

11i, Implementing Oracle Demand Planning

Student Guide

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Preface

Profile

Before you begin this course, you should have the following qualifications:

- Thorough knowledge of forecasting theory and practice
- Working experience with navigating Oracle applications

Prerequisites

- Overview to Advanced Planning and Scheduling Suite of Products
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How This Course Is Organized

Oracle Demand Planning is an instructor-led course featuring lecture and hands-on exercises. Online demonstrations and written practice sessions reinforce the concepts and skills introduced.

Related Publications

Oracle Publications

Title	Part Number
<i>Oracle Demand Planning User's Guide</i>	<i>A77223-01</i>
<i>Oracle Advanced Supply Chain Planning and Oracle Global ATP Server User's Guide</i>	<i>A81011-01</i>

Additional Publications

- System release bulletins
- Installation and user's guides
- *read.me* files
- *Oracle Magazine*

Typographic Conventions

Typographic Conventions in Text

Convention	Element	Example
Bold italic	Glossary term (if there is a glossary)	The <i>algorithm</i> inserts the new key.
Caps and lowercase	Buttons, check boxes, triggers, windows	Click the Executable button. Select the Can't Delete Card check box. Assign a When-Validate-Item trigger to the ORD block. Open the Master Schedule window.
Courier new, case sensitive (default is lowercase)	Code output, directory names, filenames, passwords, pathnames, URLs, user input, usernames	Code output: <code>debug.set ('I', 300);</code> Directory: <code>bin (DOS), \$FMHOME (UNIX)</code> Filename: Locate the <code>init.ora</code> file. Password: User <code>tiger</code> as your password. Pathname: Open <code>c:\my_docs\projects</code> URL: Go to <code>http://www.oracle.com</code> User input: Enter <code>300</code> Username: Log on as <code>scott</code>
Initial cap	Graphics labels (unless the term is a proper noun)	Customer address (<i>but</i> Oracle Payables)
Italic	Emphasized words and phrases, titles of books and courses, variables	Do <i>not</i> save changes to the database. For further information, see <i>Oracle7 Server SQL Language Reference Manual</i> . Enter <code>user_id@us.oracle.com</code> , where <i>user id</i> is the name of the user.
Quotation marks	Interface elements with long names that have only initial caps; lesson and chapter titles in cross-references	Select "Include a reusable module component" and click Finish. This subject is covered in Unit II, Lesson 3, "Working with Objects."
Uppercase	SQL column names, commands, functions, schemas, table names	Use the SELECT command to view information stored in the LAST_NAME column of the EMP table.

Convention	Element	Example
Arrow	Menu paths	Select File—> Save.

Brackets	Key names	Press [Enter].
Commas	Key sequences	Press and release keys one at a time: [Alternate], [F], [D]
Plus signs	Key combinations	Press and hold these keys simultaneously: [Ctrl]+[Alt]+[Del]

Typographic Conventions in Code

Convention	Element	Example
Caps and lowercase	Oracle Forms triggers	When-Validate-Item
Lowercase	Column names, table names	SELECT last_name FROM s_emp;
	Passwords	DROP USER scott IDENTIFIED BY tiger;
	PL/SQL objects	OG_ACTIVATE_LAYER (OG_GET_LAYER ('prod_pie_layer'))
Lowercase italic	Syntax variables	CREATE ROLE <i>role</i>
Uppercase	SQL commands and functions	SELECT userid FROM emp;

Typographic Conventions in Navigation Paths

This course uses simplified navigation paths, such as the following example, to direct you through Oracle Applications.

(N) Invoice > Entry > Invoice Batches Summary (M) Query > Find (B) Approve

This simplified path translates to the following:

1. (N) From the Navigator window, select Invoice > Entry > Invoice Batches Summary.
2. (M) From the menu, select Query > Find.
3. (B) Click the Approve button.

Notations :

(N) = Navigator

(M) = Menu

(T) = Tab

(I) = Icon

(H) = Hyperlink

(B) = Button

Typographical Conventions in Help System Paths

This course uses a “navigation path” convention to represent actions you perform to find pertinent information in the Oracle Applications Help System.

The following help navigation path, for example—

(Help) General Ledger > Journals > Enter Journals

—represents the following sequence of actions:

1. In the navigation frame of the help system window, expand the General Ledger entry.
2. Under the General Ledger entry, expand Journals.
3. Under Journals, select Enter Journals.
4. Review the Enter Journals topic that appears in the document frame of the help system window.

Getting Help

Oracle Applications provides you with a complete online help facility.

Whenever you need assistance, simply choose an item from the Help menu to pinpoint the type of information you want.

To display help for a current window:

1. Choose Window Help from the Help menu, click the Help button on the toolbar, or hold down the Control key and type 'h'.

A web browser window appears, containing search and navigation frames on the left, and a frame that displays help documents on the right.

The document frame provides information on the window containing the cursor. The navigation frame displays the top-level topics for your responsibility, arranged in a tree control.

2. If the document frame contains a list of topics associated with the window, click on a topic of interest to display more detailed information.

3. You can navigate to other topics of interest in the help system, or choose Close from your web browser's File menu to close help.

Searching for Help

You can perform a search to find the Oracle Applications help information you want. Simply enter your query in the text field located in the top-left frame of the browser window when viewing help, then click the adjacent Find button.

A list of titles, ranked by relevance and linked to the documents in question, is returned from your search in the right-hand document frame. Click on whichever title seems to best answer your needs to display the complete document in this frame. If the document doesn't fully answer your questions, use your browser's Back button to return to the list of titles and try another.

Introduction

Chapter 1

Introduction

Implementing Oracle Demand Planning

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Objectives

After completing this lesson, you should be able to do the following:

- **List implementation steps**
- **Describe integration points between Oracle Demand Planning and other components of Oracle's Advanced Planning and Scheduling suite**
- **Discuss strategic implementation issues**

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Agenda

Agenda

- Overview to Oracle Demand Planning (ODP) implementation sequence
- Oracle Demand Planning integration with Advanced Planning and Scheduling suite
- Strategic decisions for ODP implementation

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Agenda

Agenda

- **Overview to Oracle Demand Planning (ODP) implementation sequence**
- Oracle Demand Planning integration with Advanced Planning and Scheduling suite
- Strategic decisions for ODP implementation

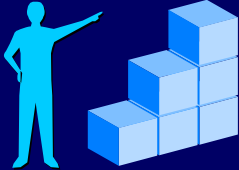
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Implementation Sequence

Implementation Sequence

- Initial setup
 - Demand planning users and user responsibilities
 - Applications utilities lookups:
 - User dimension lookups
 - Data element lookups
 - Instances, requests and personal profiles



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Users and Responsibilities

User accounts for each Demand Planning user and responsibilities for each user must be set up in Oracle Applications.

Reference:

Refer to the *Oracle Application User's Guide* for more information about setting up user accounts and responsibilities.

Applications Utilities Lookups

These lookup tables relate a seeded code to the meaning and description fields for each of the eight dimensions that are available for use in demand planning. You can change the meanings and descriptions, but the codes themselves must not be modified. You can not create new records in this table to expand the seeded list of eight legal code values.

Reference:

“Application Utilities Lookups,” Appendix B, *Oracle Advanced Supply Chain Planning and Global ATP Server User's Guide*

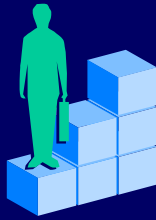
Instances and Database Links Reference:

“Setup Instances, Requests, and Profiles,” Appendix B, *Oracle Advanced Supply Chain Planning and Global ATP Server User's Guide*

Implementation Sequence

Implementation Sequence

- Initial setup (continued)
 - Organizations and category sets collection from instances
 - Define data collection programs
 - Define pull data collection programs



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Organizations Collection

Running the collect organizations program is a setup step that typically occurs at implementation and rarely after that. This program is used to identify the inventory organizations and category sets within an instance.

Data Collection Programs

Data collection programs move data from the source instance into staging tables where data integrity is checked before it is loaded into the destination tables.

Pull Data Programs

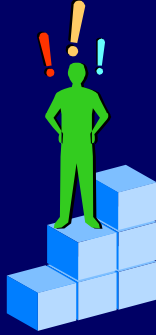
Pull data programs move data from the staging tables into the destination tables in the Planning Server.

Implementation Sequence

Implementation Sequence

Define the structure of Demand Planning

- Define hierarchies
- Define levels
- Organize hierarchy levels into parent - child relationships



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Reference:

“Setting up a Demand Plan” Section 7, Implementing Oracle Demand Planning,
Oracle Advanced Supply Chain Planning and Global ATP Server User’s Guide

Implementation Sequence

Implementation Sequence

- **Define demand plans**
 - Demand plan hierarchies
 - Scenarios
 - Parameters
 - Specify the demand and directory path for the Express shared database



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Reference:

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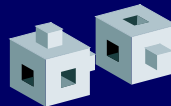
Express Setup

The Express Setup window is used to specify the name and directory path for the Express shared database associated with each demand plan.

Agenda

Agenda

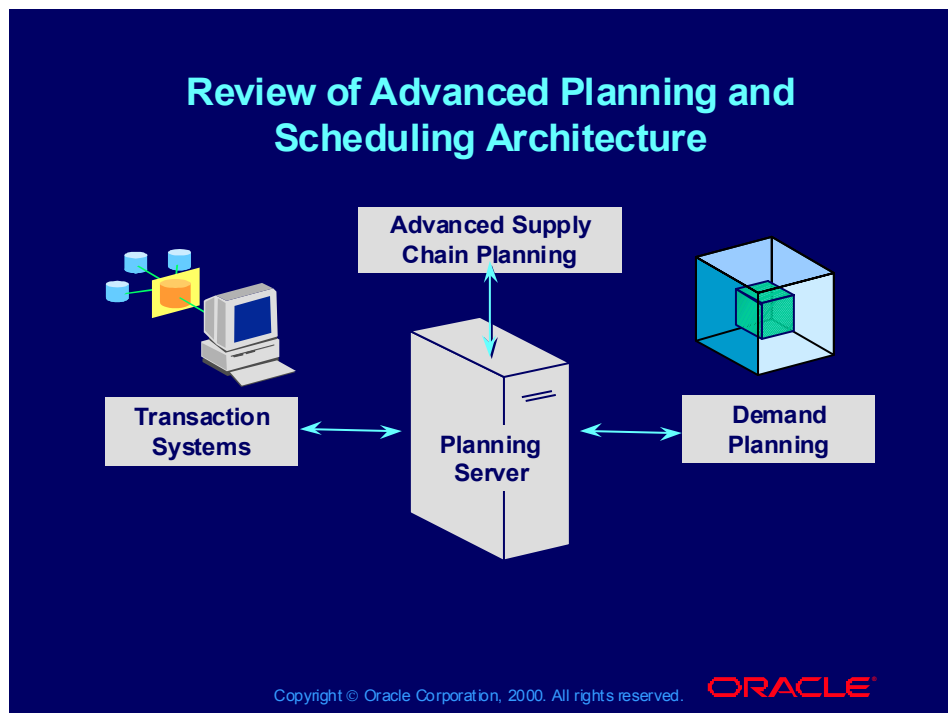
- Overview to Oracle Demand Planning (ODP) implementation sequence
- **Oracle Demand Planning integration with Advanced Planning and Scheduling suite**
- Strategic decisions for ODP implementation



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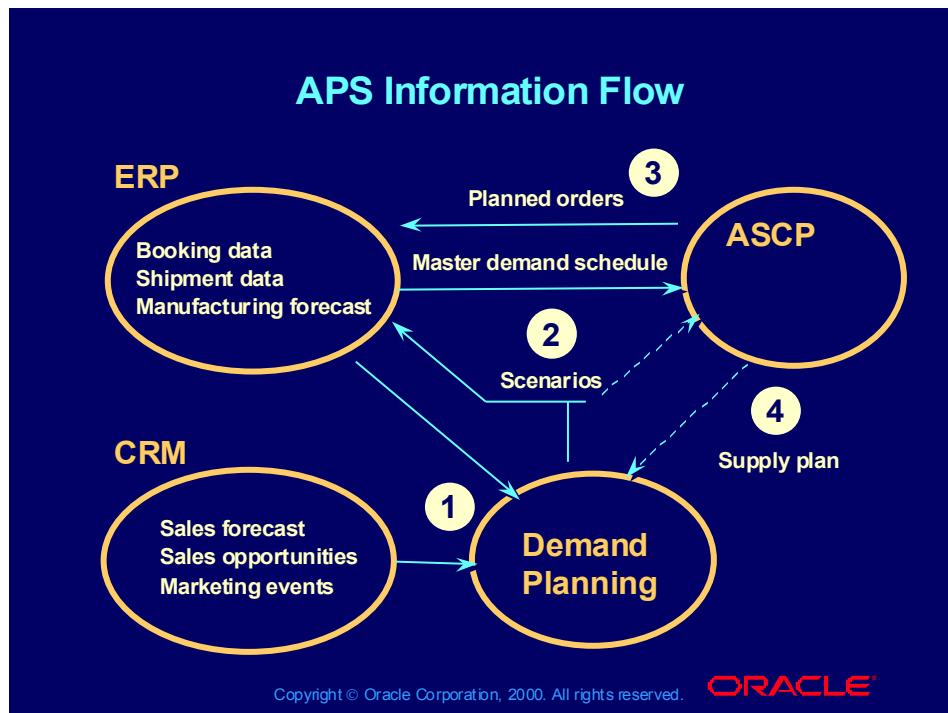
Review of Advanced Planning and Scheduling Architecture



Demand Planning Integration

Demand Planning can be integrated with Advanced Supply Chain Planning, Business Intelligence System, and Global Available-to-Promise (ATP) Server. The transaction systems are the source of demand history data. Demand plan scenarios can be published from the planning server back to the transaction systems as named forecasts.

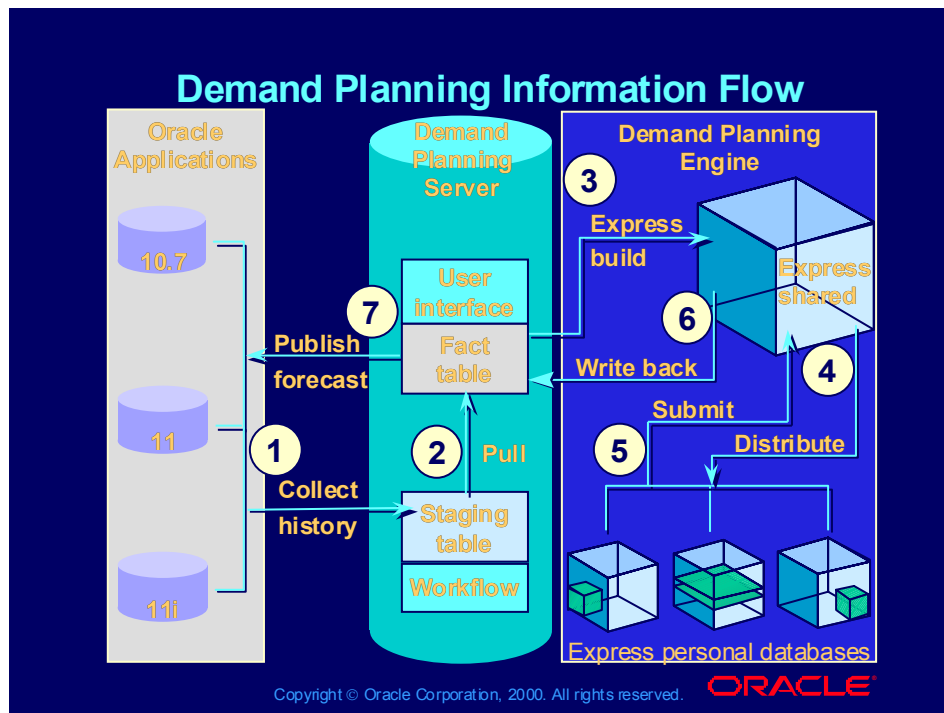
APS Information Flow



Information Flow

1. Information is collected, moved to staging tables, then to tables in the destination Demand Planning Server, and then moved to the Oracle Express database. Once a forecast has been generated in Express, it is submitted back to the Demand Planning server.
2. The forecast can be published back to the source instance for release 10.7 and 11.0 customer bases. Scenarios are somewhat analogous to forecast sets used in earlier releases. However forecasts sets are specific to one inventory organization while scenarios can cross organizations. Therefore one scenario, when published back to the source instances, can link to several forecast sets in different inventory organizations.
3. ASCP planned orders drive purchasing and WIP operations in the source transaction system.
4. The ASCP plan is limited by operation resource constraints, in contrast to the demand plan which does not directly consider constraints. By comparing the demand plan to the ASCP plan, ODP can estimate the amount of lost sales due to production constraints.

Demand Planning Information Flow



Information Flow

Information can be collected from multiple source instances (10.7, 11.0, or 11i) using out-of-the-box collection programs for discrete and flow manufacturing. There is out-of-the-box 11i integration for OPM, with 10.7 and 11.0 OPM being consulting solutions.

1. Information collected from ERP applications includes histories of booking data and shipment data. Information collected from CRM applications includes sales forecast, sales opportunities, and marketing promotional events.
2. This transaction source information is collected into a staging table, then moved to the fact table, which are both located on the destination demand planning server.
3. An Oracle Express shared database is built for each named demand plan, with hierarchies, dimensions, and scenarios as defined by forms on the demand planning server. The Oracle Express engine is used to calculate a baseline forecast.
4. Then multidimensional slices or cubes of the baseline forecast, along with the relevant demand history data are distributed to demand planners according to their assignments.
5. Demand planners use Express tools to analyze and adjust forecasts, then submit them to the Express shared database.

6. At that time the Demand Plan manager has the option of making further adjustments to the forecasts before the consolidated forecasts are written back to the fact table on the demand planning server.
7. Finally, the forecast can be published back to the source instances.

Agenda

Agenda

- Overview to Oracle Demand Planning (ODP) implementation sequence
- Oracle Demand Planning integration with Advanced Planning and Scheduling suite
- **Strategic decisions for ODP implementation**

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Customers



Customers

- Who would be the end users of the forecasts?
- What are the customers' expectations?
- Who will benefit from the demand planning activity?
- Will demand planning information be used when planning cash flow, inventory investment, or other financial management?
- Will demand planning information be used when planning product introductions, promotions, sales force incentives, or other sales and marketing management?

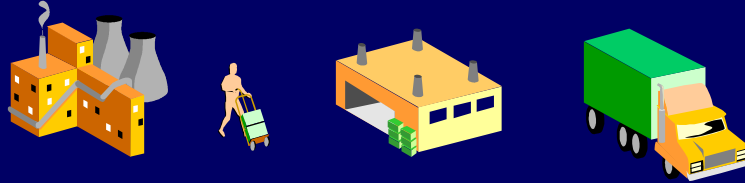


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Customers

- Will demand plans be used to drive supply chain operations and inventory replenishment plans?
- Will demand planning information be used to manage transportation resources or warehouse facilities?
- What frequency of refreshing data and updating demand plan information is needed?



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Contributors

Which internal organization owns the forecast generation process?

- **Who will participate in the collaborative effort?**
- **What resources will be committed to this collaborative effort internally, and from supply chain alliance partners?**



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Contributors

- What are the sources of information?
 - Marketing
 - Sales
 - Customers
 - Operations
- What is the best information from each source that could enhance the planning process?
- What are the forecasting skill levels?



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Internet Collaboration



Collaborative Forecasting

Oracle Demand Planning provides a robust Internet-based framework for developing collaborative demand plans and forecasts.

You can collect the data you need from multiple disparate sources and provide secure access to portions of the demand plan. You can also manage multiple scenarios to develop a collaborative consensus demand plan. The integration between Oracle Advanced Supply Chain Planning and Oracle Demand Planning also allows you to manage the balance between production capabilities and market needs.

Demand Plan Management

- Who would need to review the forecasts?
- Who would have the best information to provide meaningful judgmental updates?
- Who would have access to this information, and the ability to modify forecasts?



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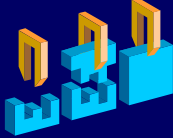
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Demand History

Demand History

What history information is available?

- What is the aggregation level of this information?
 - Time granularity
 - Item quantity
 - Product family
 - Customer
 - Currency amount



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Time Granularity


Is the history data available in daily, weekly, monthly, or other increments of time?

Demand History

Demand History

What history information is available?

- **In what form is this information?**
 - Shipping history or booking history
 - Oracle core applications
 - Spreadsheet, or legacy ERP system
- **Is the available data dense or sparse?**
- **Do all customers buy all products, or are a majority of products targeted to specific customers?**



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Demand History Data Type

Booking history and Requested date are the recommended demand history and period types to use for statistical forecast scenarios because they more accurately represent the magnitude and timing of customer demand. Sales history and shipping history data can be affected by stockouts.

Data Sparsity


High degrees of forecast inaccuracy and volatility can sometimes be caused by sparse history data. Sparse data can result from keeping records with too much precision. An extreme example would be to record daily demand, by specific item number, for a precise location. Say that the data history records show that only two units of that specific item were sold in that specific location, during one day of the previous year. The resulting data history would be zero sales every day except for one day. A forecast based on this sparse data would not provide much useful information regarding the quantity of future daily demand for that location, nor would it accurately predict the correct day that the demand would occur.


Aggregating the history data, by month, by product family, and by region would usually provide more useful information.

Scope

Scope

- **What is the forecast horizon?**
 - Duration
 - Time granularity
- **What information is relevant for analysis?**
 - Dimensions
 - Hierarchies
- **How should the data be aggregated for forecasting and analysis?**
- **What would be the optimal forecast generation and allocation levels in view of sporadicity, variability, and preservation of demand trends?**



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Dimensions

Dimensions are used to organize data for analysis. For example one can view demand by product, by geographic region, and by time. That report would involve three dimensions. Two dimensions can be user defined. For example, you can specify a user defined dimension to enable analysis of demand for products by original equipment manufacturer.

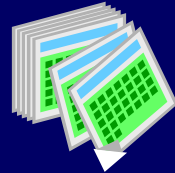
Hierarchies

Hierarchies organize data along a dimension. For example, the Product dimension could be organized into a hierarchy of several levels:

- Home and Garden Products
- Hardware
- Tools
- Hand tools
- Hammers
- Sku

Schedule

- What would be a typical demand planning cycle duration?
 - Frequency of history data collection
 - Time allowed for forecast analysis and collaborative input
 - Frequency of publishing demand plans
- What workflow messages are needed to coordinate collaboration?



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Item Characteristics

A baseline statistical forecast typically provides adequate performance for most items.

- **Which SKUs or categories are key value drivers?**
- **How would planning and forecasting differ for these key products?**
- **How would knowledge about future product introductions, promotions, customer plans, and competitor response affect the final forecast?**



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Item Maintenance

- Which item attributes will be used to identify items that are collaboratively forecast?
 - Demand class
 - Product category
 - Other
- How will items be added to or deleted from the list of collaboratively forecast items?


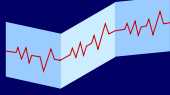


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Data Structure

Data Structure



How will the forecast information be structured?

- What strategy will be used to avoid creating overlapping data assignments?
- Which user dimensions are relevant?



Time Product Geography

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Structure

Determine your data structure carefully. Be sure that it supports the levels of detail required by all of people who use, produce and analyze the forecasts. Consider whether flexibility is needed for future modifications to the structure.

Data Collection

- How frequently should data history be collected?
- Will customized data cleansing be needed?



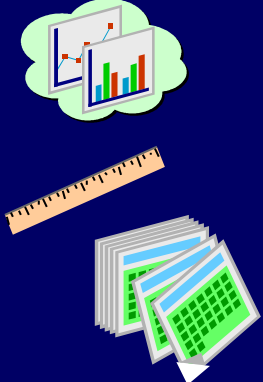
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Defining Demand Plans

Defining Demand Plans

- Demand plan definitions determine the way data is organized for:
 - Generating forecast data
 - Reporting forecast data
- Considerations:
 - User dimensions
 - Units of measure
 - Calendar type



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Considerations for Defining Demand Plans

A Demand Plan may represent an entire business or specific portions of the business. A Demand Plan definition includes:

- A name for the plan
- A uniform measure
- An average discount
- A calendar
- Category sets

User Dimensions

Demand Plans are associated with up to four User Dimensions.

Units of Measure

Different units of measure may exist for items in the same product family. The base UOM provides a means to change units for all items within a higher level of aggregation to a common unit of measure

Calendar Type

The Calendar Type selected when you define the demand plan must be used for all scenarios you create for this demand plan.

Scenarios

- Will there be a single forecast, or will multiple scenarios be used?
- Which allocation rule will be used to reconcile conflicting data within a hierarchy?
- For each dimension, at what hierarchy level will the baseline forecast be calculated?
- Will forecasting methods be selected automatically or manually?



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Scenarios

Scenarios can be defined to represent forecasts from different sources such as marketing, sales, customers, or statistical. They also can be used to model different sets of supposed events, such as optimistic and pessimistic assumptions of business conditions. One demand plan can include multiple scenarios.

