any Oracle Applications product to support any number of organizations or different sets of books. The data contained in product schemas is for all organizations, and is partitioned by the ORG_ID column in tables.

Multiple Reporting Currency (MRC)

An Oracle Applications feature that allows you to create, maintain, and report on accounting records at the transaction level in more than one functional currency.

Net8

The Oracle product that enables network connectivity between a client machine and the Oracle8*i* server. Net8 manages communication sessions between these machines by opening and closing sessions and by packaging and sending SQL statements and data responses.

NLS (National Language Support)

Oracle's National Language Support (NLS) allows you to store, process, and retrieve data in the language native to your users. It ensures that database utilities and error messages, sort order, date, time, monetary, numeric, and calendar conventions automatically adapt to the native language and locale. NLS involves operation in only one language per installation.

operating system

The computer software that performs basic tasks such as allocating memory and allowing computer components to communicate.

ORACLE

An Oracle8*i* server database. This generally refers to a database and the objects it contains, not to the Oracle8*i* server product files.

ORACLE_HOME

An environment setting that specifies the top directory for Oracle8*i* server program files.

ORACLE schema

See *schema*.

Oracle8*i* server

The database management system used by Release 11*i*. The term refers in general to the product files or the ORACLE instances created using these files.

ORACLE_SID

An environment setting that identifies an ORACLE instance running on the current machine. See also *TWO_TASK* and *LOCAL*.

ORACLE user ID

A username and password used to access an ORACLE instance.

parallel concurrent processing

In a UNIX environment, distribution of concurrent processes among multiple concurrent processing servers. Also called *distributed concurrent processing*.

password

An identification word, associated with your username, that you must supply to access an ORACLE instance or an Oracle Applications system.

platform

The underlying structure of a computer system, including hardware and software, on which application programs run. The hardware component includes the microprocessor, which is the microchip that performs logic operations and data management. The software component includes the operating system, which is the computer system's coordinating program. Sun SPARC Solaris and Alpha Windows NT are examples of platforms. Some Oracle Applications functionality is platform-specific, meaning its behavior may differ on other platforms.

PL/SQL

A procedural extension of SQL that provides programming constructs such as blocks, conditionals, and functions.

primary functional currency

The currency you use to record transactions and maintain your accounting data within Oracle Applications.

primary set of books

A financial reporting entity in which you conduct business.

Pro*C/C++

An Oracle precompiler product that allows developers to embed standard database calls to an ORACLE database in C and C++ programs.

product group

A set of Oracle Applications product schemas linked together by a single Oracle Application Object Library schema.

registry

A Windows NT database that holds configuration information. During installation, Oracle Applications writes data to the registry. You can also edit the registry directly with the Registry Editor (regedt32.exe).

registry key

A folder that appears in the left pane of the Registry Editor window. A key can contain subkeys and value entries. For example: Environment is a key of HKEY_CURRENT_USER. See also *subkey.*

registry subkey

A key within a key. Subkeys are analogous to subdirectories in the registry hierarchy. Keys and subkeys are similar to the section heading in .ini files; however subkeys can carry out functions. Oracle Applications stores important information about a product group in a registry subkey. See also *registry key* and *registry.*

report

An organized display of Oracle Applications information. A report can be viewed online or sent to a printer. The content of a report can range from a summary to a complete listing of values.

Report Review Agent

A tool used by Oracle Applications to view concurrent processing files online.

reporting functional currency

A currency, other than your primary functional currency, for which you need to generate reports.

reporting set of books

A financial reporting entity that is associated with a primary set of books. It has the same chart of accounts and accounting calendar, but usually a different functional currency.

reserved word

A word that has a special meaning to any computer program. Custom-built programs that integrate with Oracle Applications must not use reserved words.

responsibility

A collection of functions within an Oracle Application. Each Applications user is assigned one or more responsibilities to allow them access to Applications forms.

rollback segment

A set of entries used to undo changes in the database in the event of transaction rollback, crash, or media recovery.

rollback tablespace

A tablespace created for rollback segments.