Review Question

Which of the following setup steps should be done first?

- 1. Define demand plans**
- 2. Define structure of demand planning**
- 3. Setup instances and database links**

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Review Question Solution

Which of the following setup steps should be done first?

1. Define demand plans
2. Define structure of demand planning
- 3. Setup instances and database links**

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Review Question

Which of the following is a characteristic of sparse data?

- 1. Several history data values are missing.**
- 2. Nearly all of the history data values are zero.**
- 3. The data is a history of demand at rural sites.**

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Review Question Solution

Which of the following is a characteristic of sparse data?

1. Several history data values are missing.
- 2. Nearly all of the history data values are zero.**
3. The data is a history of demand at rural sites.

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Review Question

Which of the following can cause *sales history* data to misrepresent *demand history*?

1. Future marketing promotions
2. Inventory stockouts
3. Returned material authorizations (RMA)
4. Short product life cycles
5. Units of measure conversion

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Review Question Solution

Which of the following can cause *sales history* data to misrepresent *demand history*?

1. Future marketing promotions
2. Inventory stockouts
3. Returned material authorizations (RMA)
4. Short product life cycles
5. Units of measure conversion

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Sales History Underestimates Actual Demand History

Sales are not the same as demand. When inventory stockouts cause lost sales, demand is greater than sales.

Depending on how an RMA is processed, it is possible that the RMA would decrease sales history data. The adjusted sales history would then be less than the demand that actually occurred on that date.

A short product life cycle can easily cause large errors when forecasts are based on a very short history. For example, when the history is 0, 2, 24, a statistical forecast would project an unsustainable rate of growth. However, this question is looking for the sources of discrepancies between sales data and the actual demand that occurred during that same period of history.

An *error* in units of measure conversion could have the effect of sales data underestimating demand, but that is not the intent of this question.

The main point is that many things could cause the timing and magnitude of sales to be different from the timing and magnitude of actual demand. Demand plans should be based on the best available representation of demand, not sales. Booking history and request dates usually more accurately reflect the true timing and magnitude of demand than do shipment history and promised dates.

Summary

In this lesson, you should have learned how to:

- **List implementation steps**
- **Describe integration points between Oracle Demand Planning and other components of Oracle's Advanced Planning and Scheduling suite**
- **Discuss strategic implementation issues**

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Setting Up the Oracle Demand Planning Server

Chapter 2

Setting Up the Oracle Demand Planning Server

Implementing Oracle Demand Planning

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Objectives

Objectives

After completing this lesson, you should be able to set up Oracle Demand Planning on the demand planning server.

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Agenda

Agenda

- **Completing initial setup**
- **Defining the structure of demand planning**
- **Defining demand plans**

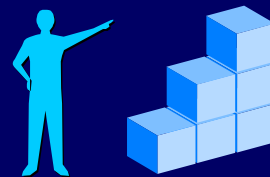
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Agenda

Agenda

- **Completing initial setup**
- Defining the structure of demand planning
- Defining demand plans

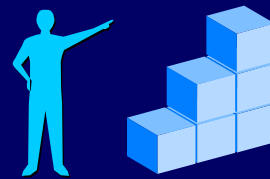


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Completing Initial Setup

- **Setting up demand planning users and user responsibilities**
- **Editing application utilities lookups**
- **Setting up instances and database links**
- **Executing collect organizations program**
- **Executing data collection programs**
- **Executing pull data programs**
- **Submitting requests and specifying profile options**



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Completing Initial Setup

- **Setting up demand planning users and user responsibilities**
- Editing application utilities lookups
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- Executing data collection programs
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- Submitting requests and specifying profile options



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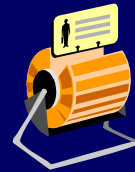
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Setting Up Demand Planning Users

Setting Up Demand Planning Users

To set up Demand Planning users:

1. Switch responsibilities to System Administrator
(Menu) File > Switch Responsibility
2. Define user responsibilities
3. Set up demand planning users
4. Assign demand planning responsibilities to users



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Users and Responsibilities

Navigate to the Users Window using the System Administrator responsibility.

(N) Security > Users > Define

User accounts for each Demand Planning user must be set up in Oracle Applications. Refer to the *Oracle Application User's Guide* for more information about setting up user accounts.

Navigate to the Responsibilities Window using the System Administrator responsibility.

(N) Security > Responsibility > Define

Responsibilities for each Demand Planning user must be set up in Oracle Applications. Refer to the *Oracle Application User's Guide* for more information about responsibilities.

Demonstration

This demonstration shows you how to:

- **View seeded demand planning responsibilities**
- **Setup demand planning users**
- **Assign responsibilities to users**



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Practice

Practice

Refer to the practices located at the end of this lesson. Complete the following practices:

- **View Responsibilities**
- **User Setup**

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Completing Initial Setup

- Setting up demand planning users and user responsibilities
- **Editing application utilities lookups**
- Setting up instances and database links
- Executing collect organizations program
- Executing data collection programs
- Executing pull data programs
- Submitting requests and specifying profile options



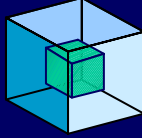
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Lookup Tables for Dimensions and User Dimensions

Lookup Tables for Dimensions and User Dimensions

- **CHN** Sales channel
- **GEO** Geography
- **ORG** Organization
- **PRD** Product
- **REP** Sales representative
- **TIM** Time
- **UD1** User defined dimension #1
- **UD2** User defined dimension #2



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Applications Utilities Lookups for Dimensions and User Dimensions

Lookup tables relate a seeded code to the meaning and description fields for each of the eight dimensions that are available for use in demand planning. You can change the meanings and descriptions, but the codes themselves must not be modified. You can not create new records in this table to expand the seeded list of eight legal code values.

Navigate to the Applications Utilities: MSD_DIMENSIONS Lookups Window using the Demand Planning Integration Administrator responsibility.

(N) Setup > Dimensions

Navigate to the Applications Utilities: MSD_USER_DIMENSIONS Lookups Window using the Demand Planning Integration Administrator responsibility.

(N) Setup > User Dimensions

Reference:

“Application Utilities Lookups,” Appendix B, *Oracle Advanced Supply Chain Planning and Global ATP Server User’s Guide*

Online Help Reference:

(Help) Oracle Manufacturing Applications > Oracle Demand Planning > Setting Up Demand Plans > Defining Demand Planning Dimensions

Dimensions and User Dimensions

Dimensions and User Dimensions

Dimension	User Dimension
Sales Channel	Geography
Geography	Geography
Shipped from Location	Shipped from Location
Product	Product
Sales Representative	Geography
Time	Time

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Aligning Dimensions with User Dimensions

ODP provides eight seeded dimensions. Each dimension provides an opportunity for analysis. An example of two dimensional analysis is product sales by time period. Whether that analysis is product item by day, or product family by month, or any other combination of product grouping and time granularity, it is still a two dimensional analysis.


Now add a third dimension, say geographic region. Just as time can be divided into a hierarchy of days, months, and years, a geographic region can be organized into a hierarchy of say, city, county, state, nation, continent, and hemisphere. This would permit three dimensional analysis by product, by time, and by region. This example could be expanded to include yet other dimensions. However as a practical matter, it is difficult to mentally comprehend an analysis of data in more than four dimensions at one time.


When defining a demand plan, the user is required to choose up to four dimensions that will apply to that named demand plan. Another requirement is that two of the four dimensions must be Product and Time. A form is provided that permits the user, at their option, to collapse dimensions into one or more user dimensions so that the total of user dimensions in a demand plan does not exceed four.

The table shows that the Sales Channel and Sales Representative dimensions have been combined into the Geography dimension.

Data Elements

1. Booking history
2. Shipment history
3. Opportunity history
4. Input scenario
5. Input manufacturing
6. Input sales forecast
7. Output scenario
8. Supply plan




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Applications Utilities Lookups (continued)

Data elements are the types of information that are collected from the source or published back from demand planning.

Note: You can change the names and descriptions, but you can not create new records to expand the seeded list of legal values.


Reference:

“Application Utilities Lookups,” Appendix B, *Oracle Advanced Supply Chain Planning and Global ATP Server User’s Guide*

Completing Initial Setup

Completing Initial Setup

- Setting up demand planning users and user responsibilities
- Editing application utilities lookups
- **Setting up instances and database links**
- Executing collect organizations program
- Executing data collection programs
- Executing pull data programs
- Submitting requests and specifying profile options



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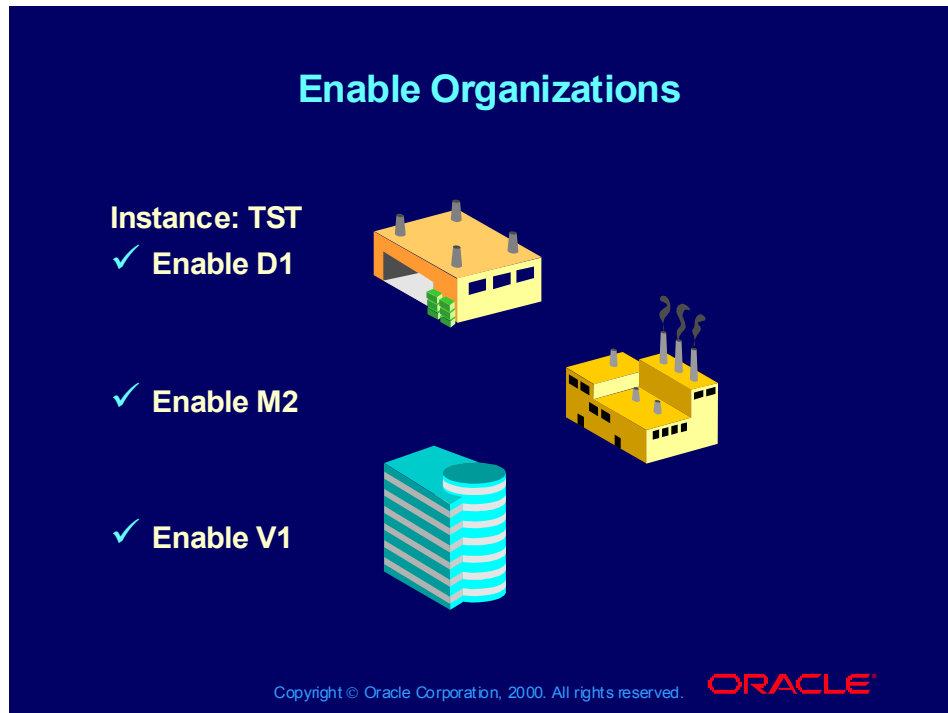
Instances and Database Links

Navigate to the Application Instances Window using the Demand Planning Integration Administrator responsibility.

(N) Setup > Instances

The database administrator must create the database links before you enter the link information in the Instances window. These links establish communication between the core applications and Advanced Planning and Scheduling instance.

Enable Organizations



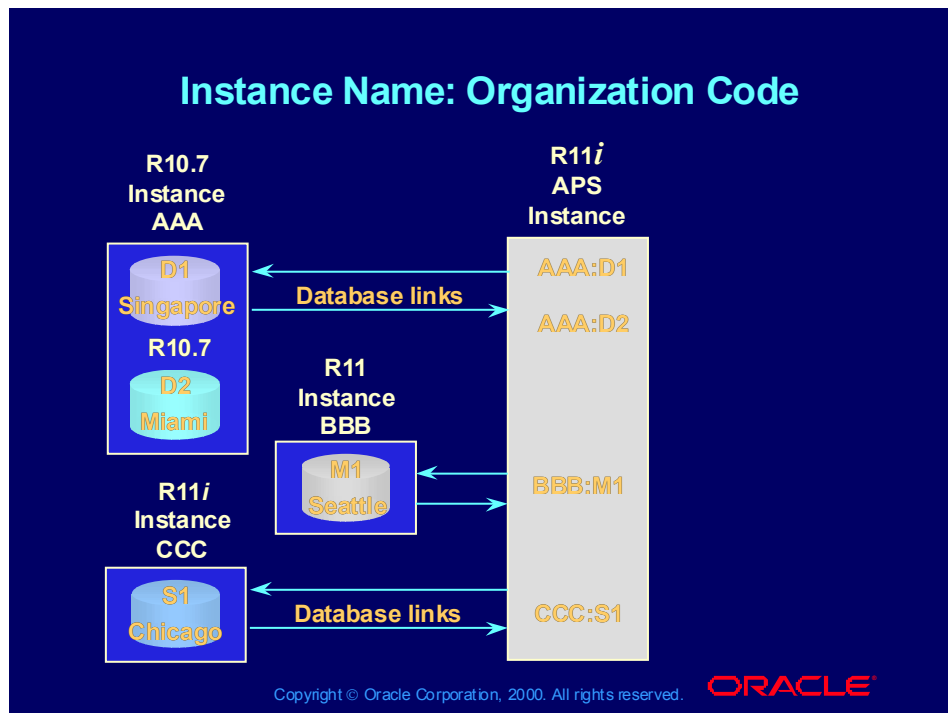
Enable Organizations in Instances

Navigate to the Organizations Window from the Applications Instances Window using the Demand Planning Integration Administrator responsibility.

(N) Setup > Instances > (B) Organizations

Use the Enabled checkboxes to designate organizations within this instance from which to collect demand history data.

Instance Name: Organization Code



APS Organization Code Instance Tag

You can collect from multiple instances and prior releases for use by release 11i APS. The organization codes defined on the APS side include reference to the source instance name. In the figure, the transaction system for the distribution centers D1 and D2 are shown to be operating on a release 10.7 instance named AAA. Using a database link, the data collection program obtains information about organization D1 from the 10.7 release, and then brings that information to the release 11i planning server organization AAA:D1. Another database link is used when ASCP plan information for organization AAA:D1 is published back to the transaction system organization D1 on instance AAA.

Note: Nothing need be changed regarding the inventory organization structure or organization codes on the source instances.

Demonstration

This demonstration shows you how to:

- **View applications utilities lookups**
 - **User dimensions**
 - **Data elements**
- **View instances and database link setup**



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Practice

Refer to the practices located at the end of this lesson. Complete the following practices:

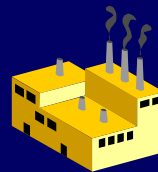
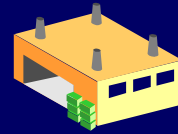
- **Dimension Lookups**
- **Data Element Lookups**
- **Instances**

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Completing Initial Setup

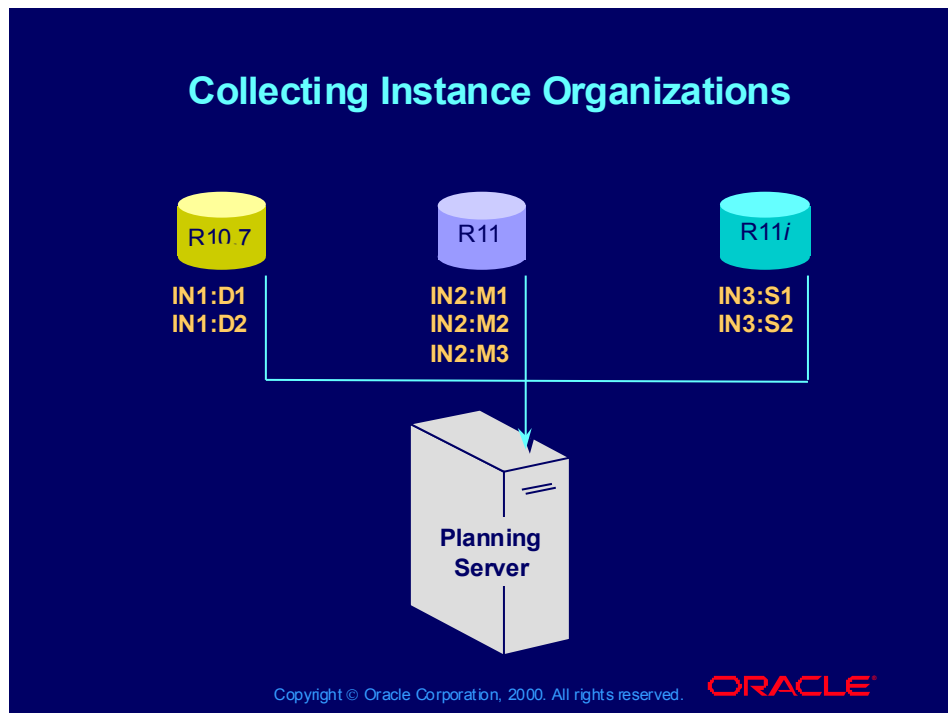
- Setting up demand planning users and user responsibilities
- Editing application utilities lookups
- Setting up instances and database links
- **Executing collect organizations program**
- Executing data collection programs
- Executing pull data programs
- Submitting requests and specifying profile options



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Collecting Instance Organizations



Organizations Collection Program

Running the organizations collection program is a setup step that typically occurs at implementation, and rarely after that. This program is used to identify the inventory organizations and category sets within an instance.

Navigate to the Collect Organizations Window using the Demand Planning Integration Administrator responsibility.

(N) Setup > Organizations

or using the Demand Planning System Administrator responsibility

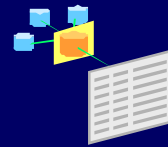
(N) Integration > Setup > Organizations

Parameters

On the organization collection program parameters window Instance field, you choose from the list of values to specify from which instance the enabled inventory organizations are to be collected.

Completing Initial Setup

- Setting up demand planning users and user responsibilities
- Editing application utilities lookups
- Setting up instances and database links
- Executing collect organizations program
- **Executing data collection programs**
- Executing pull data programs
- Submitting requests and specifying profile options

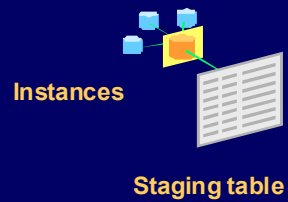


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Data Collection Programs

- Collect data from transaction source instances
- Collected data is consolidated in a staging table



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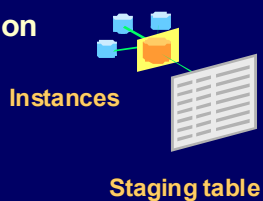
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Data Collection Programs

Data Collection Programs

A collection program is provided for each of the following data types:

- Shipment data
- Booking data
- Currency conversion
- Unit of Measure (UOM) conversion



The diagram illustrates the data collection process. It shows three small blue cubes representing 'Instances' connected by lines to a larger yellow cube, which is then connected to a white rectangular table representing a 'Staging table'.

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Data Collection Programs

Navigate to the appropriate Collection Utility Window using the Demand Planning Integration Administrator responsibility.

(N) Collections > Collect Data > (Data Type)

The data collection programs are similar to each other. The main difference is that different programs are used to collect different types of data.

Parameters

The Parameters window for each of the data collection programs is used to specify from which instance that particular type of data are to be collected, the list of legal values to collect, and optionally, the starting and ending date range for data collection.

Note: The collection program types, At These Times ... field, and Instance name in the Parameters window provides flexibility to collect different types of data from different instances at different frequencies.

Reference:

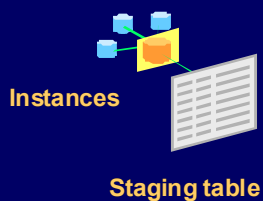
“Data Collection,” Appendix B, *Oracle Advanced Supply Chain Planning and Global ATP Server User’s Guide*

Data Collection Programs

Data Collection Programs

A collection program is provided for each of the following data types:

- **All fact data**
- **Level values**
- **Time data**



The diagram illustrates the data collection process. It shows three small blue cubes representing 'Instances' connected by lines to a larger yellow cube, which in turn is connected to a white rectangular box representing a 'Staging table'.

Instances

Staging table

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Data Collection Programs

Navigate to the appropriate Collection Utility Window using the Demand Planning Integration Administrator responsibility.

(N) Collections > Collect Data > (Data Type)

All Fact Data

(N) Collections > Collect Data > All Fact Data

The Pull All Fact Data program pulls data for all data items except Level Values and Time Values.

Level Values

(N) Collections > Collect Data > Level Values

The Level Values collection program can be used to collect different types of entities, such as demand plan, dimension, hierarchy, level, or levels across demand plans.

Time Data

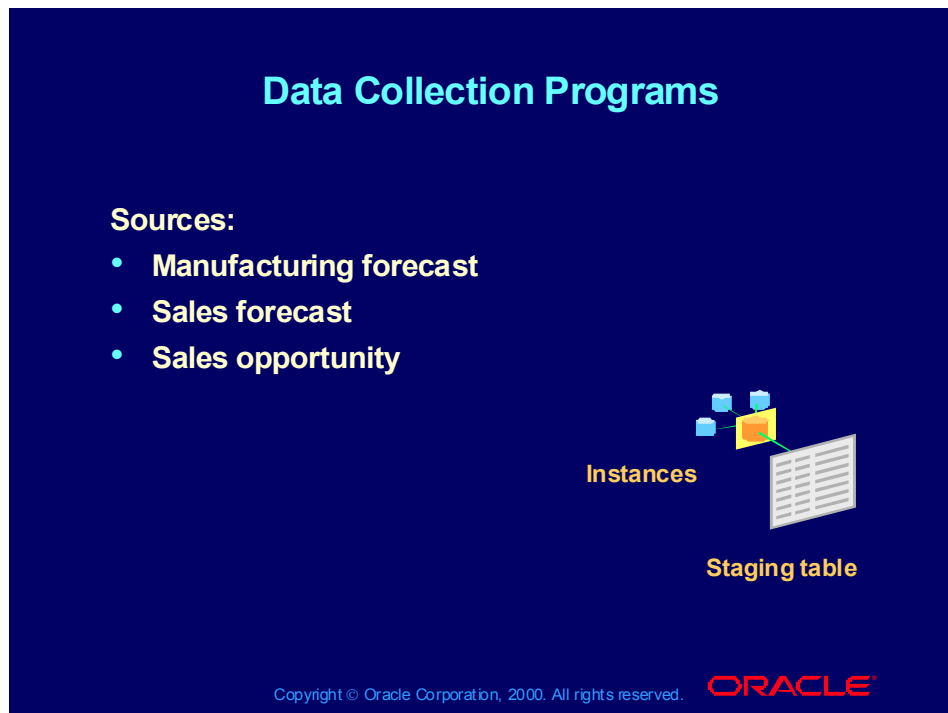
(N) Collections > Collect Data > Time Data

The time data collection is used to identify the calendar type, and starting and ending dates for data collection.

Reference:

“Data Collection,” Appendix B, *Oracle Advanced Supply Chain Planning and Global ATP Server User’s Guide*

Data Collection Programs



Data Collection Programs

The data collection programs move information from source instances to staging tables where data from different instances are consolidated and data integrity is checked. Data collection programs are provided to collect from Oracle 10.7 and later releases. When you are working with a legacy system, you write your own data collection programs. Once the data has reached the staging table, the process is the same thereafter, regardless of whether the transaction source is an Oracle or legacy system.

Sources

Collected data can be categorized by source. For example the source of a manufacturing forecast can be an enterprise resource planning (ERP) system, while the source of sales forecasts and sales opportunities can be a customer relationship management (CRM) system.

Completing Initial Setup

- Setting up demand planning users and user responsibilities
- Editing application utilities lookups
- Setting up instances and database links
- Executing collect organizations program
- Executing data collection programs
- **Executing pull data programs**
- Submitting requests and specifying profile options

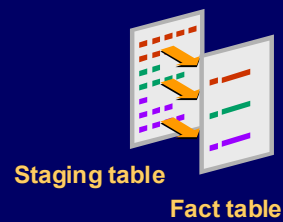


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Pull Data Programs

- Empties the Staging table and moves cleansed data to the Fact table
- Pull data program does not erase the fact table.
- Only changed information is updated or added to the Fact table




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Pull Data Programs

Pull Data Programs

- Shipment data
- Booking data
- Currency conversion
- Unit of Measure (UOM) conversion
- All fact data
- Level values
- Time data



Staging table Fact table

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Pull Data Programs

There are the same number and types of pull data programs as there are data collection programs. The pull data programs are similar to the data collection programs.

There are two important differences between data collection programs and pull data programs.

- Data collection programs move information from source instances to staging tables, and the pull data programs move data from the staging tables into the destination tables located on the planning server.
- There are no parameters windows in the pull data programs. Those decisions were made during data collection process.

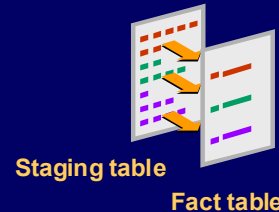
Reference:

“Pull Data Programs,” Appendix B, *Oracle Advanced Supply Chain Planning and Global ATP Server User’s Guide*

Pull Data Programs

Pull Data Programs

- Manufacturing forecast
- Sales forecast
- Sales opportunity



The diagram illustrates the data flow process. It features two 3D rectangular blocks representing tables. The block on the left is labeled 'Staging table' and contains several rows of data, each represented by a small colored square (orange, green, purple). The block on the right is labeled 'Fact table' and is empty. Three orange arrows point from the 'Staging table' to the 'Fact table', indicating the transfer of data.

Staging table Fact table

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Data Collection Programs

The data collection programs are similar to each other. The main difference is that different programs are used to collect different types of data.

Reference:

“Data Collection,” Appendix B, *Oracle Advanced Supply Chain Planning and Global ATP Server User’s Guide*

Demonstration

This demonstration shows you how to:

- **Collect instance organizations**
- **Execute data collection programs**
- **Execute pull collection programs**
- **Launch collection programs in sequence**



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Practice

Refer to the practices located at the end of this lesson. Complete the following practices:

- **Collect Organizations**
- **Data Collection Utility**
- **Collect All Fact Data**
- **Collect Level Values**
- **Collect Time Data**
- **Pull Data Utility**

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Completing Initial Setup

- Setting up demand planning users and user responsibilities
- Editing application utilities lookups
- Setting up instances and database links
- Executing collect organizations program
- Executing data collection programs
- Executing pull data programs
- **Submitting requests and specifying profile options**




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Finding Requests

Finding Requests

- All submitted requests have request ID numbers
- Search for
 - My completed requests
 - My requests in progress
 - All my requests
 - Specific requests
 - Request ID number
 - Date submitted
 - Other
- (N) Other > Requests



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Viewing Your Requests

Navigate to the Find Requests Window using the Demand Planning Integration Administrator responsibility.

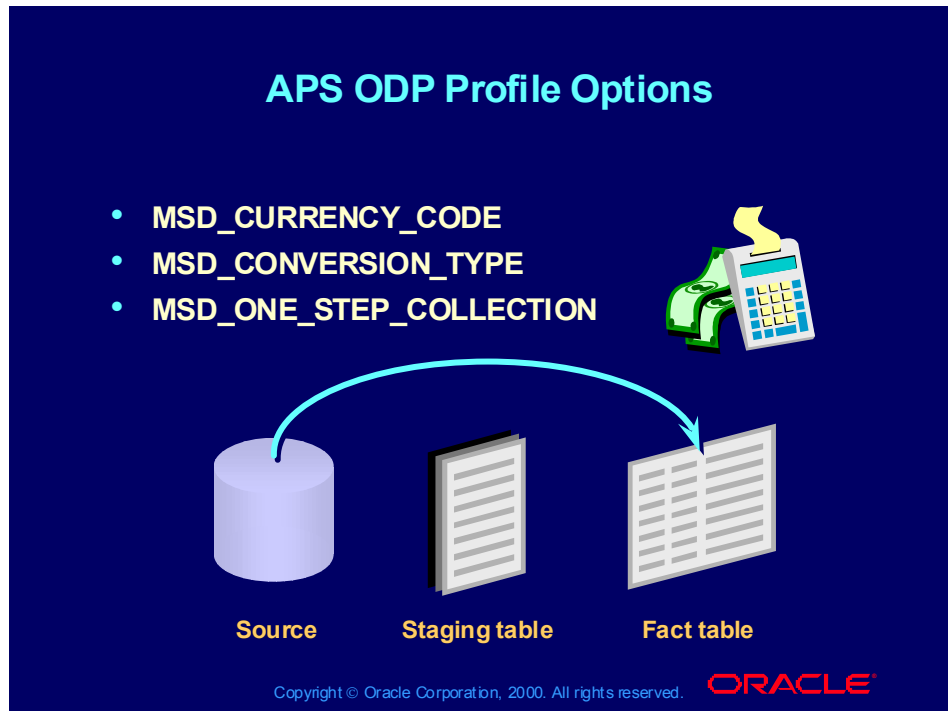
(N) Other > Requests

Data collection programs are just a few of a large number of requests that can be submitted for processing. Each submitted request is marked with an identification number and other information that is useful in searching for the result.

Online Help Reference

(Help) Oracle Applications User's Guide > Viewing Reports > Viewing Requests > Using the Requests Window

APS ODP Profile Options



Profile Options

Navigate to the Find Personal Profile Values Window using the Demand Planning Integration Administrator responsibility.

(N) Other > Profiles

Demand Planning profile options begin with the three letters: MSD, which stand for Manufacturing, Supply chain, Demand planning. Search for Profile Name “MSD%”

MSD_CURRENCY_CODE

This profile designates the currency used as the base currency for amounts.

MSD_CONVERSION_TYPE

This profile determines what conversion rates are collected from the general ledger dates rates table.

MSD_ONE_STEP_COLLECTION

When you are collecting data from only one source instance, the usual process of loading, consolidating, and cleansing the data in the Staging Table might become an unnecessary use of time and resources. In this situation, you can optionally set this profile to Yes to cause the collected data to skip the Staging table and be imported directly from the source instance to the Fact table, all in one step.

The default setting for this profile is blank, which will cause the collected data to first be stored in the Staging table. Then a second step; the pull data program, is required to move data from the Staging table to the Fact table.

Online Help Reference

(Help) Oracle Applications User's Guide > Profile Options > Overview of User Profiles

Demonstration

This demonstration shows you how to:

- **View your requests**
- **View Oracle Demand Planning profile options**



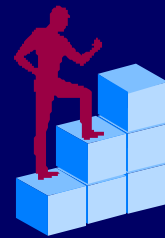
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Agenda

Agenda

- Completing initial setup
- **Defining the structure of demand planning**
- Defining demand plans



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Caution

Caution

- Pay close attention to the window titles
- Demand Plan Hierarchies performs a different function than does Demand Planning Hierarchies
- Demand Planning Levels performs a different function than does Demand Planning Hierarchy Levels



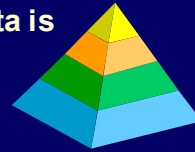
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Data Structure

Determine your data structure carefully.

- **Data structure determines the way data is organized for:**
 - **Generating forecast data**
 - **Multidimensional analysis**
- **Provide flexibility to support modifications at levels of detail required by all people who produce and analyze forecasts**



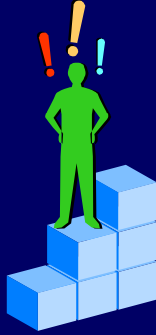
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Defining the Structure of Demand Planning

Defining the Structure of Demand Planning

- Define hierarchies
- Define levels
- Organize hierarchy levels into parent - child relationships



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Defining Demand Plans

All of the forms needed to define a demand plan are accessible from the Demand Planning Integration Administrator responsibility.

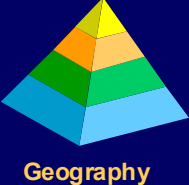
Reference:

“Setting up a Demand Plan”, Section 7, *Oracle Advanced Supply Chain Planning and Global ATP Server User's Guide*

Define Hierarchies

Define Hierarchies

- Hierarchies provide a means of organizing and structuring data within a dimension
- Defining hierarchies includes:
 - Naming hierarchies
 - Associating hierarchies with a dimension



Geography

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Demand Planning Hierarchies

Navigate to the Demand Planning Hierarchies Window using the Demand Planning Integration Administrator responsibility.

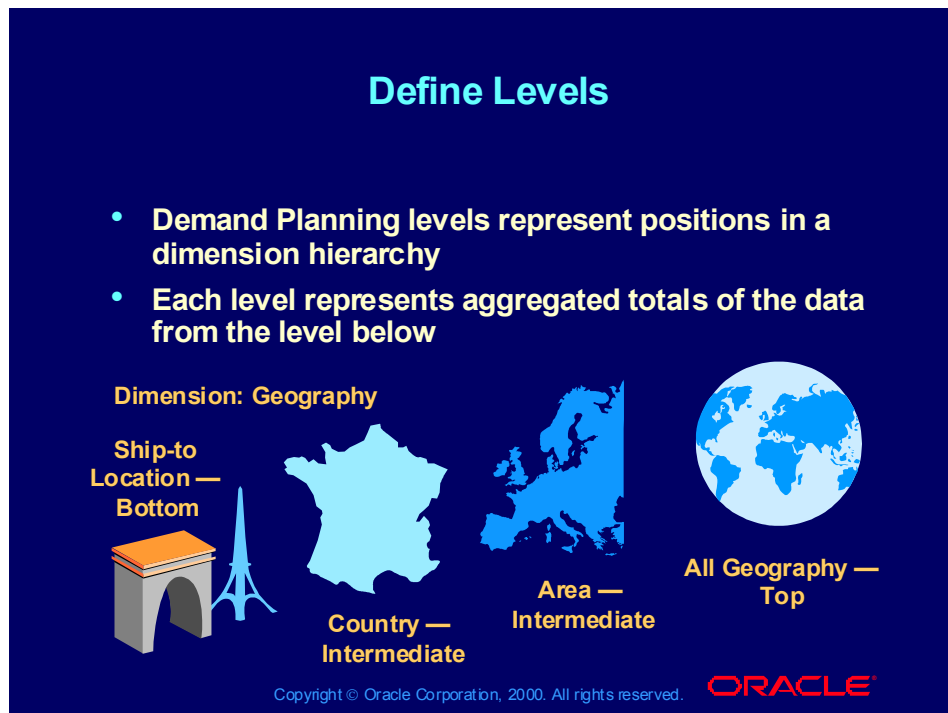
(N) Setup > Hierarchies

For descriptions of the fields appearing on the Demand Planning Hierarchies window:

Reference:

“Defining Demand Planning Hierarchies” Appendix B, Setting Up Demand Planning in Oracle Applications, *Oracle Demand Planning User’s Guide*

Define Levels



Demand Planning Levels

Navigate to the Demand Planning Levels Window using the Demand Planning Integration Administrator responsibility.

(N) Setup > Levels

The Demand Planning Levels window names the levels, and defines whether the level is at the top, bottom or an intermediate level of the hierarchy.

Note: This window does not specify the relationship between intermediate levels. Detailed parent - child relationships are defined on the Demand Planning Hierarchy Levels window.

For descriptions of the fields appearing on the Demand Planning Levels window:

Reference:

“Defining Demand Planning Levels” Appendix B, Setting Up Demand Planning in Oracle Applications, *Oracle Demand Planning User’s Guide*

Sequence Hierarchy Levels

Sequence Hierarchy Levels

- **Hierarchy Levels define the relationship of levels within Demand Planning.**
- **When defining hierarchy levels, each Demand Planning level is associated with its parent level.**

Level	Parent
Area	All Geography
Country	Area
Region	Country
Ship to location	Region

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Demand Planning Hierarchy Levels

Navigate to the Demand Planning Hierarchy Levels Window using the Demand Planning Integration Administrator responsibility.

(N) Setup > Hierarchy Levels

For descriptions of the fields appearing on the Demand Planning Hierarchy Levels window:

Reference:

“Defining Demand Planning Levels” Appendix B, Setting Up Demand Planning in Oracle Applications, *Oracle Demand Planning User’s Guide*

Demonstration

This demonstration shows you how to:

- **Define hierarchies for dimensions**
- **Define levels in hierarchies**
- **Organize hierarchy levels into a continuous series of parent - child relationships**



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Practice

Refer to the practices located at the end of this lesson. Complete the following practices:

- **Define Hierarchies**
- **Levels**
- **Hierarchy Levels**

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Agenda

Agenda

- Completing initial setup
- Defining the structure of demand planning
- **Defining demand plans**



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Online Help Reference:

Oracle Manufacturing Applications > Oracle Demand Planning > Setting Up Demand Plans > Defining Demand Plans

Steps for Defining a Demand Plan

Steps for Defining a Demand Plan

- Define Demand Plan name, user dimensions, base UOM, and calendar
- Define Demand Plan hierarchies
- Define Demand Plan scenarios
- Define Demand Plan parameters
- Define Express setup

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Defining Demand Plans

Defining Demand Plans

- A demand plan may represent all or a portion of a business.
- A demand plan definition includes:
 - Name and description for the plan
 - Uniform (or base) unit measure
 - Calendar

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Demand Plans

Navigate to the Demand Plans Window using the Demand Planning Integration Administrator responsibility.

(N) Demand Plan Definitions > Demand Plans

For descriptions of the fields appearing on the Demand Plans window:



Reference:

“Setting Up Demand Planning in Oracle Applications.” *Oracle Demand Planning User’s Guide*, Appendix B

Defining Demand Plans

Defining Demand Plans

- Eight dimensions are seeded in Oracle Demand Planning
- Demand plans are associated with up to four user dimensions
- Time and Product are required user dimensions in every demand plan
- Optionally designate from the remaining list of six dimensions up to two more user dimensions
- Optionally specify how you want to collapse remaining dimensions into the user dimensions for the named demand plan



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Considerations for Defining Demand Plans

When you define a demand plan you specify the owning organization, name of the plan, and specify a uniform measure, and calendar.

You specify which of the dimensions are user dimensions for this named demand plan. You can optionally specify which of the dimensions to collapse into user dimensions so that the number of user dimensions in the named demand plan does not exceed four.

If a dimension does not appear as a user dimension and has not been collapsed into a user dimension, then that information is not available to the named demand plan.

Units of Measure

Different units of measure may exist for items in the same product family. The uniform (or base) UOM provides a means to change units for all items within a higher level of aggregation to a common unit of measure. The base UOM would ordinarily be the smallest UOM.

Calendar Type

The Calendar Type selected when you define the demand plan must be used for all scenarios you create for this demand plan.

Dimensions and User Dimensions

Dimensions and User Dimensions	
Dimension	User Dimension
Sales Channel	Geography
Geography	Geography
Shipped from Location	Shipped from Location
Product	Product
Sales Representative	Geography
Time	Time

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Setting Up Dimensions

Previously in this lesson, the Applications Utility Lookups for Dimensions and for User Dimensions associated codes with meanings and descriptions.

When defining a demand plan, the user is required to choose up to four dimensions that will apply to that named demand plan. Another requirement is that two of the four dimensions must be Product and Time. A form is provided that permits the user, at their option, to collapse dimensions into user dimensions so that the total of user dimensions in a demand plan does not exceed four.

The figure shows an example where the Sales Channel and Sales Representative dimensions are collapsed into the Geography dimension. The Sales Channel and Sales Representative data are not lost. However because of the way this example demand plan is defined, it would be awkward to create a report that analyzes product sales, by sales channel, and by sales representative.

If an analysis by product, by time period, by sales channel, and by sales representative is desired, it would be easier to define another demand plan with those dimensions named as user dimensions. It is important to spend some investigating how the demand plan information will be used before defining demand plans.

Allowed Combinations of User Dimensions

Select four User Dimensions:	Option 1	Option 2	Option 3
Time (mandatory)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Product (mandatory)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Sales Channel	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Ship from Location	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Sales Rep	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Geography			
UD1, User Defined		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
UD2, User Defined		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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Demand Plan Hierarchies

Demand Plan Hierarchies

- **Hierarchy Names selected for each user dimension are based upon the Demand Planning Hierarchy Names created when defining Demand Planning hierarchies.**
- **Only one Hierarchy Name needs to be selected for each Dimension Name.**

Hierarchy Name	Dimension Name
Customer Class	Geography
Sales Channel	Sales Channel
Sales Group	Sales Representative

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Demand Plan Hierarchies

Navigate to the Demand Plan Hierarchies Window using the Demand Planning Integration Administrator responsibility.

(N) Demand Plan Definitions > Demand Plan Hierarchies

Earlier setup used the Demand Planning Hierarchies window to create new hierarchies and associate them with one of the eight demand planning dimensions. This part of the named demand plan definition associates hierarchies with a specific named demand plan. At least one hierarchy must be associated with each dimension (other than the Product and Time dimensions)

For descriptions of the fields appearing on the Demand Plan Hierarchy Levels window

Reference:

“Defining Demand Plan Hierarchies” Appendix B, Setting Up Demand Planning in Oracle Applications, *Oracle Demand Planning User’s Guide*

Defining Demand Plan Scenarios

Defining Demand Plan Scenarios

- **Scenarios can be defined to model expected or supposed sequences of events**
 - **Optimistic, pessimistic, most likely**
 - **Alternative sources such as marketing, sales, customers, and statistical**
- **One demand plan can contain multiple named scenarios**
- **Demand planners must submit one forecast for each defined scenario named in a demand plan**



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Demand Plan Scenarios

Navigate to the Demand Plan Scenarios Window using the Demand Planning Integration Administrator responsibility.

(N) Demand Plan Definitions > Demand Plan Scenarios

For descriptions of the fields appearing on the Demand Plan Scenarios window:

Reference:

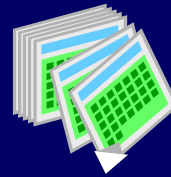
“Defining Demand Plan Hierarchies” Appendix B, Setting Up Demand Planning in Oracle Applications, *Oracle Demand Planning User’s Guide*

Baseline Default

In situations where an adjusted forecast is not submitted for each scenario, the statistical baseline forecast is used as a default.

Defining Demand Plan Scenarios

- **Forecast horizon**
- **Forecast History Type:** Demand history type used to calculate the baseline statistical forecast
- **Forecast Period Type:** Time granularity used to calculate the forecast
- **Output Period Type:** Time granularity published from Oracle Express to the Planning Server



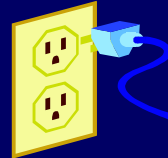
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Defining Demand Plan Parameters

Defining Demand Plan Parameters

- Input and output parameters are used to select the data to be loaded into the Express database for creating and analyzing forecasts.
- Input parameters determine the data imported into Express.
- Multiple input parameters can be specified and used in different scenarios.
- Output parameters determine the demand plan scenarios published to the Planning Server.



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Demand Plan Parameters

Navigate to the Demand Plan Parameters Window using the Demand Planning Integration Administrator responsibility.

(N) Demand Plan Definitions > Demand Plan Parameters

Some types of input parameters you can specify are:

- Manufacturing Forecast
- Booking History
- Shipment History
- Sales Forecast
- Sales Opportunities
- Scenarios from other demand plans

Historical or future date ranges can be specified for Output Parameters depending on the type of input parameter selected. Information can be filtered or grouped for uploading using the View Name associated with every input parameter. The fact information you want to use can be selected.

Reference:

“Defining Demand Plan Parameters”, Appendix B, Setting Up Demand Planning in Oracle Applications, *Oracle Demand Planning User’s Guide*

Demonstration

This demonstration shows you how to:

- **Collapse dimensions into four or fewer user dimensions**
- **Define hierarchies for a demand plan**
- **Define scenarios**
- **Define demand plan parameters**



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Practice

Refer to the practices located at the end of this lesson. Complete the following practices:

- **Define a Demand Plan**
- **Defining Hierarchies**
- **Hierarchy Levels**
- **Scenarios**
- **Input Parameters**
- **Output Parameters**

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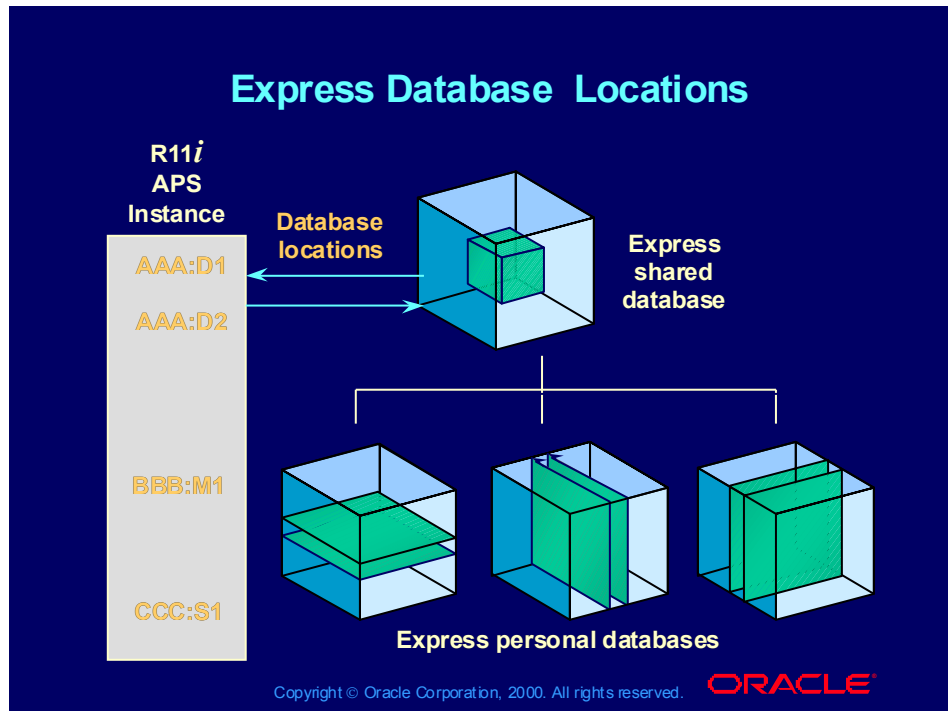
Demand Planning Validation Messages

- Demand Planning Validation Messages inform you when there is an error in a Demand Planning entry or a conflict between two entries.
- The seven Demand Planning message names and definitions are contained in a table in Appendix B of the *Oracle Demand Planning User's Guide*.

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Express Database Locations



Express Database Locations

Navigate to the Express Setup Window using the Demand Planning Integration Administrator responsibility.

(N) Setup > Express

Each time a demand plan is generated, one Express shared and several Express personal databases (one for each data assignment), are created.

The database administrator uses the Express Setup window to identify where the Express shared databases are located for each named demand plan.

Defining Express Setup

Defining Express Setup

- Data is downloaded from the Planning Server to the Express Server.
- After Planners and Planning Managers have made adjustments, data is uploaded from the Express Server back to the Planning Server.
- The Express setup window identifies the location of the Express shared databases.

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Express Setup

For descriptions of the fields appearing on the Express Setup window:

Reference:

“Defining Express Setup” Appendix B, Setting Up Demand Planning in Oracle Applications, *Oracle Demand Planning User’s Guide*

For more information about Express parameters:

Reference:

Oracle Express Server Installation and Configuration Guide for Sun SPARC Solaris or *Oracle Express Server Installation and Configuration Guide for NT*.

Demonstration

This demonstration shows you how to:

- **View directory paths to storage locations for Express shared and Express personal databases created for each demand plan**



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Practice

Practice

Refer to the practices located at the end of this lesson. Complete the following practices:

- **Express Setup**

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Summary

Summary

In this lesson, you should have learned how to:

- **Complete initial setup**
- **Setup demand planning structure**
- **Define demand plans**

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Practices — Setting Up the Oracle Demand Planning Server

Chapter 3

Practices — Setting Up the Oracle Demand Planning Server

Implementing Oracle Demand Planning

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Practice — View Responsibilities

Practice — View Responsibilities

The screenshot shows the 'Responsibilities' window in Oracle. The 'Responsibility Name' is 'Demand Planning Integration Administrator', the 'Application' is 'Oracle Demand Planning', and the 'Responsibility Key' is 'MSD_INTEGADMIN'. The 'Effective Dates' are set from '15-OCT-1999' to an empty 'To' field. Under 'Available From', 'Oracle Self Service Web Applications' is selected. The 'Menu' is 'MSD_NAVIGATE_11.5'. The 'Data Group' is 'Standard' for the application 'Oracle Demand Planning'. The 'Request Group' is empty. At the bottom, there are tabs for 'Menu Exclusions', 'Excluded Items', and 'Securing Attributes'. The 'Excluded Items' tab is active, showing a table with columns 'Type', 'Name', and 'Description'. The first row is a 'Function'.

Type	Name	Description
Function		

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View Responsibilities:

1. Log on as User: MFG (Jonathan Smith). Switch responsibilities to System Administrator
(N) Security > Responsibility > Define
2. On the Responsibilities window, inquire on “Demand %”.
(M) View > Query by Example > Enter (or press function key F11)
 - Enter Responsibility Name: “Demand%”
(M) View > Query by Example > Run (or press Ctrl + F11)
 - The system will retrieve the responsibilities seeded for several demand planning roles.
 - Advance to the fourth record, which is the Demand Planning Integration Administrator. This responsibility encompasses the activities for setting up the demand planning server. Defining new responsibilities is beyond the scope of this course.
 - Close the Responsibilities window.

Practice — User Setup

Practice — User Setup

The screenshot shows the Oracle Users window with the following fields and values:

- User Name: MFG1
- Description: Mfg Build Team - Configurator
- Password: (empty)
- Password Expiration: Days (selected), Accesses (unselected), None (unselected)
- Person: (empty)
- Customer: (empty)
- Supplier: (empty)
- E-Mail: (empty)
- Fax: (empty)
- Effective Dates: From 01 JAN 1998, To 04 AUG 1998

The Responsibilities tab is active, showing a table of assigned responsibilities:

Responsibility	Application	Security Group	Effective Dates From	Effective Dates To
Manufacturing & Distribution	Oracle Manufacturing	Standard	01 JAN 1998	
Product Configurator	Oracle Bills of Material	Standard	10 APR 1998	
Demand Planning Integration	Oracle Demand Planning	Standard	27 OCT 2000	

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Add Demand Planning Responsibility to a User

3. Navigate to the Users window.
(N) Security > Users > Define
4. Use the inquiry process described in step #2 to inquire on User Name “MFG##”, where “##” represents the station name assigned to you by your instructor. The system will retrieve the record for your assigned user name.
5. Add the Demand Planning Integration Administrator responsibility to your user name. In the Responsibilities field Type “Demand” then press the tab key. The system will bring up a list of values. Select Demand Planning Integration Administrator. Click OK.
6. Save your work.
7. Optional: Use this form to create a new user name and password. Save your work. Then assign the Demand Planning Integration Administrator responsibility to your new user name.