RPC (Remote Procedure Call)

A protocol that allows a client to execute a program on a server. The client sends a message to the server with appropriate arguments and the server returns a message containing the program's results.

schema

An ORACLE account or ORACLE ID.

server

Software that provides resources, such as files and processing, to desktop clients. Server processes may communicate with other servers to gather the data or complete the processing, but ultimately the information is returned to a desktop client. See *Internet Computing Architecture*.

service

A Windows NT internal software routine that provides support for other applications. The Oracle8*i* Server, Net8, and Oracle Applications concurrent managers all make use of services.

servlet

A Java program executed on an HTTP server, rather than downloaded to a desktop client. See also *applet.*

setup data

Company-specific configuration data, such as locations, freight terms, and payment terms. You create this data when initially configuring an OA product.

SGA (System Global Area)

A reserved section of main memory that provides communication between all database users and the ORACLE background processes.

shared product

See *dependent product.*

short name

An abbreviation for an Oracle Applications product (such as *gl* for Oracle General Ledger).

sizing factor

An integer that determines the growth rate, as a percentage of their defaults, for the database objects of an Oracle Applications product.

SQL (Structured Query Language)

An internationally standard language used to access data in a relational database. The acronym is pronounced "sequel."

SQL script

A file containing SQL statements that you run with a tool such as SQL*Plus to query or update ORACLE data.

subdirectory

A directory that is contained within another directory.

synonym

An alias for a table, view, sequence, or program unit that masks the real name and owner of the object, provides public access to the object, and simplifies SQL statements for database users.

syntax

The orderly system by which commands, qualifiers, and parameters are arranged together to form valid command strings.

SYS username

One of two standard DBA usernames automatically created with each database (the other is SYSTEM). SYS owns the base data dictionary tables and views. See also *SYSTEM username.*

SYS.DUAL table

A necessary table in any relational database. SYS.DUAL contains exactly one row, and is used as a "dummy" table in a SQL statement to return values that are not stored in tables, such as constant values, evaluations of arithmetic expressions, or system values like the current date.

system administrator

The person who manages administrative tasks in Oracle Applications, such as registering new users and defining system printers, using the system administrator responsibility.

SYSTEM schema

See *SYSTEM username.*

SYSTEM tablespace

Holds data dictionary tables owned by the SYS account. It is created when you install the database.

SYSTEM username

One of two standard usernames automatically created with each database (the other is SYS). The SYSTEM username is the preferred username to use when performing database maintenance. See also *SYS username.*

table

The basic unit of storage in a relational database management system. A table represents entities and relationships, and consists of one or more units of information (rows), each of which contains the same kinds of values (columns).

tablespace

A logical portion of an ORACLE database used to allocate storage for data and to group related logical structures. For example, one tablespace may contain all of one Oracle Applications product's database tables and indexes.

TCP/IP (Transmission Control Protocol / Internet Protocol)

A widely-used industry-standard networking protocol used for communication among computers.

temporary tablespace

A tablespace used when a SQL statement requires the creation of temporary segments (for example, the creation of an index).

tier

A set of machines that perform similar tasks. Client/server is a two-tier architecture, with machines on the client tier connecting to machines on the server tier. Internet Computing Architecture consists of three tiers. In Release 11*i*, machines on the desktop client tier communicate with machines on the application tier, which in turn, communicate with each other and with machines on the database tier.

TWO_TASK

Under UNIX, an environment setting that identifies the network alias of an ORACLE instance running on the local machine or on another networked machine. This variable overrides any setting for ORACLE_SID and causes the Net8 software to manage the connection request. See also *ORACLE_SID* and *LOCAL.*

user ID

The combination of a username and its password.

username

A name that grants access to a secure environment or program, such as an ORACLE database or Oracle Applications. A username is customarily associated with a collection of privileges and data available to a particular user (*responsibilities* in Oracle Applications). Every username is associated with a password.

view

A custom-tailored presentation of the data in one or more tables. A view can be thought of as a "stored query."

WAN (Wide Area Network)

A communications network that connects geographically separated areas. See also *LAN*.

web browser

A program running on a desktop client that views documents formatted in HTML and runs Java applets. A web browser sends requests to a HTTP server using a special protocol (*HTTP*) to retrieve documents and Java applets. See *HTTP listener, HTTP server.*

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