Practice — Dimension Lookups

Practice — Dimension Lookups

Code	Meaning	Description	Tag	Effective Dates	Enabled	
				From	To	
CHN	Sales Channel	Demand Planning Din		15-OCT-1999		<input checked="" type="checkbox"/>
GEO	Geography	Demand Planning Din		15-OCT-1999		<input checked="" type="checkbox"/>
ORG	Ship from Location	Demand Planning Din		15-OCT-1999		<input checked="" type="checkbox"/>
PRD	Product	Demand Planning Din		15-OCT-1999		<input checked="" type="checkbox"/>
REP	Sales Representative	Demand Planning Din		15-OCT-1999		<input checked="" type="checkbox"/>
TIM	Time	Demand Planning Din		15-OCT-1999		<input checked="" type="checkbox"/>
UD1	User Defined Dimen	Demand Planning Din		15-OCT-1999		<input checked="" type="checkbox"/>
UD2	User Defined Dimen	Demand Planning Din		15-OCT-1999		<input checked="" type="checkbox"/>
						<input type="checkbox"/>
						<input type="checkbox"/>

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User Dimensions

1. Sign on as User: MFG##, where“##” represents the station name assigned to you by your instructor. Switch responsibilities to Demand Planning Integration Administrator.
2. (N) Setup > User Dimensions
On the Applications Utilities: MSD_USER_DIMENSIONS Lookups window ask only one person in your class to change the meaning for UD1 to Original Equipment Manufacturer.

Practice — Data Element Lookups

Practice — Data Element Lookups

Code	Meaning	Description	Tag	From	To	Enabled
1	Booking History	Demand Planning Dat		15-OCT-1999		<input checked="" type="checkbox"/>
2	Shipment History	Demand Planning Dat		15-OCT-1999		<input checked="" type="checkbox"/>
3	Opportunity History	Demand Planning Dat		15-OCT-1999		<input checked="" type="checkbox"/>
4	Input Scenario	Demand Planning Dat		15-OCT-1999		<input checked="" type="checkbox"/>
5	Input Manufacturing	Demand Planning Dat		15-OCT-1999		<input checked="" type="checkbox"/>
6	Input Sales Forecast	Demand Planning Dat		15-OCT-1999		<input checked="" type="checkbox"/>
7	Output Scenario	Demand Planning Dat		15-OCT-1999		<input checked="" type="checkbox"/>
8	Supply Plan	Demand Planning Dat		17-JAN-2000		<input checked="" type="checkbox"/>

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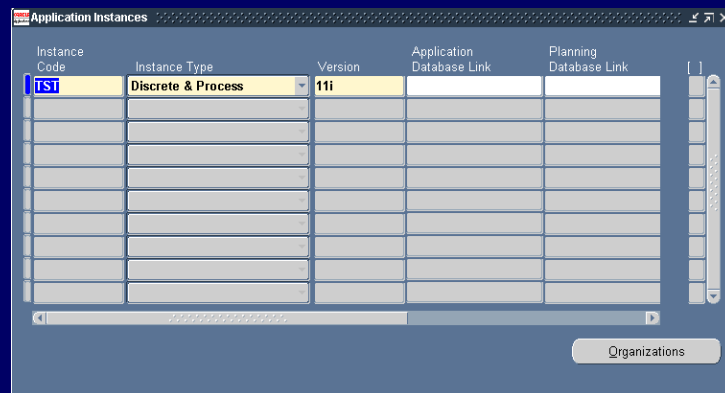
Data Elements

3. (N) Setup > Data Elements

On the Applications Utilities: MSD_DATA_ELEMENTS Lookups window click on a new row. Note the error message indicates that you can not create new records on this form. Close the window.

Practice — Instances

Practice — Instances



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Instances

4. (N) Setup > Instances

On the Applications Instances window, view, but do not change the Instance Code, Instance Type LOV, and the database links.

5. Highlight one of the instances. Click the Organizations button to view the organizations enabled for data collection in that instance. Do not change the settings. Close the Application Instances window.

Practice — Collect Organizations

The screenshot shows a Java-style window titled "Practice — Collect Organizations". It contains several sections for configuring a request:

- Run this Request...**: Includes a "Name" field with "Collect Organizations", a "Parameters" field, and a "Language" dropdown set to "American English". There is a "Copy..." button.
- At these Times...**: Includes a "Schedule" dropdown set to "As Soon as Possible" and a "Schedule..." button.
- Upon Completion...**: Includes a checkbox for "Save all Output Files", a "Notify" field, a "Print to" field set to "adsprinter", and an "Options..." button.
- Buttons: "Help (F)", "Submit", and "Cancel".

Below the main window is a smaller "Parameters" window. It has an "Instance" dropdown menu and a "Clear" button. At the bottom of the Parameters window are "OK", "Cancel", "Clear", and "Help" buttons.

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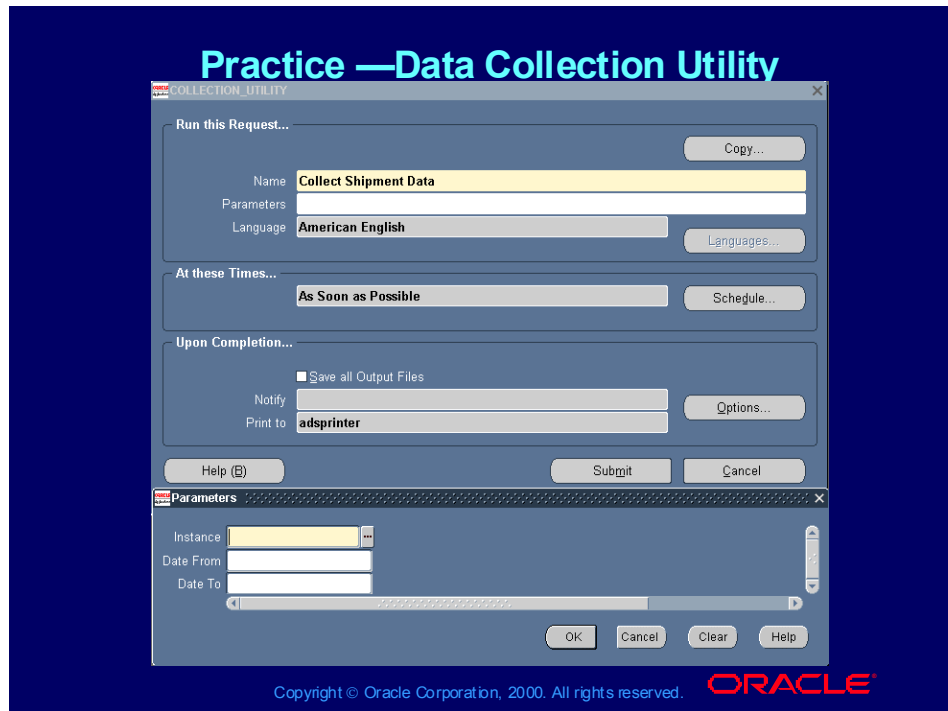
Collect Organizations

1. (N) Setup > Organizations

This is the program request form for running the program that collects the list of organizations and category sets in a particular instance. The instance is selected on the Parameters window.

On the Parameters window, display the LOV for the Instances field. The organizations have already been collected for the instance used in this class. Do not Submit this request. Instead, click the Cancel buttons to return to the Navigator menu.

Practice —Data Collection Utility



Collect Data Utility

2. (N) Collections > Collect Data

Your instructor will assign you to view the collection utility for one or more of the following data types:

- Shipment Data
- Booking data
- Currency conversion
- Unit of Measure (UOM) conversion
- Manufacturing forecast
- Sales forecast
- Sales opportunity
- All fact data
- Level values
- Time data

Collect All Fact Data

The screenshot displays the 'COLLECTION UTILITY' window with the title 'Collect All Fact Data'. The window is divided into several sections:

- Run this Request...**: Contains fields for Name (Collect Fact Data), Parameters, and Language (American English). Buttons for 'Copy...' and 'Languages...' are present.
- At these Times...**: Contains a field for 'As Soon as Possible' and a 'Schedule...' button.
- Upon Completion...**: Contains a checkbox for 'Save all Output Files', a 'Notify' field, and a 'Print to' field (adsprinter). An 'Options...' button is also present.
- Help (E)**: A button for help.
- Submit**: A button to submit the request.
- Cancel**: A button to cancel the request.

Below the main window is a 'Parameters' window with the following fields:

- Instance**: A dropdown menu.
- Date From**: A date input field.
- Date To**: A date input field.
- Forecast Designator**: A text input field.

Buttons for 'OK', 'Cancel', 'Clear', and 'Help' are at the bottom of the Parameters window. The Oracle logo and copyright notice 'Copyright © Oracle Corporation, 2000. All rights reserved.' are at the bottom of the main window.

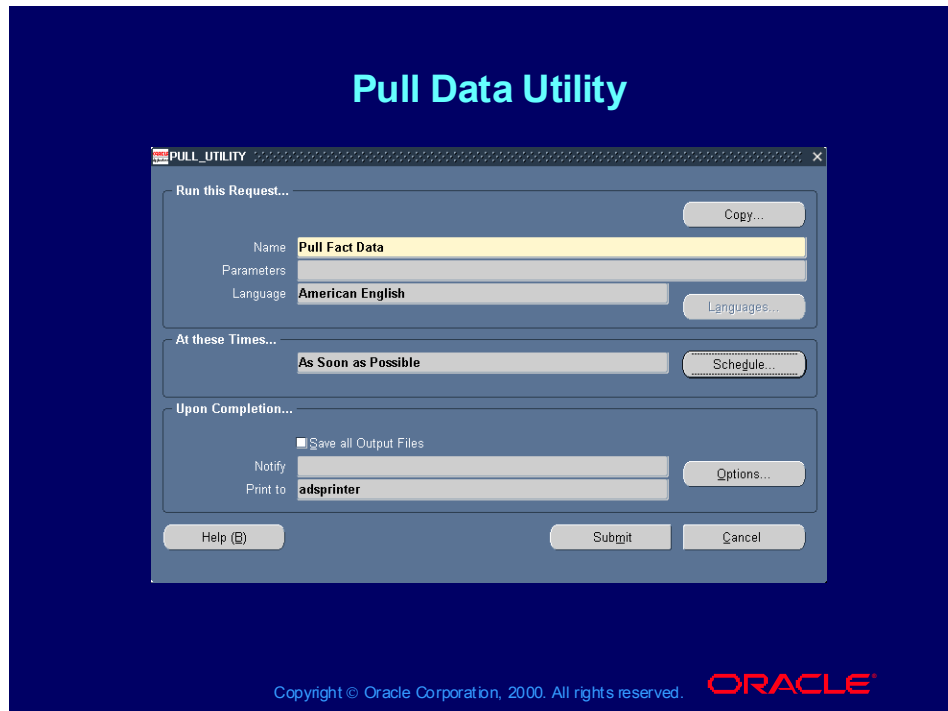
Collect Different Data Types

3. Navigate to the collection utilities you have been assigned. On the Parameters window for you assigned collection program, list the required parameters. At the conclusion of this practice, explain to the other students, what parameter information is required to run the program. Close back to the Navigator. Do not Submit the data collection programs.

Online Help Reference:

For help in submitting a request, open the Collection Utility window and press the help button.

Pull Data Utility



Pull Data Utility

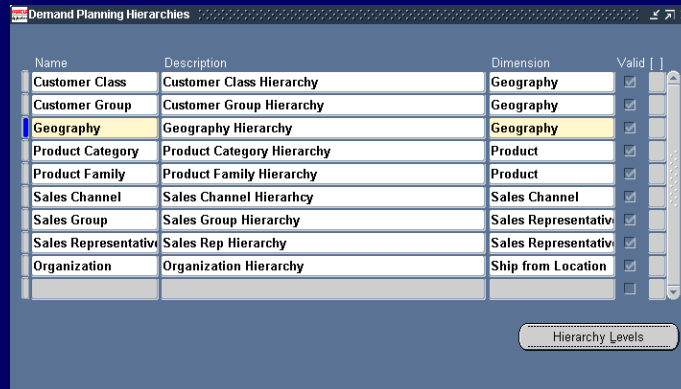
(N) Collections > Pull Data > All Fact Data

The Pull All Fact Data program pulls data for all data items except Level Values and Time Values.

4. View the collection utility for one or more of the following data types:
 - Shipment Data
 - Booking data
 - Currency conversion
 - Unit of Measure (UOM) conversion
 - Manufacturing forecast
 - Sales forecast
 - Sales opportunity
 - All fact data
 - Level values
 - Time data

Practice — Define Hierarchies

Practice — Define Hierarchies



Name	Description	Dimension	Valid []
Customer Class	Customer Class Hierarchy	Geography	<input checked="" type="checkbox"/>
Customer Group	Customer Group Hierarchy	Geography	<input checked="" type="checkbox"/>
Geography	Geography Hierarchy	Geography	<input checked="" type="checkbox"/>
Product Category	Product Category Hierarchy	Product	<input checked="" type="checkbox"/>
Product Family	Product Family Hierarchy	Product	<input checked="" type="checkbox"/>
Sales Channel	Sales Channel Hierarchy	Sales Channel	<input checked="" type="checkbox"/>
Sales Group	Sales Group Hierarchy	Sales Representative	<input checked="" type="checkbox"/>
Sales Representative	Sales Rep Hierarchy	Sales Representative	<input checked="" type="checkbox"/>
Organization	Organization Hierarchy	Ship from Location	<input checked="" type="checkbox"/>
			<input type="checkbox"/>

Hierarchy Levels

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Setting Up Demand Planning Hierarchies

1. (N) Setup > Hierarchies.
2. List the Demand Planning Hierarchy names associated with the Geography dimension:

Practice — Levels

Practice — Levels



The screenshot shows a window titled "Demand Planning Levels" with a table containing the following data:

Name	Description	Dimension	Level Type	User Attribute 1
All Geography	All Geography Level	Geography	Top	
Area	Area Level	Geography	Intermediate	
Country	Country Level	Geography	Intermediate	
Customer	Customer Level	Geography	Intermediate	
Customer Class	Customer Class Level	Geography	Intermediate	
Customer Group	Customer Group Level	Geography	Intermediate	
Region	Region Level	Geography	Intermediate	
Ship To Location	Ship To Location Level	Geography	Bottom	
All Products	All Products Level	Product	Top	
Item	Item Level	Product	Bottom	

Below the table is a button labeled "Hierarchy Levels".

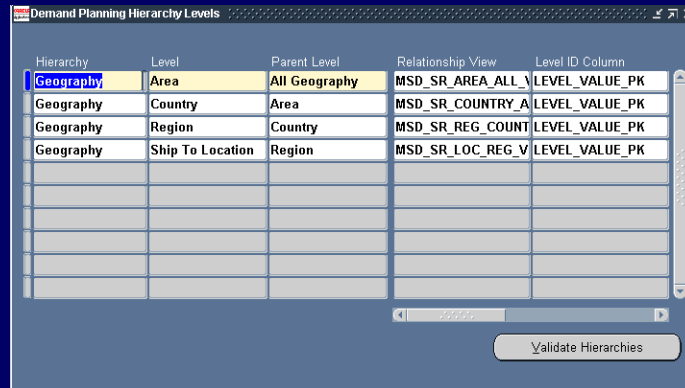
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Setting Up Demand Planning Levels

3. (B) Hierarchy Levels, or from the Navigator (N) Setup > Levels.
4. What Type of Level (Top, Intermediate, or Bottom) is the “Customer” level? _____

Practice — Hierarchy Levels

Practice — Hierarchy Levels



Hierarchy	Level	Parent Level	Relationship View	Level ID Column
Geography	Area	All Geography	MSD_SR_AREA_ALL_V	LEVEL_VALUE_PK
Geography	Country	Area	MSD_SR_COUNTRY_A	LEVEL_VALUE_PK
Geography	Region	Country	MSD_SR_REG_COUNT	LEVEL_VALUE_PK
Geography	Ship To Location	Region	MSD_SR_LOC_REG_V	LEVEL_VALUE_PK

Validate Hierarchies

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Setting Up Demand Planning Hierarchy Levels

5. (B) Hierarchy Levels, or from the Navigator (N) Setup > Hierarchy Levels.
6. View all of the columns in the the window by using the scroll bar at the bottom of the form.
7. List all of the column names on this form. There are eight.

_____	_____
_____	_____
_____	_____
_____	_____

8. Ask one person in your class to validate the hierarchies.

Practice — Define a Demand Plan

Practice — Define a Demand Plan

The screenshot shows the 'Demand Plans (TST:M1)' window. The 'Name' field is 'M1-ODP-PLAN1' and the 'Description' is 'Demand Plan 1'. The 'Base UOM' is 'Ea'. The 'Calendar Type' is 'Gregorian Calendar'. The 'Manufacturing Calendar' and 'Fiscal Calendar' are empty. The 'History Start' date is '05-JAN-1998'. The 'Avg. Discount' is empty. The 'Category Set' is 'Inv.Items'. Below these fields is a table with two columns: 'Dimension' and 'User Dimension'. The table contains the following rows:

Dimension	User Dimension
Sales Channel	Geography
Geography	Geography
Ship from Location	Ship from Location
Product	Product
Sales Representative	Geography
Time	Time

At the bottom of the window are four buttons: 'Express Setup', 'DP Hierarchies', 'DP Scenarios', and 'DP Parameters'. The Oracle logo and copyright notice are at the bottom right.

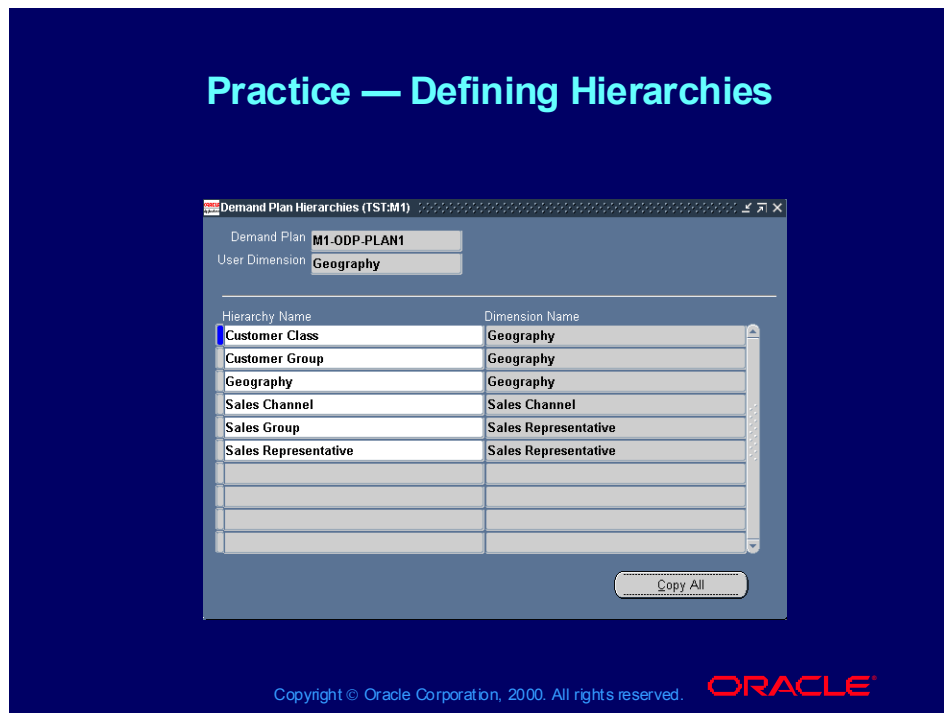
Defining a Demand Plan

Defining a Demand Plan is the responsibility of the Demand Planning Integration Administrator.

1. (N) Demand Plan Definitions > Demand Plans.
2. Choose the Instance : Organization TST:M1. The Demand Plans window is displayed.
3. Inquire on the Demand Plan Name M1_ODP_Plan1. Review the fields in the form.
4. View the three Calendar Types available from the lookup values list.
5. List the dimensions that have been collapsed into the Geography user dimension:

6. Create a new Demand Plan Name: M1_## where ## identifies you.
 - Choose the Gregorian calendar type
 - Specify Each as the Base UOM.

Practice — Defining Hierarchies



Defining a Demand Plan (continued)

7. Link the Time, Product, and Geography dimensions to themselves as user dimensions. Link the Ship from Location dimension to the Geography dimension.

Remembering that the number of user dimensions can not be greater than four, you can optionally link other dimensions to user dimensions. Save your work.

Defining Demand Plan Hierarchies

8. Highlight the row where you associated Ship from Location to Geography. (B) DP_Hierarchies. Press the DP_Hierarchies button. The Demand Planning Hierarchies window will open.
9. In the Hierarchy Name window, enter “%”, then tab.
10. Select Organization from the Hierarchy Name list of values. Click OK. Note that the Dimension column will automatically populate with the Ship from Location dimension.
11. Repeat step 8 until you have selected at least one hierarchy for each dimension that displays in the Hierarchy Name list of values. Save your work.

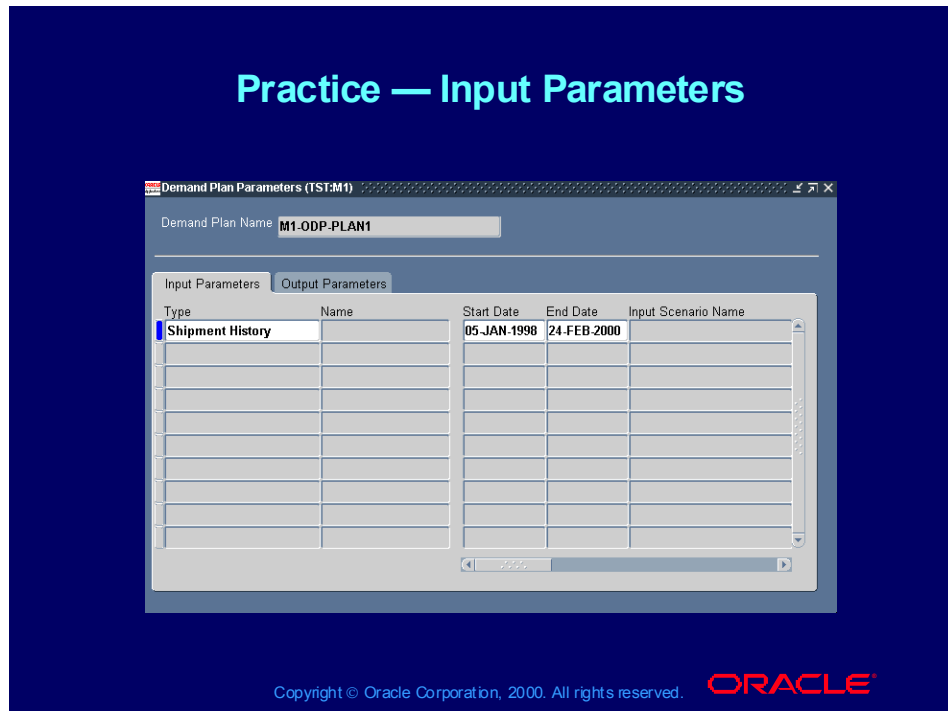
Practice — Scenarios



Defining Demand Plan Scenarios

12. (N) Demand Plan Definitions > Demand Plan Scenarios.
13. View the data associated with the seeded Demand Plan.
14. Navigate to the Output Levels window. Note the levels associated with the dimensions in this window. These are the levels of detail that are published back to the planning server for seeded scenario.
15. (B) Scenarios. Press the Scenarios button. You are returned to the Demand Plan Scenarios window.
16. Inquire on your demand plan, and define one scenario for your plan.
17. Navigate to the Output Levels window. Use this window to associate levels with your dimensions.

Practice — Input Parameters



Defining Demand Plan Parameters

18. (N) Demand Plan Definitions > Demand Plan Parameters.
19. In the Input Parameters tab, view the data associated with the seeded Demand Plan. Display the rest of the window using the scroll bar at the bottom.
20. Record all of the field names and values:

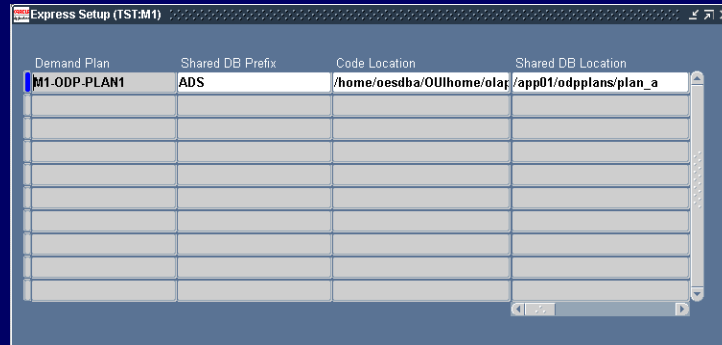
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
21. Click on the Output Parameters tab and view the data associated with the seeded Demand Plan.
22. Inquire on your demand plan and complete the Input and Output Parameters. Save your work.

[illegible]

Practice — Express Setup

Practice — Express Setup

- Express database locations for each demand plan



Demand Plan	Shared DB Prefix	Code Location	Shared DB Location
M1-ODP-PLAN1	ADS	/home/oesdba/OUIhome/olap	/app01/odpplans/plan_a

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Express Setup

1. (N) Setup > Express

Navigate to the Express Setup window in the Instance : Owning Organization; TST:M1. View, but do not change, the database location information for the demand plan named M1_ODP_PLAN1.

Express Multidimensionality

Chapter 4

Express Multidimensionality

Implementing Oracle Demand Planning

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Objectives

After completing this lesson, you should be able to do the following:


- **Distinguish between traditional record views and multidimensional views**
- **Compare and contrast online transaction processing (OLTP) with online analytical processing (OLAP)**
- **Identify key features of Express**
- **Describe fundamental Express database elements**

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Traditional Flat File View

Traditional Flat File View



Field
↓

Record →

Product	Time	Geography	Units
PC	03-JAN-2001	London	5782
Notebook	03-JAN-2001	Paris	6739
PDA	05-JAN-2001	Paris	4434
PDA	02-FEB-2001	New York	3976

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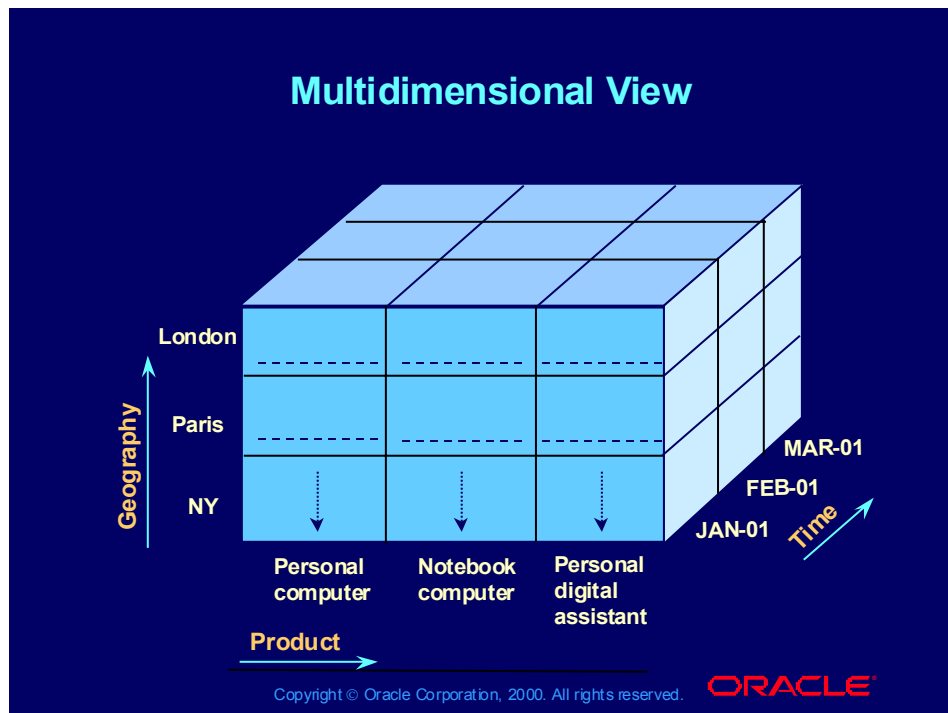
Traditional Versus Multidimensional Database View

Express OLAP products support a multidimensional view of data that is fundamentally different from the traditional two-dimensional view.

Traditional Flat File View

The traditional database view displayed at left is probably familiar—a flat file structure with data organized in records; each record consists of a number of fields. This structured view of data lends itself well to applications that perform sequential processing, such as billing. However, it is too inflexible for OLAP and has inherent data redundancy. Flat files often serve as data sources for OLAP databases.

Multidimensional View

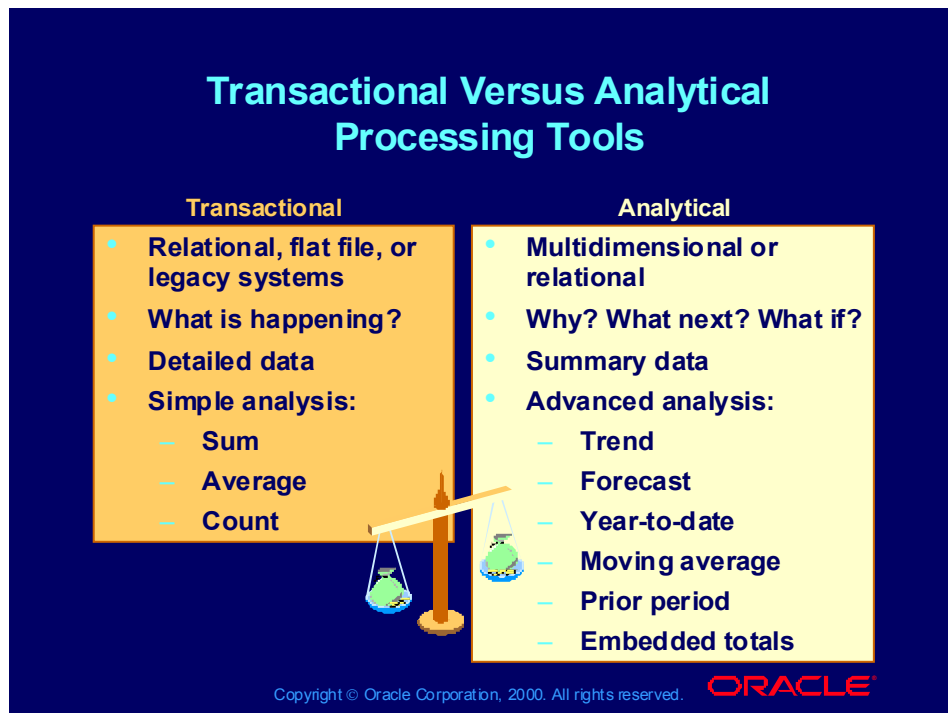


Multidimensional View

Rather than looking at data as records within files, Express deals with data in a multidimensional view.

Multidimensional views produce a data model that is more natural, more flexible, and more powerful for decision support or OLAP analysis than the record-and-file model of most database management software. This representation of decision-support data reflects the way managers, analysts, and planners think about their data, and it creates a natural environment for applications that involve time-series analysis, cross-sectional analysis, forecasting, or other OLAP activities.

Transactional Versus Analytical Processing Tools



Transactional Versus Analytical Processing Tools

Express products are powerful analytical tools. It is useful to compare and contrast them with transactional tools.

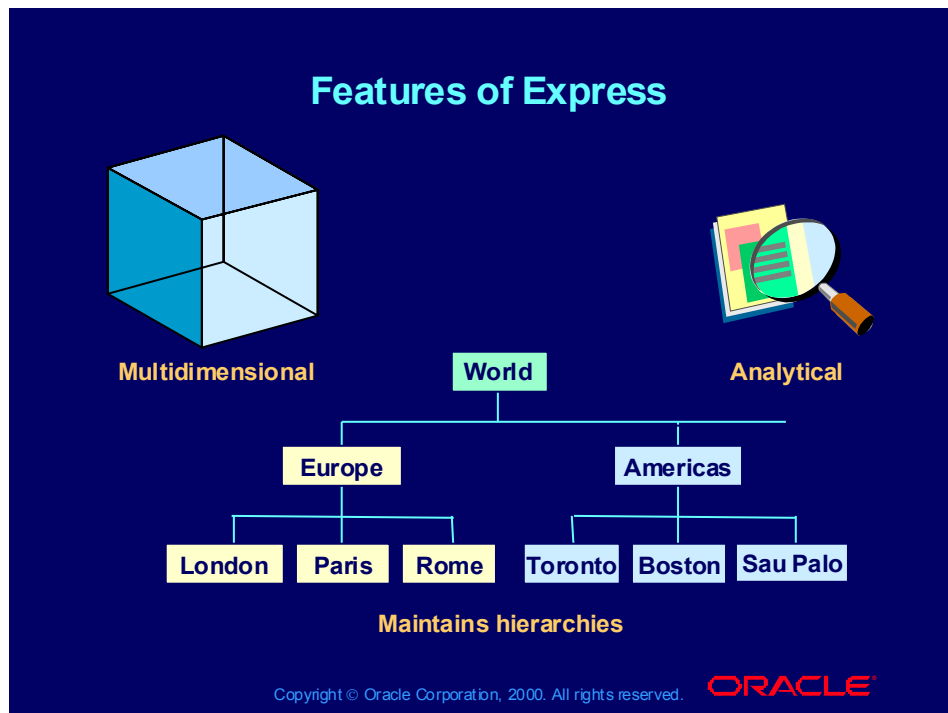
Online Transaction Processing (OLTP) Tools

- Typically relational or flat file database management systems, or legacy systems
- Answer the question: What is happening?
- Provide detailed, transaction-level data
- Offer simple analysis, such as sum, average, and count.

Online Analytical Processing (OLAP) Tools

- Typically multidimensional or relational
- Answer business questions, such as:
 - Why?
 - What next?
 - What if?
- Provide various levels of summary data
- Offer advanced analysis, including: trend, forecast, year-to-date, moving average, prior period, and embedded totals.

Features of Express



Multidimensional

A multidimensional database offers a representation of decision support data that reflects the way managers, analysts, and planners naturally think about their data.

- Not limited to two or three dimensions like spreadsheets
- More flexible than the records and fields of traditional databases.

Maintains Hierarchies

- Easily consolidate or aggregate data to various levels of detail.

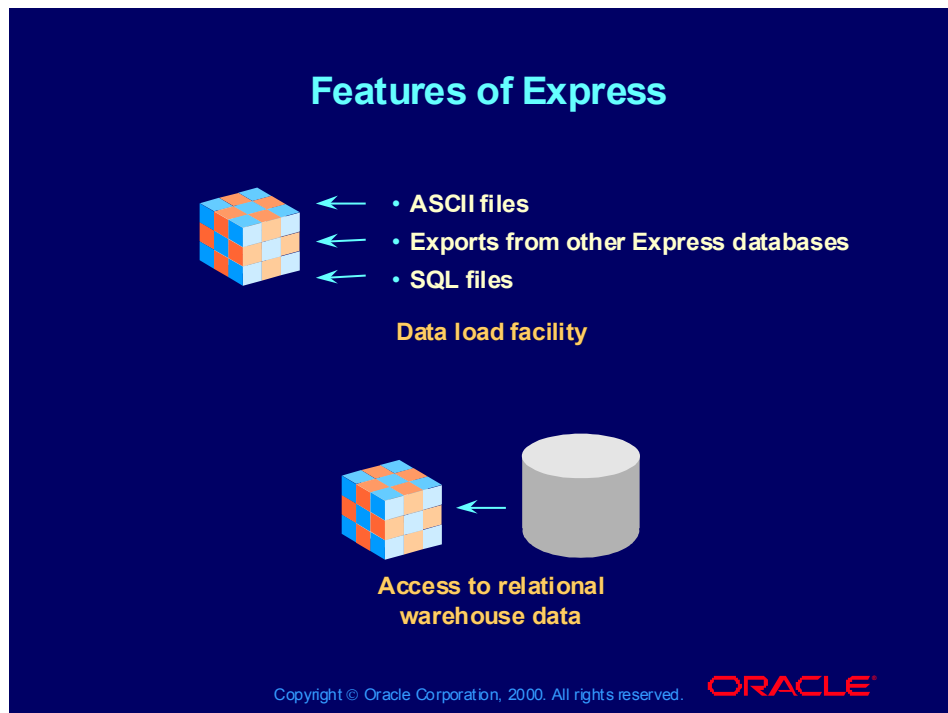
Analytical

Multidimensional databases provide an environment for applications that involve time-series or cross-sectional analyses, consolidation, forecasting, modeling, or other decision-support activities.

Express provides set of analytical tools to complement:

- Transactional database management systems that collect, retrieve, and update data
- Data warehouses or data marts that store enterprise-wide or subject-oriented data for purposes of business analysis

Features of Express



Data Load Facility

Express provides an efficient data loading facility for transferring data from text files, Express export files, Oracle Discoverer, Oracle Reports, and relational files.

Access to Relational Data Warehouses or Data Marts

Express provides dynamic access to data stored in relational data warehouses or data marts, using Oracle Express Relational Access Manager.

Features of Express

Features of Express

- Looping
 - FOR
 - WHILE
- Conditional Execution
 - IF ... THEN ... ELSE
 - SWITCH ... CASE
- Branching
 - GOTO
 - LIMIT ... IFNONE
- Exiting from a Program
 - using RETURN

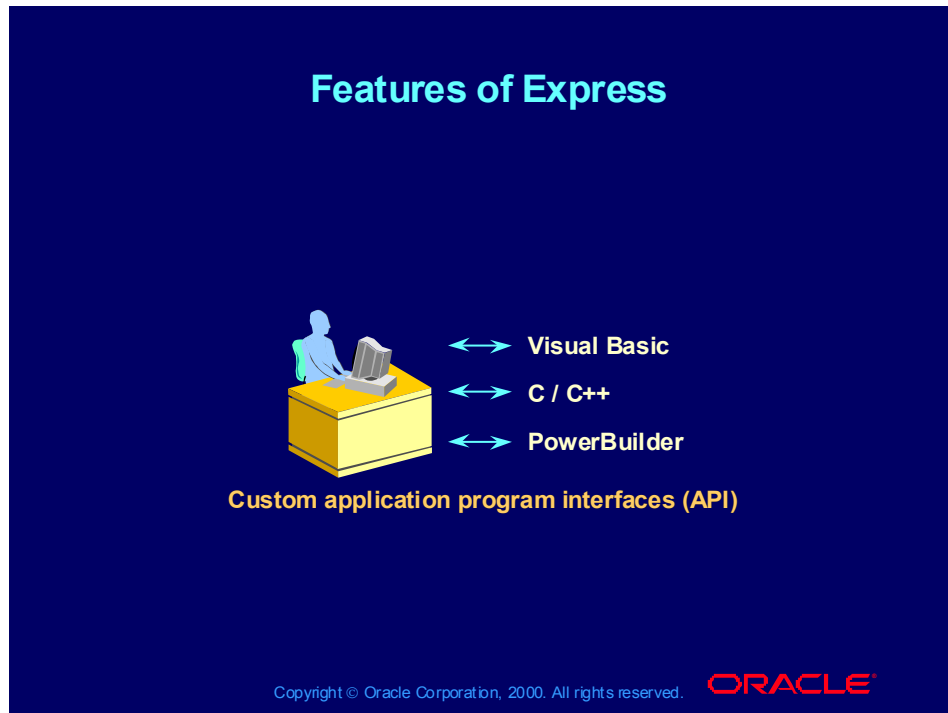
Structured programming environment

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Structured Programming Environment

Express provides a comprehensive programming environment including a fourth generation command language called Express Stored Procedure Language (SPL), conditional branching and looping, debugging, compiling, and executing.

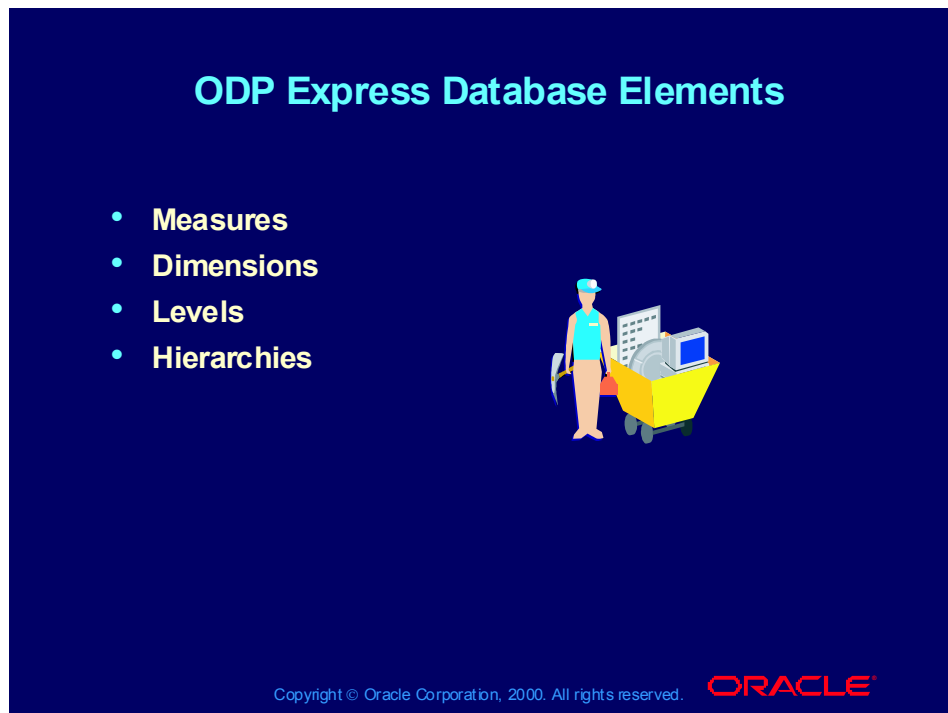
Features of Express



Custom APIs

The final feature highlight is the ability to use custom application programming interfaces (APIs) to build Visual Basic, C/C++, or PowerBuilder client applications.

ODP Express Database Elements

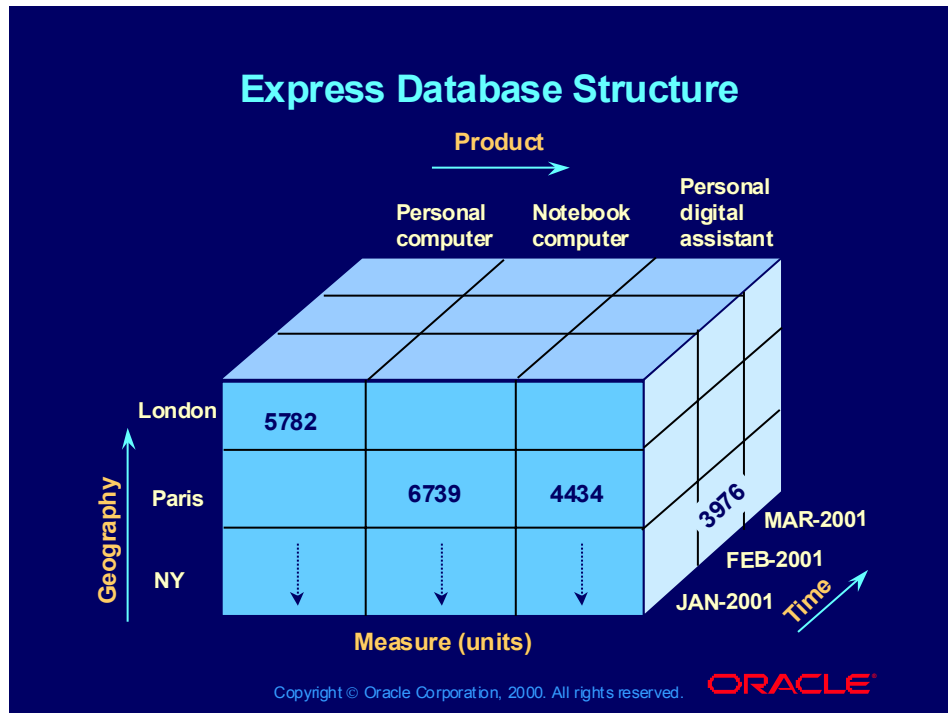


Fundamental ODP Express Database Elements

While much of the underlying database management is handled automatically by Express, you should know something about the database objects and how they interact.

- Measures hold data. Data can be numerical, such as sales or expense data, or textual, such as descriptive labels for products.
- Dimensions organize and index the data stored in a measure. This enables you to select and work with a specific subset of the data.
- Levels are data model objects that represent a particular level of summarization within a dimension.
- Hierarchies link dimension levels in a parent-child relationship, which facilitates data aggregation.

Express Database Structure



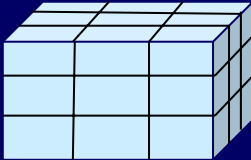
Express Database Structure

An Express database is a single file containing objects that organize, store, and manipulate data in a format optimized for online analytical processing.

Measures

Measures

- **Objects that store data**
- **Two types:**
 - **Data (stored or calculated)**
 - **Description**



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Measures

A measure is an Express database object that stores different kinds of data.

Measures can be categorized into one of two types:

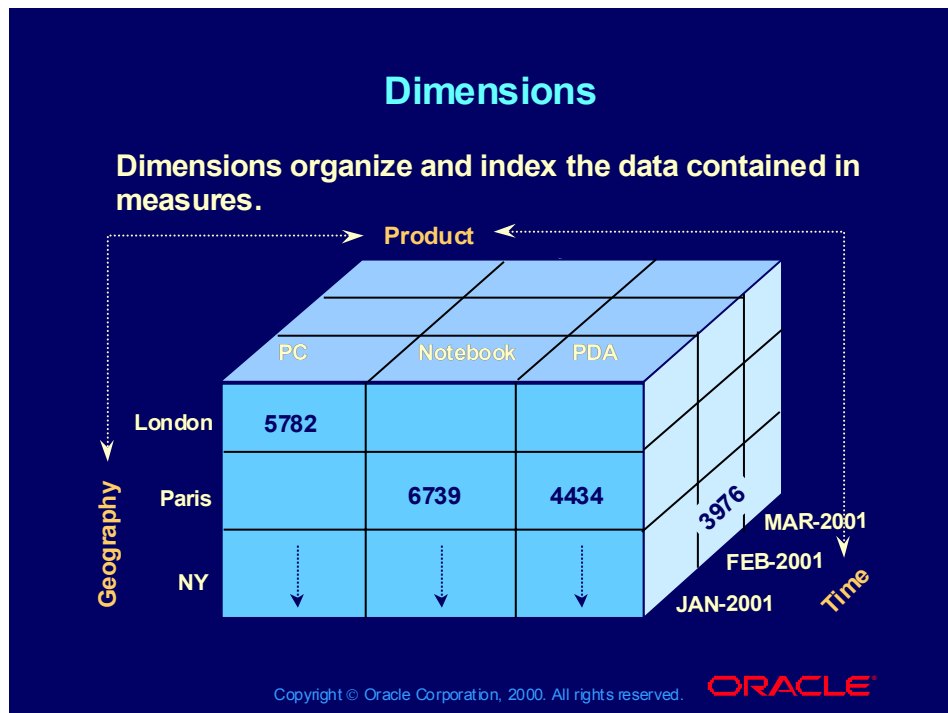
- **Data:** stores numerical data, such as units or sales amount.
- **Description:** provides a record for text information.

For example, a database might contain the following measures:

- **Units:** such as the quantity of demand for an item
- **Sales:** such as the amount of revenue received
- **Description:** text explaining reason for changing data

Notice that these measures contain data of different data types—integer in the first variable, decimal in the second, and text in the third.

Dimensions

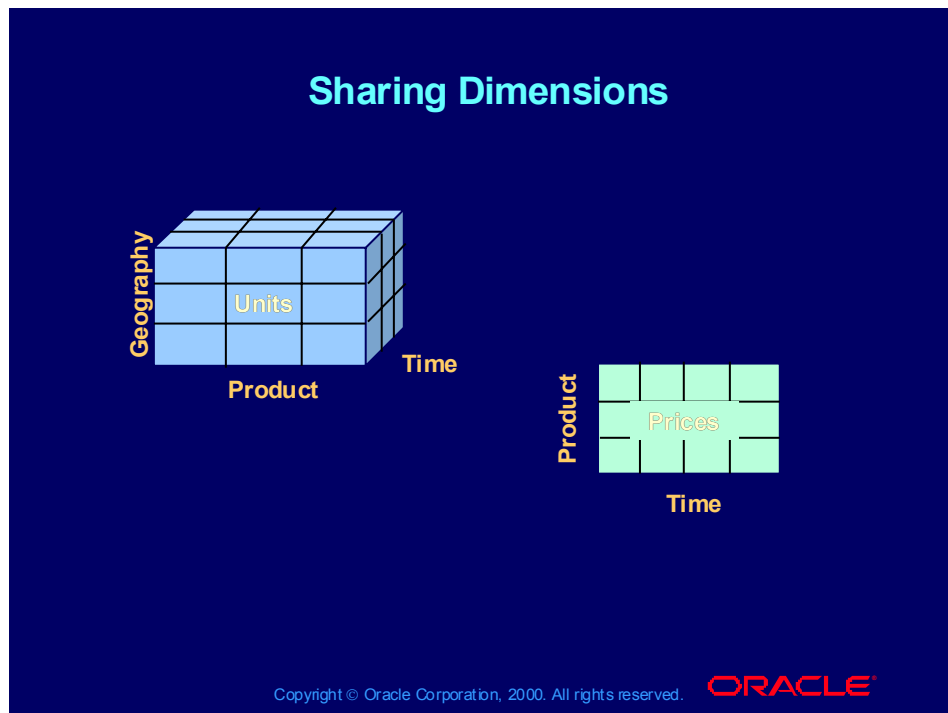


Dimensions

A dimension is an Express database object that contains unique values that provide an index to, and by default labels for, the data stored in a measure. Dimensions turn raw data into information.

For example, if you track the number of units sold for each of several months, products, and sales offices, then you might create a Units measure organized by a Time dimension, a Product dimension, and a Geography dimension.

Sharing Dimensions



Sharing Dimensions

Dimensions are database objects that are:

- Independent of the measures they are used to organize
- Created only once
- Shared by as many measures as needed

Measures

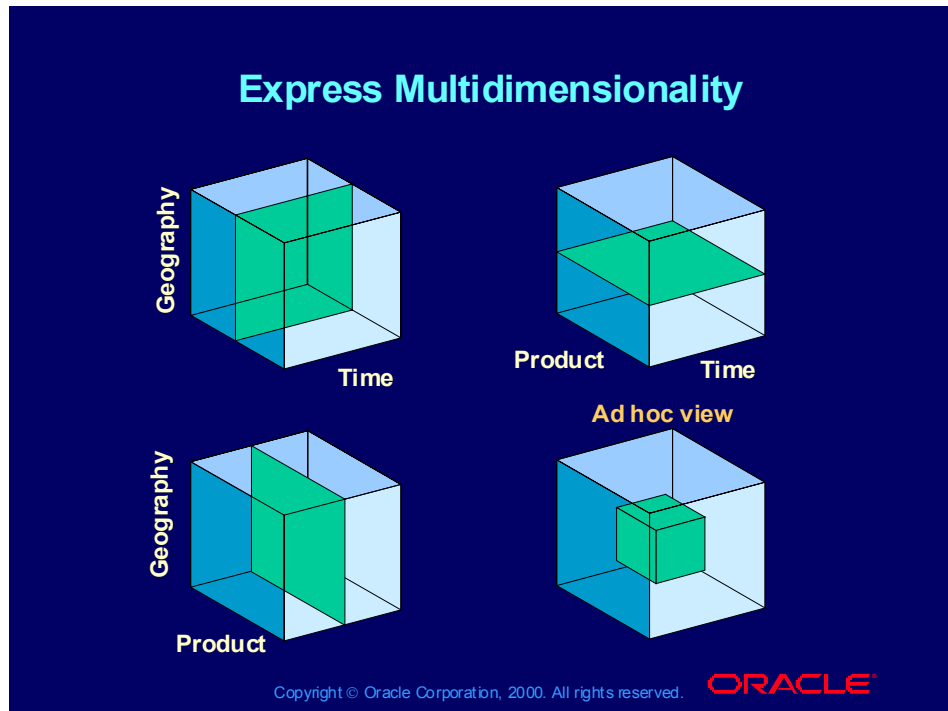
In the first example, the Units measure, which contains integer data on the number of units sold, dimensioned by Time, Product, and Geography.

In the situation where price does not vary by geographic location, the Price measure, which contains decimal data for the per-unit currency amount received for goods sold, would be dimensioned by Time and Product only.

Referential Integrity

Whenever you make changes to dimension measures in a database, the changes are automatically reflected throughout the data.

Express Multidimensionality



Express Multidimensionality

The multidimensional nature of Express variables allows different users to select and work with different views of the data, depending on their needs. Users obtain the view of the data they require to do their job.

Product Manager View

A product manager might want to view the data for a particular product across all markets.

Regional Manager View

At the same time, a regional manager might be interested in units sold for all products and time periods across the territories for which the regional manager is responsible.

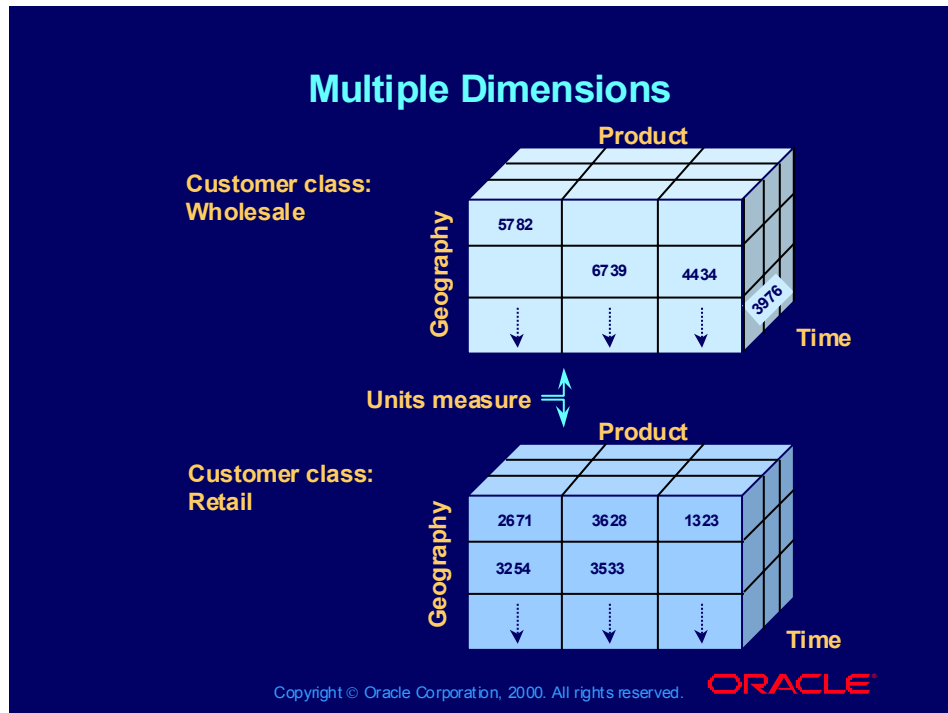
Financial Manager View

A financial manager or analyst will most likely want to perform a period-to-period comparison across all products and regions.

Ad Hoc View

Any manager or analyst may want to create a subset of the demand data in some unanticipated way to answer a question about the business.

Multiple Dimensions



Multiple Dimensions

The ODP Express database enables data to be viewed and organized by up to 8 dimensions. For example, you might have a Units measure dimensioned by Time, Product, Geography, and Customer class.

Demand Planning Data Model

Demand Planning Data Model

- Defined in the Demand Planning Server UI
- Eight seeded dimensions:
 - Time
 - Product
 - Geography, Customer
 - Sales channel, Sales representative
 - Two user defined dimensions
- Maximum of 4 dimensions per demand plan

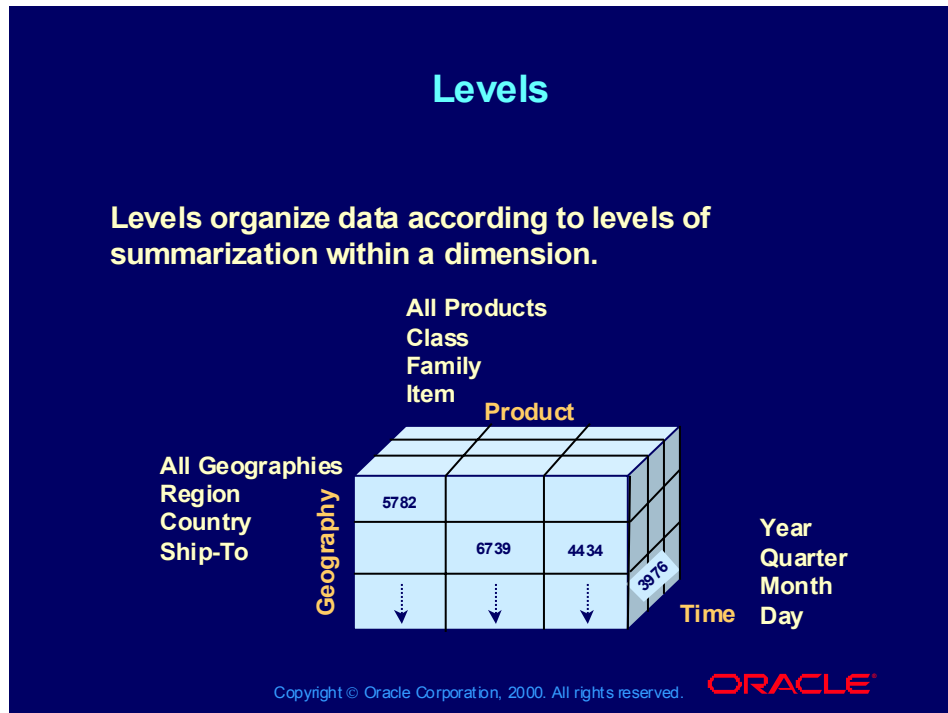
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Reference

For more information about demand planning seeded dimensions, refer to Defining the Structure of Demand Planning, in Lesson 2: Setting Up the Oracle Demand Planning Server

Levels



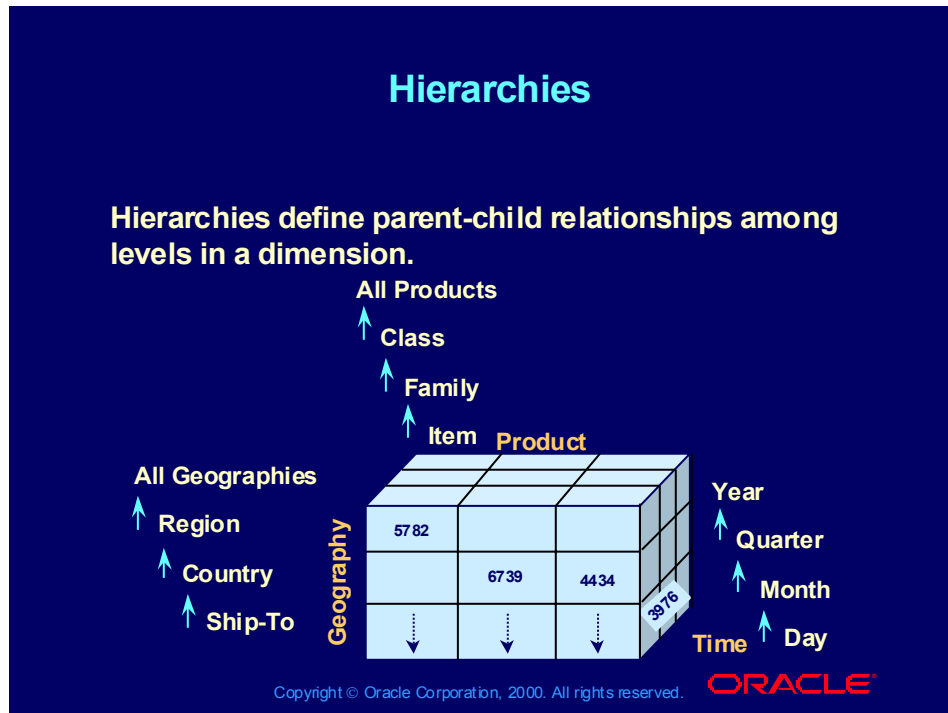
Levels

A level is a data model object that represents a particular level of summarization within a dimension. Levels give dimension values structure and meaning; the values in a dimension are organized into levels, which represent summarized totals of the data from the level below.

For example, the levels in the Time dimension include:

- Year
- Quarter
- Month
- Day

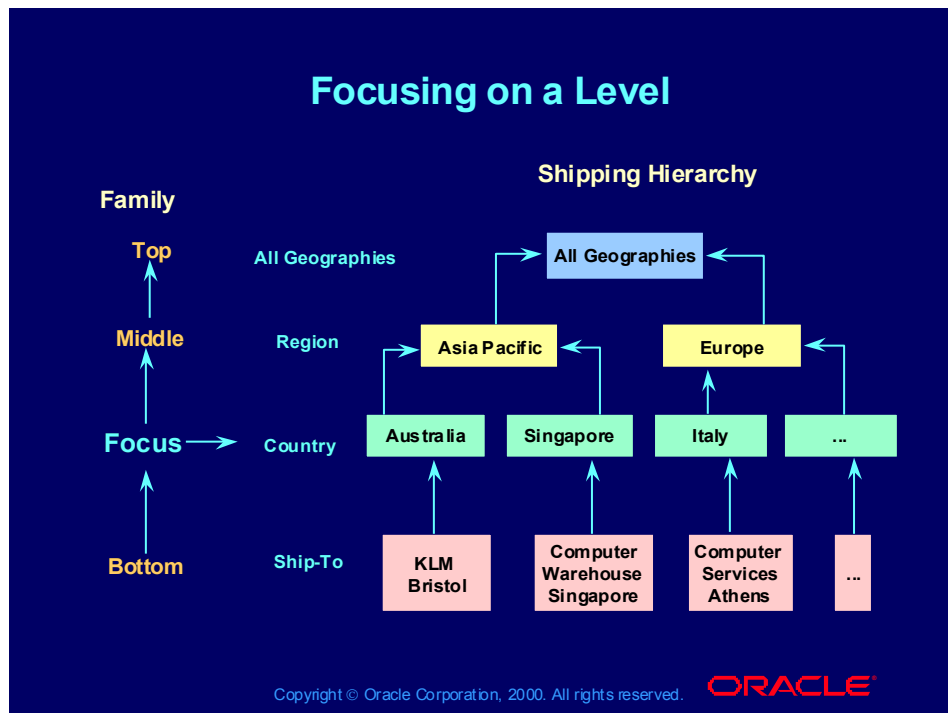
Hierarchies



Hierarchies

The levels in a dimension are organized into one or more hierarchies. Within a hierarchy, each level is logically connected to the levels above and below it.

Focusing on a Level



Family Relationships

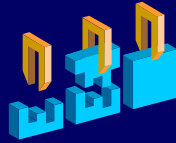
Each value in a hierarchy has a family relationship with other members in the same hierarchy. This relationship enables you to select any level of a particular dimension. The family structure is useful when you want to select values based on family relationships. You can use the Family tool in the Selector to select values based on family relationships.

Custom Aggregates

Custom Aggregates

A custom aggregate is a single dimension value that combines multiple values from a dimension into a single value.

- Similar to hierarchy levels
- Customized parent-child relationships



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Using Custom Aggregates

You can use a custom aggregate to view and manipulate a group of values as an entity. For example, you can define custom aggregates for:

- Key accounts in a geographic region
- High-end products
- A non-standard time period, such as three weeks in September

When you define a custom aggregate, you select the individual values that comprise the aggregate. These values are referred to as the members of the aggregate. You can also specify whether the value will be added to or subtracted from the aggregate.

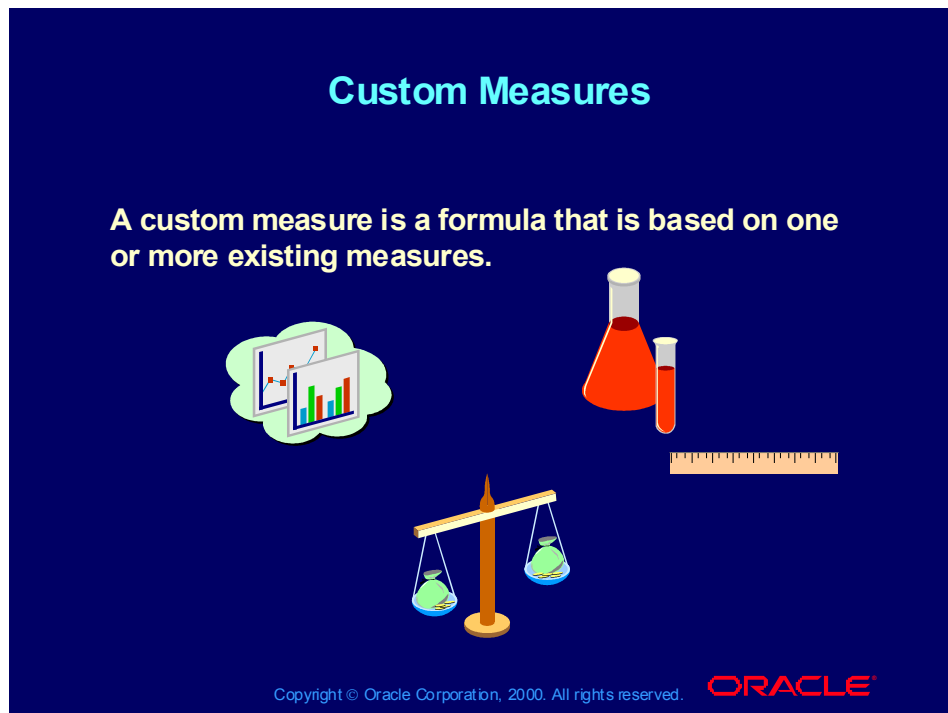
Example of a Custom Aggregate

You are creating a what-if simulation and want to see the effect that phasing out one of the products in a product family. You create a custom aggregate that subtracts the value of the product to be phased out from the value of the product family.

Reference

For additional information on defining custom aggregates, see chapter 8, “Using Custom Measures and Custom Aggregates”, *Oracle Demand Planning User’s Guide 11i* (Part No. A77223-01).

Custom Measures



Using Custom Measures

Custom measures can be useful when you are defining exception conditions for an alert or an ad hoc report. You can also use custom measures to create what-if scenarios.

Examples of Custom Measures:

- Weight the baseline forecast by a percentage
- Apply a multiplicative factor to a customer's forecast, then add the result to the forecast from manufacturing.

Reference

For additional information on Defining custom measures, see chapter 8, "Using Custom Measures and Custom Aggregates", *Oracle Demand Planning User's Guide 11i* (Part No. A77223-01).

Advanced Planning and Scheduling (APS)

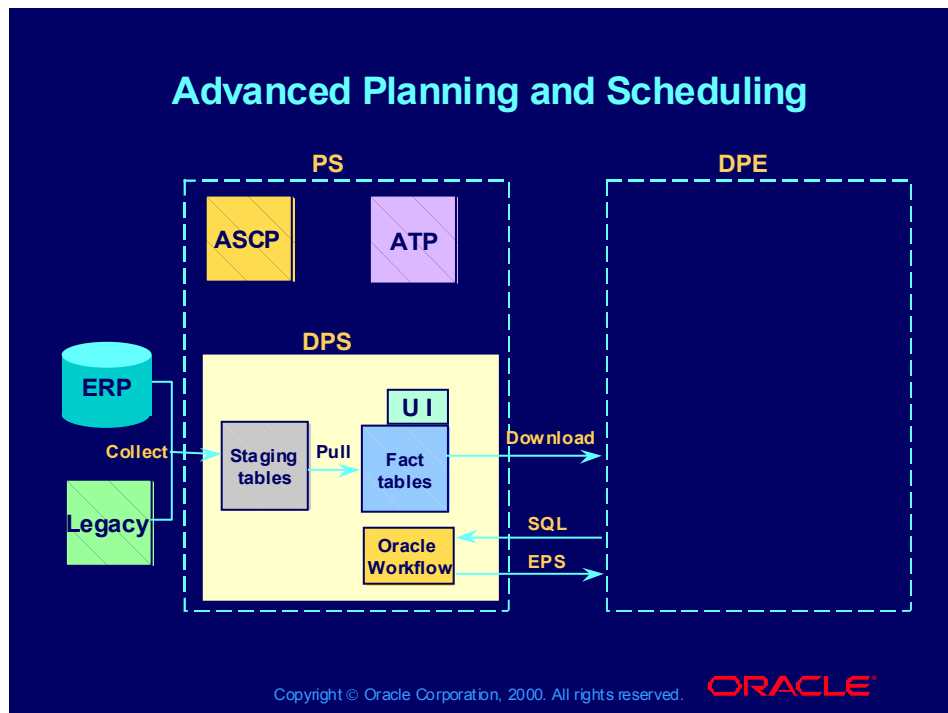
Planning Server (PS) is the data repository and integration point for the APS products that are comprised of the following:

- **Oracle Demand Planning (ODP)**
- **Advanced Supply Chain Planning (ASCP)**
- **Available to Promise (ATP)**

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Advanced Planning and Scheduling



APS Suite

The Planning Server (PS) is the data repository and integration point for the APS products that are comprised of the following:

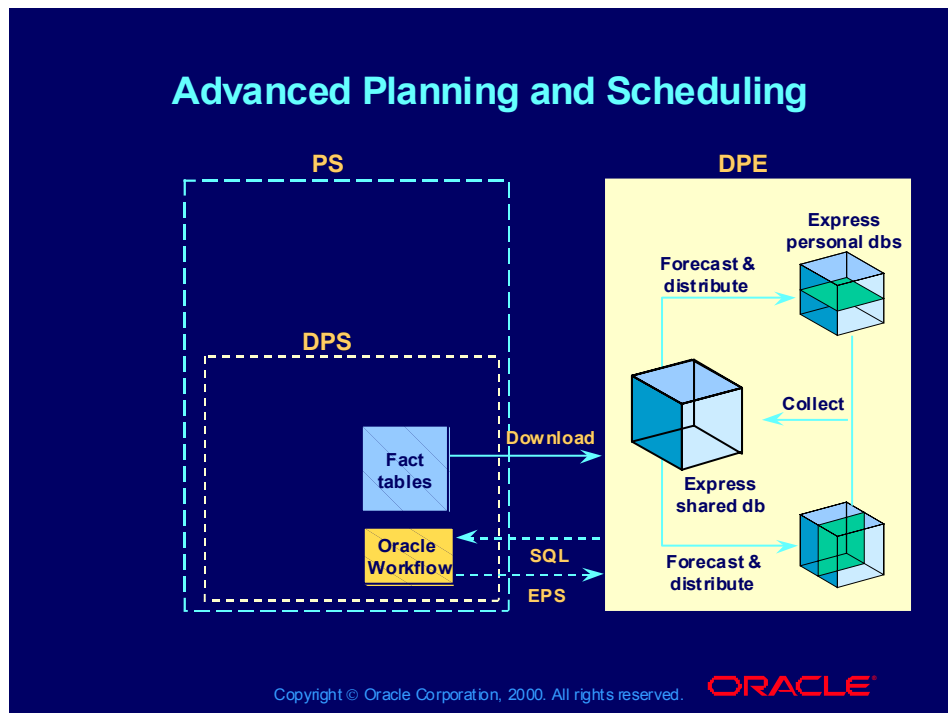
- Advanced Supply Chain Planning (ASCP)
- Global Available to Promise Server (ATP)
- Oracle Demand Planning (ODP)
 - Demand Planning Server (DPS)
 - Demand Planning Engine (DPE)

Demand Planning Server

DPS is a relational schema (known as the MSD schema) within the Advanced Planning and Scheduling Planning Server (PS). Data from ERP source instances are collected onto the Staging Tables, and then pulled to the Fact Tables. The forms based user interface (UI) is used to define demand plans, Express metadata, forecast scenarios, and Express connection settings.

After the Fact Tables are populated and demand plans are defined, data are downloaded into the DPE by a batch process triggered by the Demand Planning Administrator and controlled by Workflow.

Advanced Planning and Scheduling



Demand Planning Engine

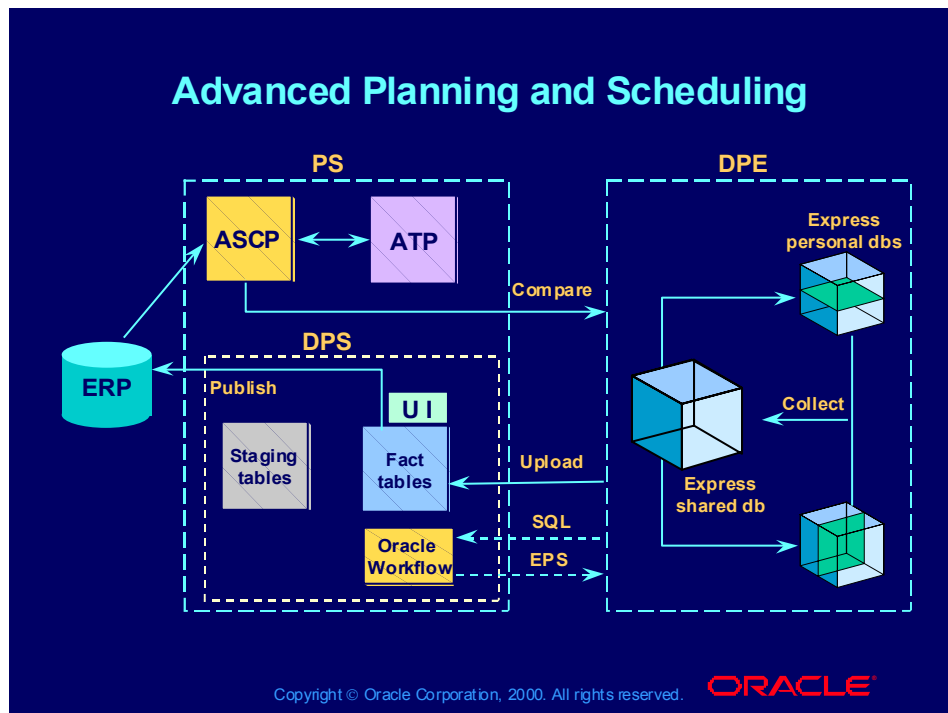
The Demand Planning Engine (DPE) is a multidimensional database engine that provides Demand Planning with its data entry and analysis capabilities.

The DPE data model is tightly integrated with the definitions created in the DPS, and can not be modified within the DPE. A shared Express database is created for each demand plan.

The Demand Planning Administrator chooses settings for baseline forecasts, planner data assignment, comment reason codes, predefined reports, and so on. Then the Demand Planning Administrator triggers the second batch process, which creates the baseline forecast and distributes the assigned data among the collaborative demand planners. At this point, Express personal databases are created for the demand planners.

After the demand planners have analyzed the data and designated a forecast for each scenario of the demand plan, the third batch process causes the individual data slices to be collected to the shared database, and consolidated.

Advanced Planning and Scheduling



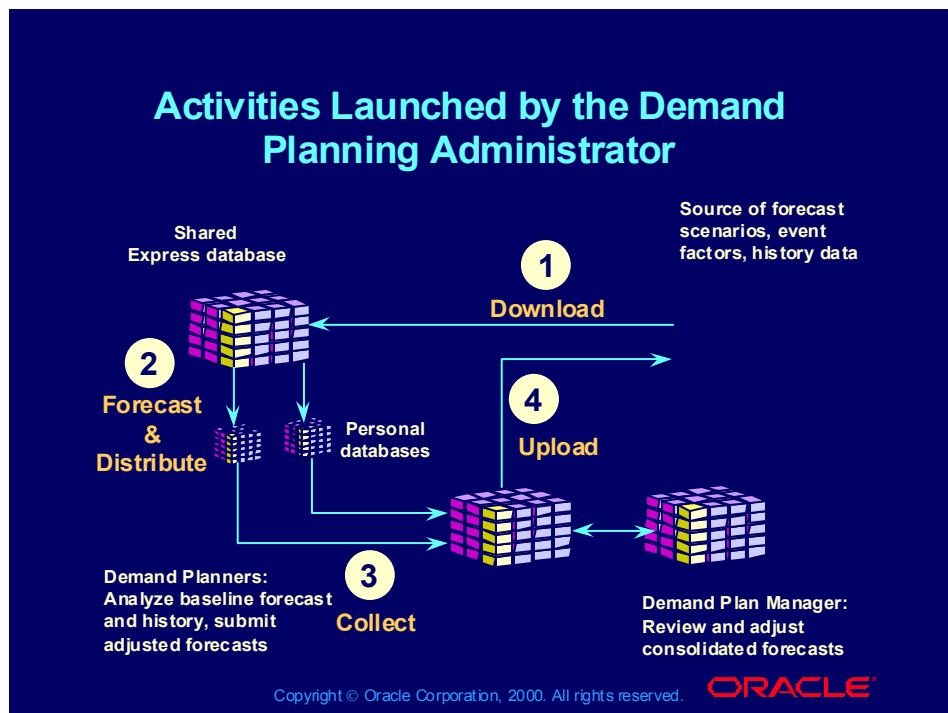
Express Shared Database

The Demand Plan Manager optionally reviews and modifies the consolidated data. Finally the fourth batch process is triggered to upload data from the Demand Planning Express Engine back to the Demand Planning Server Fact Tables.

Optional Publishing

The completed demand plans from the Fact Tables are available to be published to the ERP transaction source. Depending on whether the ASCP and Global ATP components of the APS suite have been installed, the demand plan could be used to drive Advanced Supply Chain Planning. The supply plan could then be used as the basis for customer service order promising (Global Available-to-Promise Server). Finally the constraint-based advanced supply chain plan can be compared to the unconstrained demand plan to analyze the effect that production constraints have on customer service level.

Activities Launched by the Demand Planning Administrator



Review Question

Which of the following *is not* one of the fundamental ODP Express database Elements?

1. Dimensions
2. Hierarchies
3. Levels
4. Measures
5. Reports

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Answer to Review Question

Which of the following *is not* one of the fundamental ODP Express database Elements?

1. Dimensions
2. Hierarchies
3. Levels
4. Measures
- 5. Reports**

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Review Question

Review Question

Which of the following would be useful to view demand during a non-standard time period, such as the first three weeks in September?

- 1. Custom Aggregate**
- 2. Custom Measure**
- 3. Hierarchy**
- 4. Hierarchy Level**
- 5. Level**

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Answer to Review Question

Which of the following would be useful to view demand during a non-standard time period, such as the first three weeks in September?

- 1. Custom Aggregate**
2. Custom Measure
3. Hierarchy
4. Hierarchy Level
5. Level

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Review Question

Where are the staging tables and fact tables located?

- 1. Demand Planning Server**
- 2. Demand Planning Engine**
- 3. ERP transaction source**
- 4. Express shared database**
- 5. Oracle Workflow**

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Answer to Review Question

Where are the staging tables and fact tables located?

1. Demand Planning Server
2. Demand Planning Engine
3. ERP transaction source
4. Express shared database
5. Oracle Workflow

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Summary

In this lesson, you should have learned how to:

- **Distinguish between traditional record views and multidimensional views**
- **Compare and contrast online transaction processing (OLTP) with online analytical processing (OLAP)**
- **Identify key features of Express**
- **Describe fundamental Express database elements**

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Implementing the Oracle Demand Planning Express Server

Chapter 5

Implementing the ODP Express Server

Implementing Oracle Demand Planning

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Objectives

After completing this lesson, you should be able to do the following:

- **Specify initial settings for the Demand Planning Engine**
- **List Demand Planner Administrator activities**
- **Download history data from the planning server**
- **Calculate baseline forecasts and distribute forecasts and history data to demand planners**
- **Collect and consolidate forecasts from demand planners**
- **Upload revised forecasts to the planning server**

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Agenda

Agenda

- **Specifying initial settings for the Demand Planning Engine**
- **Demand Planner Administrator activities**

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Agenda

Agenda

- **Specifying initial settings for the Demand Planning Engine**
- Demand Planner Administrator activities

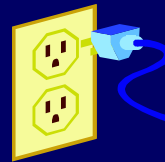
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Initial Setup for the Demand Planning Engine

Initial Setup for the Demand Planning Engine

- Database setup
- Planner workstation settings
- Data assignments
- Output scenarios
- Comment reason codes
- Workflow

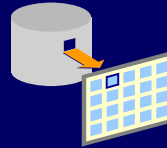


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Database Setup

Database Setup



- (N) > Database Information
- First time building express database (moving data from fact table (DPS) to shared database (DPE))
 - TNSNAMES.ORA: connect string
 - dpbatch.log, download, shared directory
- For each demand plan, specify file names and locations
 - Public database
 - Demand planning (shared) database
 - Personal databases

Apply



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Planner Workstation Setup

- **(N) User Page Setup**
- **Banner, background image locations**
- **Welcome screen text, image location**
- **Enable local install of browser**
 - Java classes
 - Text
 - Images



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Predefined Reports

- A set of commonly used, customizable reports
 - Administrator selects reports to be available to demand planners
 - Administrator also sets some global defaults
 - Note: Specify default settings before selecting reports
- (N) Default Report Settings
 - Default hierarchies and levels
 - Base and comparison measures
 - Review documents dimension
- (N) Report Selection



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Planner Assignments

- **Create data slices for demand planners.**
Note: One planner may have multiple assignments, but only one planner is allowed per assignment.
- **Assignments are typically based on sets of dimension levels, and not at the cell level (e.g. by item number, by bin location, by ship-to address)**
- **Assignments *may* overlap**
 - Typically the Administrator prevents overlap
 - Warnings for overlapping and unassigned data

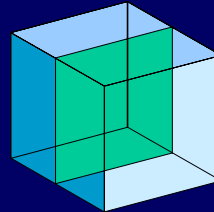
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Example Assignment

Example Assignment

- **Demand Planner A**
 - Geography: Region: West
 - Product Family: X
- **Demand Planner B**
 - Geography: Region: East
 - Product Family: X
- **Demand Planner C**
 - Geography: All
 - Product Family: Y



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Making Assignments

Making Assignments

- (N) Demand Planner Assignments > (B) New
LOV lists all user's who have demand planning responsibility
- (B) Edit
Use Selector to make assignments
- (B) Refresh
- Flag indicates overlap
- (B) Unassigned shows unassigned data



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Demonstration

This demonstration shows how to assign data slices to demand planners.

(N) Demand Planner Assignments > (B) New

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Output Scenarios

- **(N) Output Scenarios (B) Properties**
- **Set properties for each output scenario:**
 - Forecast method and parameters
 - Forecast levels
 - Allocation rules



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Forecast Method and Parameters


- Specifications to guide calculations for a statistical baseline forecast
 - Default *Automatic* mode recommended
 - Be prepared to experiment if needed:
 - Exponential Smoothing (3 methods)
 - Linear Regression
 - Nonlinear Regression (5 methods)
 - Default parameter range
- Algorithms search for best parameter values

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Forecast Levels

Forecast Levels



- Choose a level for each dimension, for example;

<u>Dimension</u>	<u>Level</u>
Time	Month
Geography	Region
Product	Product family
- Choice depends on data and business process
 - Consider volatility of very detailed data
 - Consider memory and storage issues
- Regardless of choice, allocation and aggregation rules produce forecast results for all levels

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Specify Hierarchy Levels for Each Dimension

The choice of hierarchy level depends on available demand history data and business process needs.

- Higher level (top down) - Forecast errors can be magnified as they are allocated downward to detail levels.
- Lower level (bottom up)
 - Consider volatility of sparse data
 - Consider memory and storage requirements
- Be prepared to experiment.

Allocation Rules

- Statistical forecasts at specified levels
- Forecasts at higher levels through rollup
- Allocation for forecasts at lower levels
- Choose from one of three methods
 - From history - Static allocation weights (faster)
 - Lowest level - Dynamic allocation weights based on trends evident at leaf levels
 - All levels - Dynamic allocation weights based on trends evident at all levels (slower)
- Be prepared to experiment

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Demonstration

This demonstration shows how to assign data slices to demand planners.

(N) Demand Planner Assignments > (B) New

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Comment Reason Codes

Reason codes for comments in Planner worksheets

- Define reason codes for judgmental edits
- Generate reports based on reason codes
- Must be defined to enable comments
- **(N) Comment Reason Codes**



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Workflow Settings

- **(N) Workflow Settings**
- **Workflow engines**
 - Number of parallel distribution processors
 - Optimal value may vary depending on Express server configuration and hardware
 - Set value to 1 for initial testing, ordinarily should not exceed 3
- **Ad-hoc role expiration**
 - Notifications rely on ad-hoc roles
 - Ad-hoc roles expire after the specified number of days



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Batch Log

- **(N) Batch Log**
- **View progress of Administrator tasks**

```
> Begin downloading data from Planning Server  
> Generating metadata structures  
> Connecting to relational server  
> Loading specified demand plan information  
> Loading Dimension information  
> Loading Hierarchy and Level information  
> Generating DP Dimension metadata  
> ...
```

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Agenda

Agenda

- Specifying initial settings for the Demand Planning Engine
- **Demand Planner Administrator activities**

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Demand Planning Administrator Activities

- **Responsibility: Demand Planning Administrator**
- **Select demand plan name from Navigation list**
- **Four stages:**
 - Download data from planning server
 - Forecast data and distribute to planners
 - Collect forecast data from planners
 - Upload forecasts to planning server
- **Three statuses:**
 - Incomplete
 - Running
 - Complete



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Demand Planning Administrator Page

Stage	Status
<input type="radio"/> Download data	Complete
<input checked="" type="radio"/> Forecast and distribute	Incomplete
<input type="radio"/> Collect forecasted data	Incomplete
<input type="radio"/> Upload forecasts	Incomplete

Apply

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Demand Planning Administrator Functions

You use the Demand Planning Administrator page to perform several functions.

Reference:

Oracle Demand Planning User's Guide, Section 2, "Summary of Demand Planning Administrator Functions"

Running Forecast Activities

Stage:	Status:
<input type="radio"/> Download data from planning server	COMPLETE
<input checked="" type="radio"/> Forecast data and distribute to planners	INCOMPLETE
<input type="radio"/> Collect forecasted data from planners	INCOMPLETE
<input type="radio"/> Upload forecasts to planning server	INCOMPLETE

Apply

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Launching a Demand Planning Administrator Activity

The figure example shows that demand history data has been downloaded from the demand planning server to the Express master database. The radio button next to the Forecast data and distribute to planners activity has been selected. Click the Apply button to cause the demand planning engine to generate a baseline forecast and distribute the history and baseline forecast to the demand planners' personal Express databases.

The other activities are launched in a similar manner.

Reference

“Setting Data Assignments for Planners”, Section 2, in the *Oracle Demand Planning User's Guide*.

Note: Previous activities must have Status: COMPLETE before you can run the next activity on the list.

Note exception: For many items the baseline statistical forecast will be sufficient, and there is no interest in sending history and forecast data to demand planners for further analysis and adjustment. In those cases, no data assignment is made. When assignments are absent, the system will generate a baseline forecast, but will not distribute the information to planners. The baseline forecast is immediately available to upload to the demand planning server from the Express master database.

Activity 1: Data Download

Activity 1: Data Download

Download data from Planning Server

- Prerequisites:
 - Implement Oracle Demand Planning Server
 - Definition of data model and connections
 - Planning Server destination tables populated
 - Demand plans appear on Planning Server UI
- Delete existing Express databases, if any
- Check the appropriate option and click *Apply*

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Activity 2: Forecasting & Distribution

Activity 2: Forecasting & Distribution

Calculate baseline forecast and distribute data slices

- **Prerequisites:**
 - Download Data activity complete
 - Demand Planning Engine setup complete
 - Planner workstation settings
 - Planner assignments
 - Output scenarios
 - Comment reason codes
 - Workflow
- Check the appropriate option and click *Apply*

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Activity 3: Collection & Consolidation

Activity 3: Collection & Consolidation

Collect forecast scenarios from planners and consolidate information

- **Prerequisites:**
 - **Forecast and distribute data activity complete**
 - **Planners have submitted scenarios**
- **Set Workflow collection and reminder dates**
Workflow process waits for:
 - **All scenarios submitted from planners or**
 - **The specified date (baseline forecast is default)**
- **Check the appropriate option and click *Apply***

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Activity 4: Upload

Activity 4: Upload

Upload Forecasts to the Planning Server

- Prerequisite
 - Data Collection activity complete
 - Planning Manager's review complete
- Check the appropriate option and hit *Apply*
- Uploads one consolidated forecast per scenario
- Populates DP_SCENARIO_ENTRIES table in the Planning Server MSD schema

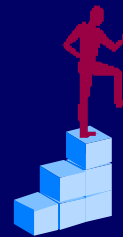
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Common Pitfalls

Assignments have no corresponding database.

- **Planner assignment databases are created during the distribution process. Assignments created after the distribution process will have no corresponding database.**
- **Changes that take effect immediately:**
 - Assignment owner
 - Predefined reports
 - Output scenarios



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Common Pitfalls



The current session is not useful or needed, but continues to run.

Initializing any of the four administrative activities launches a background Workflow process.

- **You can monitor progress by viewing the log file.**

or

- **You can log out and await Workflow notification. Upon receiving the notification, you can log back in to view the result of the activity.**

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Summary

In this lesson, you should have learned how to:

- **List Demand Planner Administrator activities**
- **Specify initial settings for the Demand Planning Engine**
- **Download history data from the planning server**
- **Calculate baseline forecasts and distribute forecasts and history data to demand planners**
- **Collect and consolidate forecasts from demand planners**
- **Upload revised forecasts to the planning server**

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Practice — Implementing the Oracle Demand Planning Express Server

Chapter 6

Practice — Implementing the ODP Express Server

Implementing Oracle Demand Planning

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Directed Practice Overview

Directed Practice Overview

This practice covers the following topics:

- **Setting up the Demand Planning Express Engine**
- **Creating a data assignment**
- **Clearing the overlap warning flag**

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Adding Demand Planning Administrator Responsibility to a User

This practice uses functionality available through the Demand Planning Administrator responsibility.

1. Log on as User: MFG (Jonathan Smith). Switch responsibilities to System Administrator
2. Navigate to the Users window.
(N) Security > Users > Define
4. Inquire on User Name "MFG##", where "##" represents the station name assigned to you by your instructor. The system will retrieve the record for your assigned user name.
5. Add the Demand Planning Administrator and Demand Planner responsibilities to your user name.
6. Save your work.
7. Optional: Use this form to create a new user name and password. Save your work. Then assign the Demand Planning Administrator and Demand Planner responsibilities to your new user name.
8. Close the Responsibilities window.

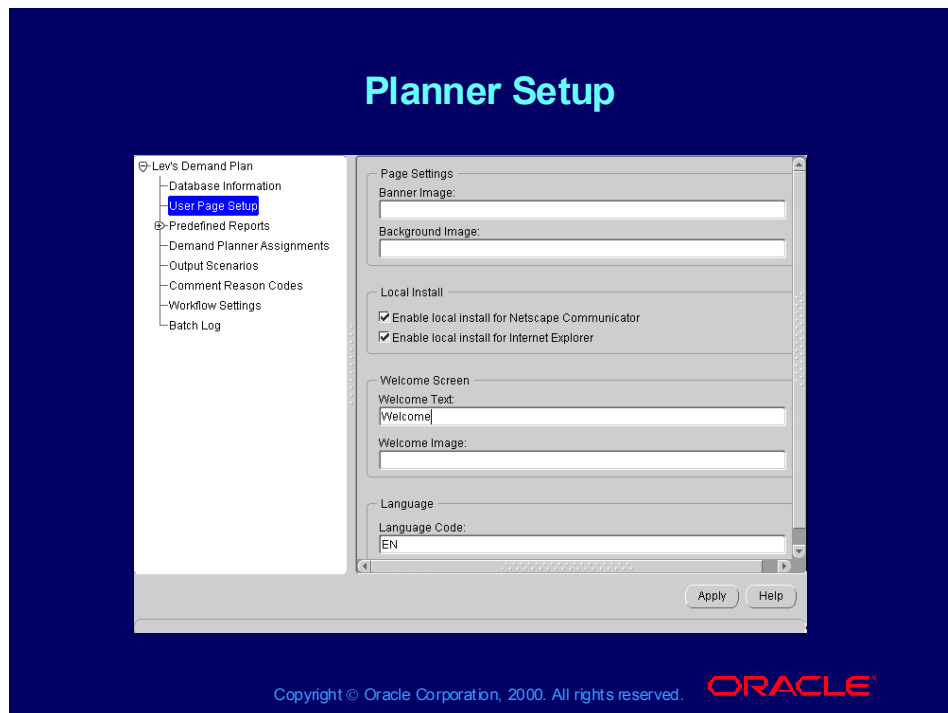
Database Setup

The screenshot shows the 'Database Setup' window for 'Lev's Demand Plan'. The left sidebar contains a tree view with the following items: 'Database Information' (highlighted), 'User Page Setup', 'Predefined Reports', 'Demand Planner Assignments', 'Output Scenarios', 'Comment Reason Codes', 'Workflow Settings', and 'Batch Log'. The main content area is divided into three sections: 'Public Database', 'Demand Planning Database', and 'Personal Databases'. The 'Public Database' section has fields for 'Name' (MMODP) and 'Path' (D:\AS\DEV\DEMAND\PLANS\DOM\LEV). The 'Demand Planning Database' section has fields for 'Name' (ODP) and 'Path' (D:\AS\DEV\DEMAND\PLANS\DOM\LEV). The 'Personal Databases' section has a 'Root Directory' field. At the bottom right are 'Apply' and 'Help' buttons. The footer contains the text 'Copyright © Oracle Corporation, 2000. All rights reserved.' and the 'ORACLE' logo.

Database Information

8. Login with the user ID you have just provided with Demand Planning Administrator and Demand Planner responsibilities. Start Demand Planning.
9. Navigate to the Database Information window for the seeded demand plan. Use the seeded demand plan as a guide to completing this window for the demand plan you created in the practices for lesson 2.

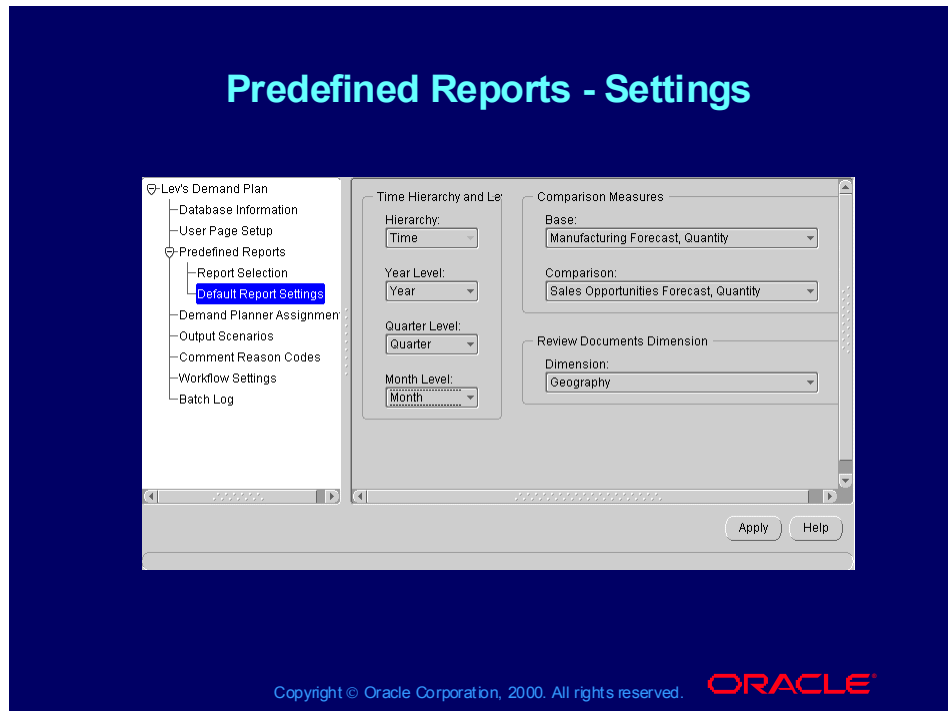
Planner Setup



User Page Setup

10. Set up the Demand Planner page with some welcome text.

Predefined Reports - Settings

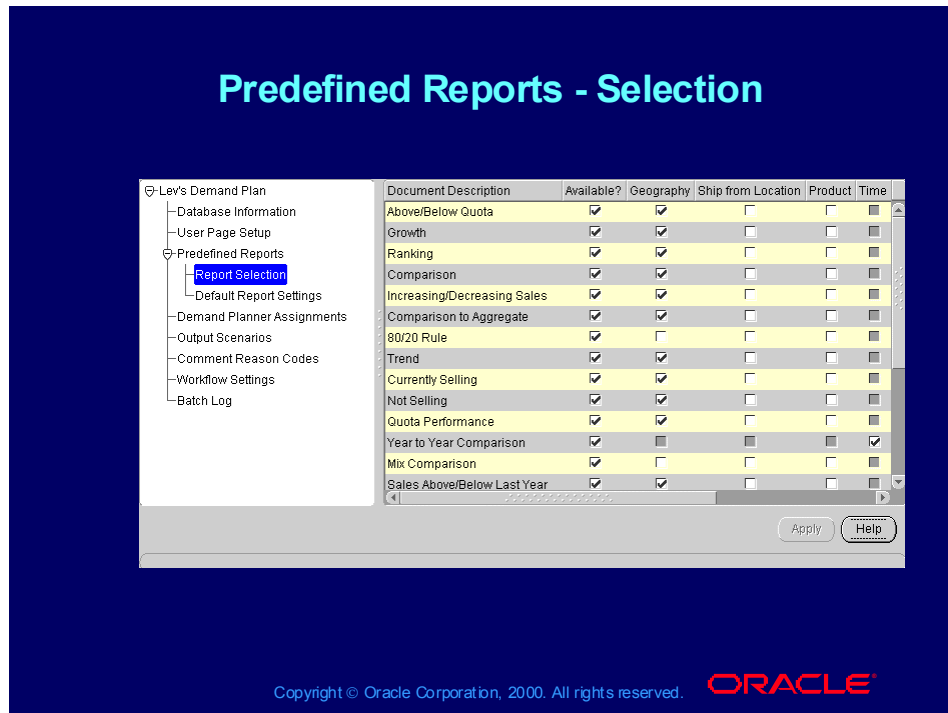


Default Report Settings

11. Select your default report settings.

Note: It is important to complete this step before making report selections.

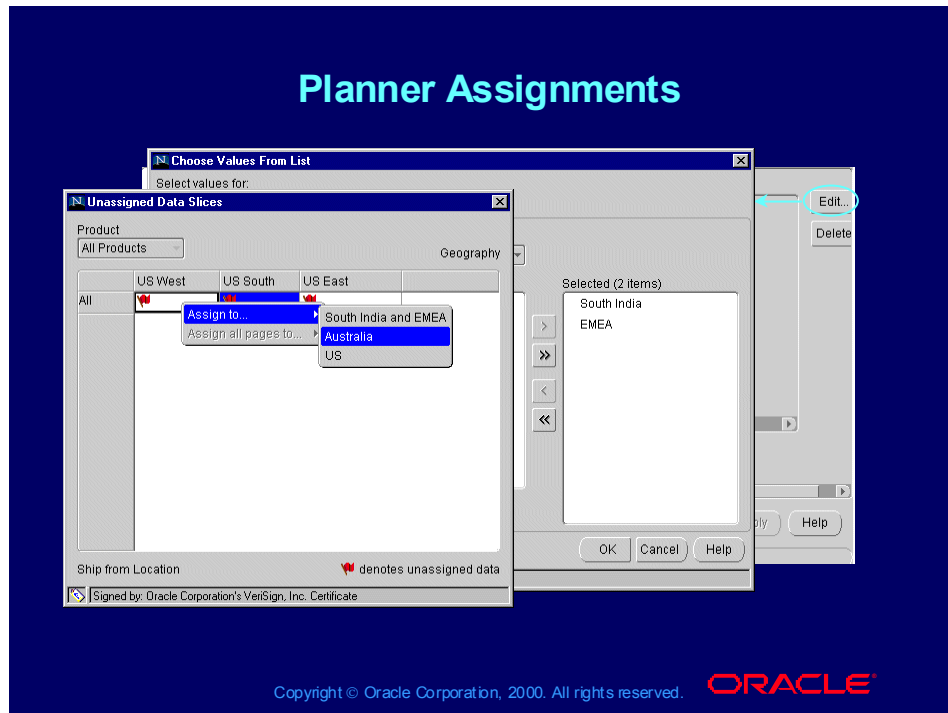
Predefined Reports - Selection



Report Selection

12. Select standard reports to be available to the demand planners.

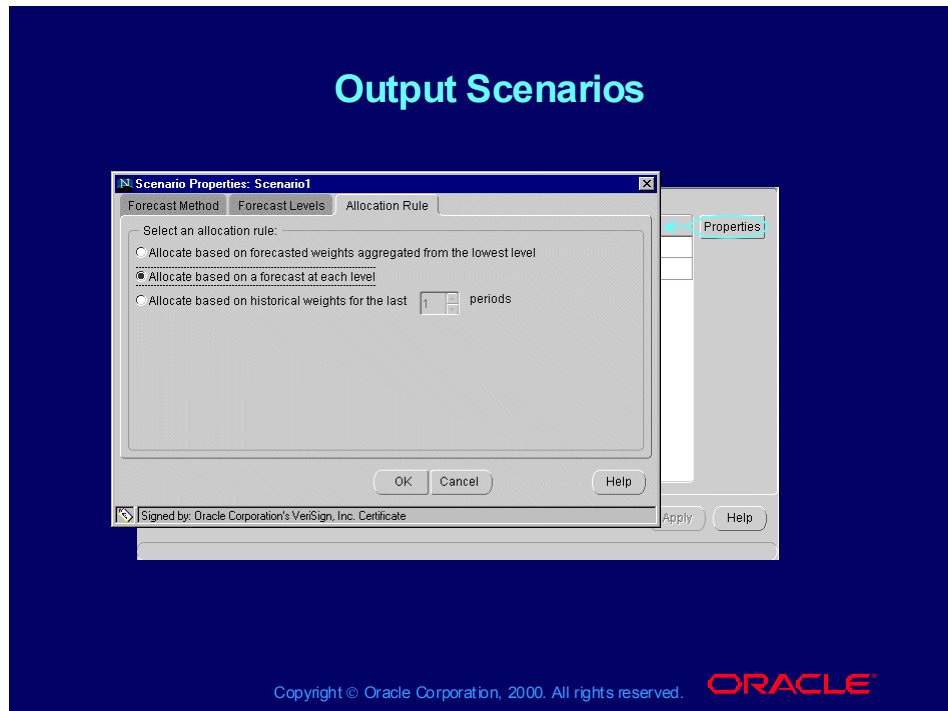
Planner Assignments



Demand Planner Assignments

13. Make demand planner assignments. The LOV should include your classmates who now have Demand Planner responsibilities. Assign different slices to some of your classmates.
14. Press the refresh button to determine whether you have made overlapping assignments.

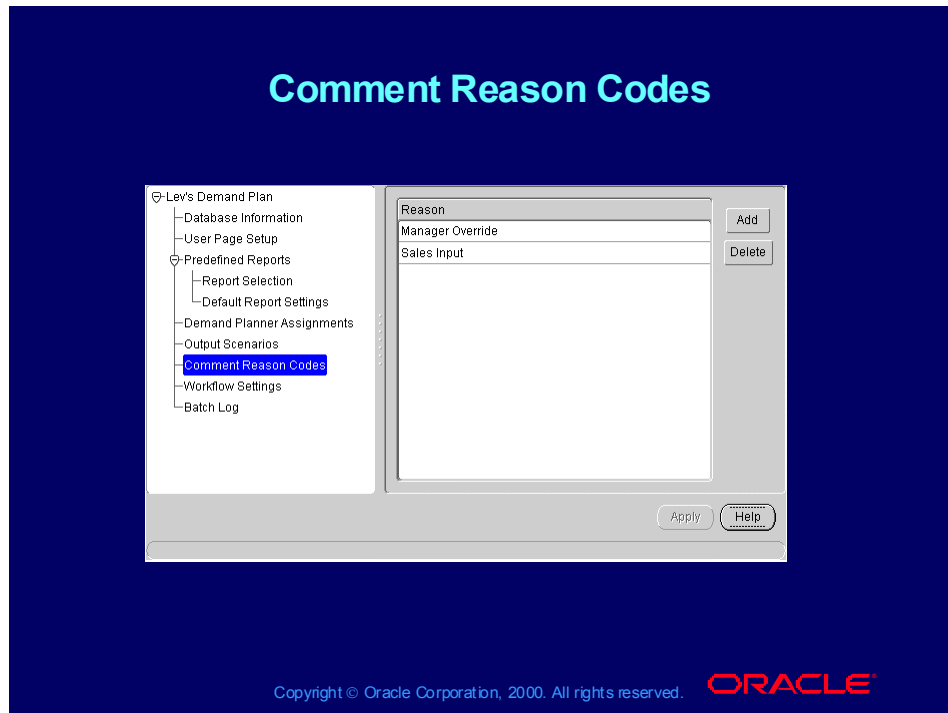
Output Scenarios



Output Scenarios

15. Select a forecast method for the baseline forecast (or automatic).
16. Select forecast levels for each hierarchy.
17. Select an allocation rule.

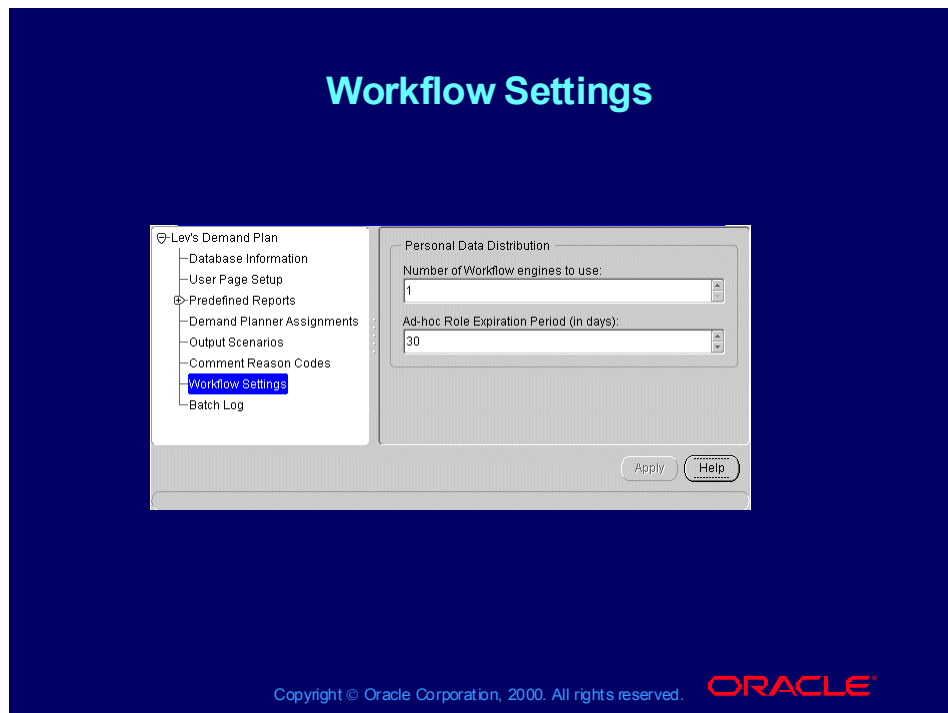
Comment Reason Codes



Comment Reason Codes

18. Create a comment reason code.

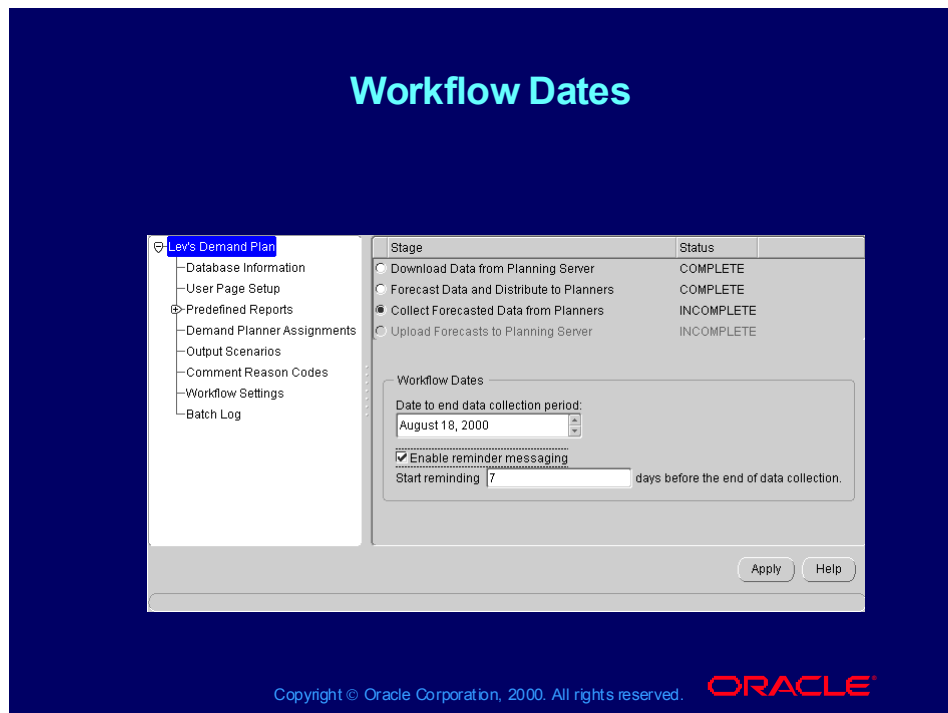
Workflow Settings



Workflow Settings

19. Set the number of workers equal to one.
20. Set a number of days for Ad Hoc roles to expire.

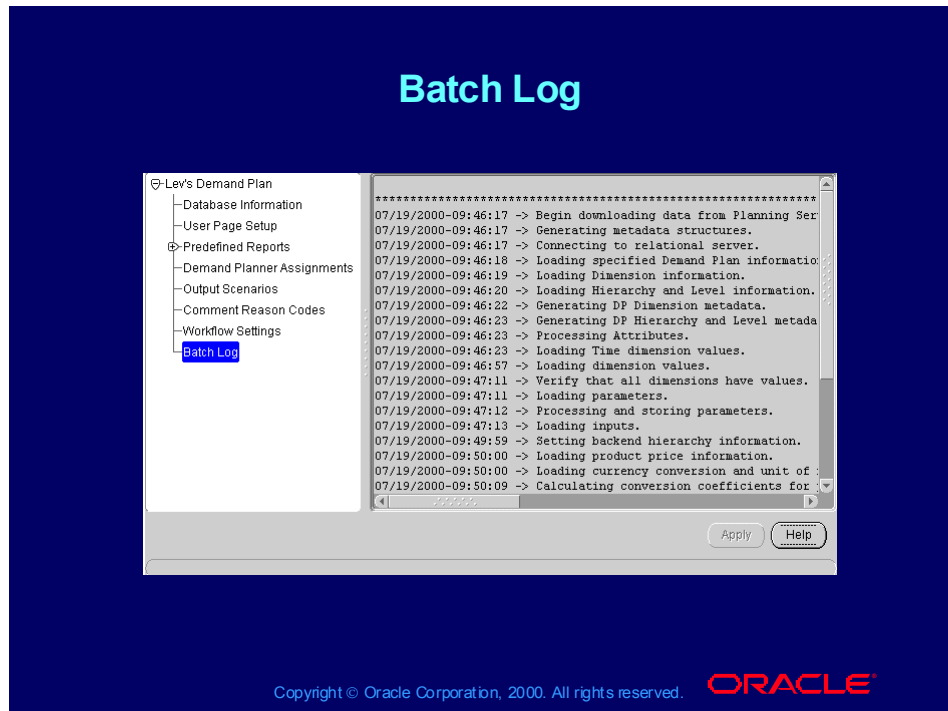
Workflow Dates



Workflow Dates

21. Set the number of days to the end of the forecast scenario data collection period.

Batch Log



Batch Log

No activity is recorded in the batch log until you process the first stage of the Demand Planning Administrator activities.

Setting Up the Oracle Demand Planning Express Engine

Chapter 7

ODP Express Engine Setup

Implementing Oracle Demand Planning

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Objectives

After completing this module you should be able to do the following:

- **Recognize the major components of the Oracle Demand Planning implementation**
- **Describe the setup process**
- **Verify the setup**
- **Troubleshoot login and Workflow problems**

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Agenda

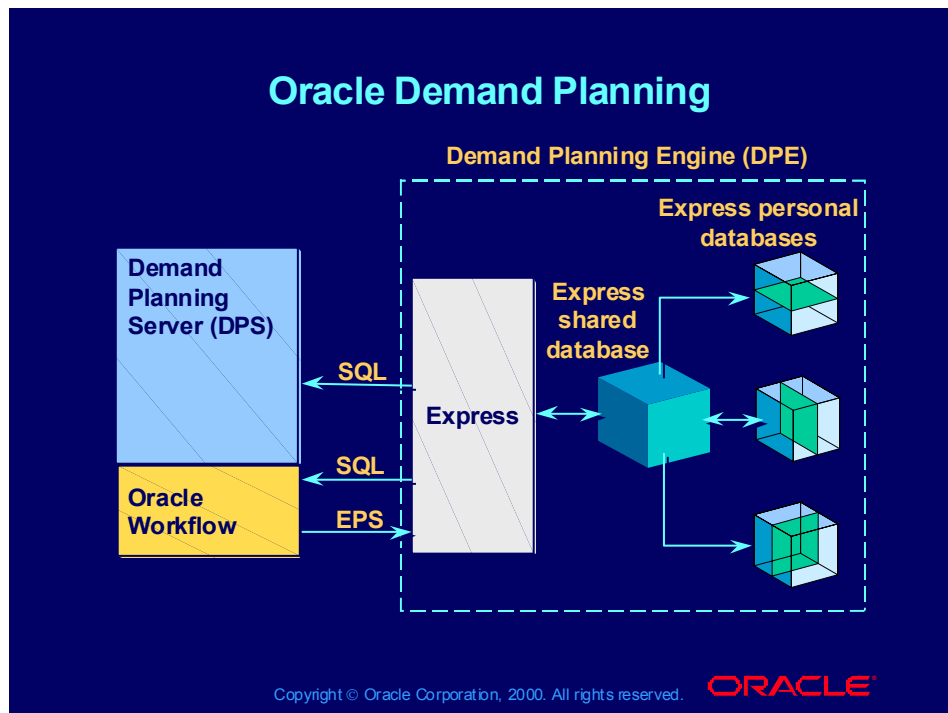
Agenda

- Overview to ODP Express implementation
- Oracle Express Server
- Express setup on the Planning Server
- Client machine
- Web listener
- Single Sign-On
- Oracle Workflow in ODP
- Sizing factors

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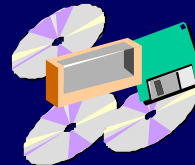
Oracle Demand Planning



Overview—Installation Components

Overview—Installation Components

- Oracle Applications
- Oracle Express Server (OES)
- Oracle Demand Planning
- Web listener



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Overview—Oracle Software

- Oracle Applications 11i (11.5.3) includes:
 - Oracle Demand Planning Server 11.5.2
 - Oracle Workflow
- Oracle Express Server 6.3.2 includes:
 - Oracle 8.0.6 client support files
 - Oracle Web Agent (OWA) 6.3.2
 - Net8i for connecting to Oracle 8i
- Oracle Demand Planning 11.5.3 includes:
 - Single Sign-On 1.0
 - Express PL/SQL SNAPI interface (EPS) 1.0
- J-Initiator 1.1.7.27 or later



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Web Listener

The web listener software should be obtained from a third party source, such as Apache 1.3.9 (recommended).

SNAPI

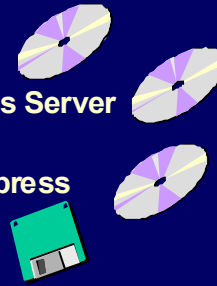
Express' Structured N-dimensional application program interface (SNAPI) enables communication between the client application and the Express Server.

EPS

The EPS acronym stands for Express, PL/SQL, SNAPI. EPS is used to communicate information from WorkFlow to the Demand Planning Engine.

Overview—Installation Sequence

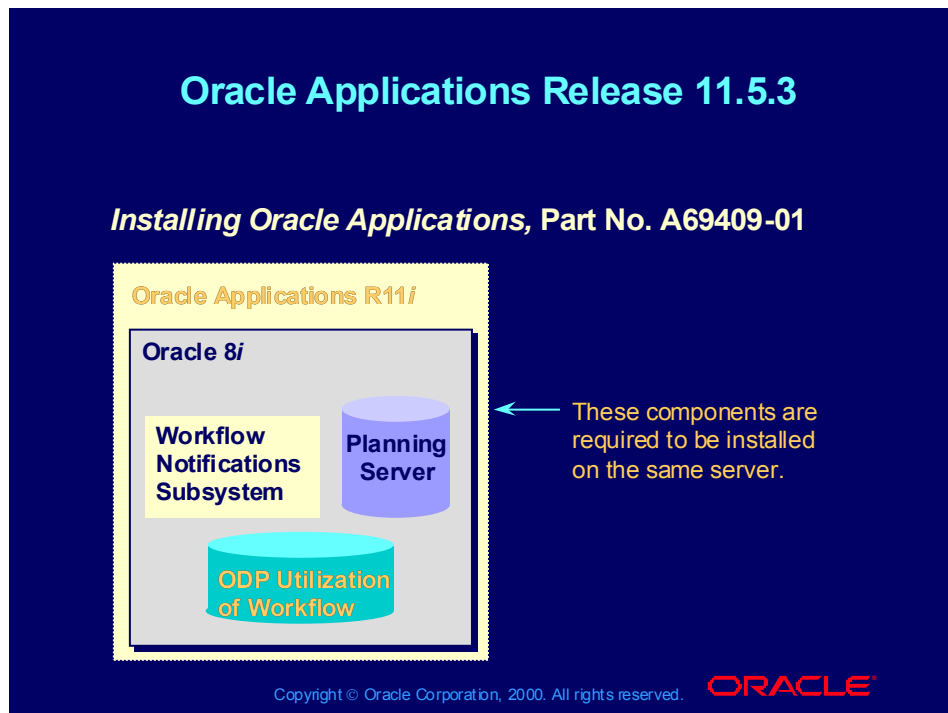
1. Install Oracle Applications, 11*i*
2. Install and configure Oracle Express Server (OES) for Oracle Demand Planning
3. Install Oracle Demand Planning Express based application
4. Install and configure Web listener
5. Install EPS on Oracle Applications, 11*i*
6. Install Workflow



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Oracle Applications Release 11.5.3



Installing Oracle Applications Part No. A69409-01

Oracle One-Hour Install reduces the time it takes to install Oracle Applications and the Oracle 8i Server technology stack.

Upgrading Oracle Applications

Refer to this guide if you are upgrading from release 10.7 or 11.0.

Oracle Applications Product Update Notes

Provides a record of the changes to individual Oracle Applications products between release 11.0 and 11i.

Note: You cannot upgrade to release 11i directly from releases prior to 10.7.

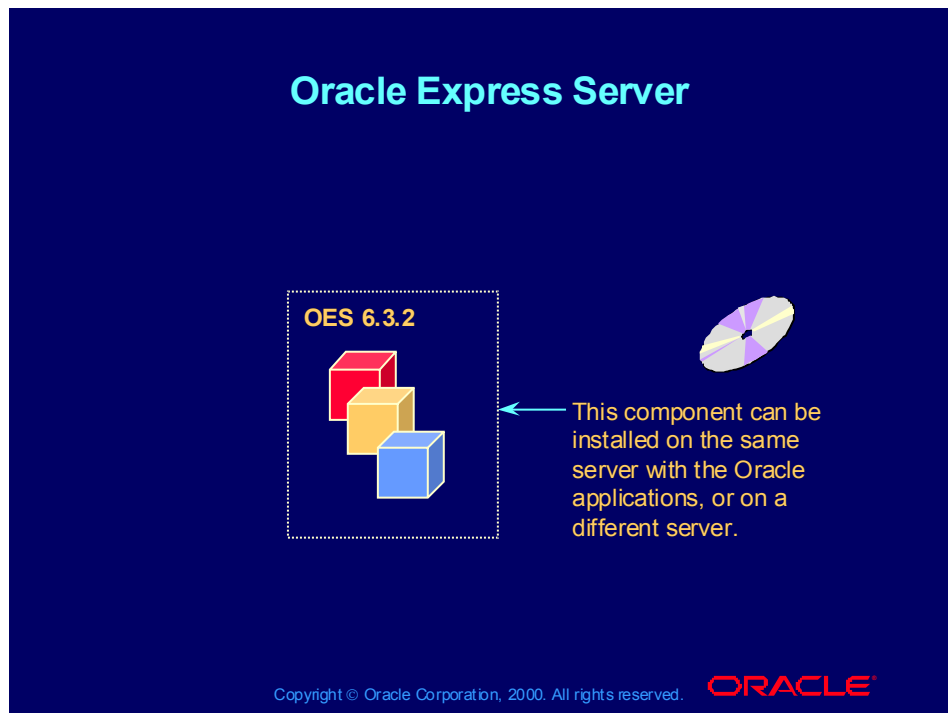
Agenda

Agenda

- Overview to ODP Express implementation
- **Oracle Express Server**
- Express setup on the Planning Server
- Client machine
- Web listener
- Single Sign-On
- Oracle Workflow in ODP
- Sizing factors

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Oracle Express Server 6.3.2

Software included with a typical OES 6.3.2 installation:

- A full installation of Express Server with commonly used modules and supporting software
- Client support files for the version of the client products that are provided on the installation CD
- Oracle Web Agent with the Samples application
- Express Web Publisher support files
- Express Instance Manager (EIM)
- Product options, networking services, and utilities to access data in an Oracle database


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OES 6.3.2 Pre-Install Checklist

OES 6.3.2 Pre-Install Checklist

- Identify the Oracle home directory
- Stop any existing Express services
- Create Express Server user accounts
 - Installation user: oracle
 - DBA user: oesdba
 - Initialize user: oesinit
 - Default user/password: oesguest/oesguest



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Reference

“Oracle Express Server: Pre-Installation Checklist,” Installation Guide, Oracle Demand Planning 11i (11.5.3)

Default User

Anonymous sessions, where the client does not provide a user name and password, run as the Default user. The Default user must have the file system and shell privileges that are needed by anonymous Express sessions.

The default user ID: oesguest is used for anonymous login to the Demand Planning Engine. OES Security is set to none, so no additional security clearance is required. Reference Single Sign-On, later in this lesson.

Creating Express Server's User Accounts

Creating Express Server's User Accounts

Create the following user accounts on the Unix system:

User	User Name and Password	Description
Install user	oracle	Oracle home, and the identity of the installation and xsagent
DBA user	oesdba	Identity of Express Server
Initialize user	oesinit	Identity of the persistent session (Optional)
Default user	oesguest	Identity of anonymous sessions

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Installation user

To install any Express products, log into your Unix system as the Installation user. This user owns all the installed files. The home directory of the Installation user is typically, but does not have to be, Oracle home for Express Server.

DBA user

Each Express service runs as the DBA user. All files created by Express services will be owned, at least initially, by the DBA user for that service. The DBA user must have full access to all directories in which the Express service will create databases and other files.

Initialize user

The optional Persistent Session runs as the Initialize user. A Persistent Session is a special session that is active as long as the Express service is running. It is a mechanism for periodically executing scripts of Express language commands. The Initialize user must have the file system and shell privileges that are needed for the Express language commands that are executed by the Persistent Session.

Note: If you do not create the optional ids with the same naming scheme listed in the slide, you must modify the roles in the Express Instance Manager to point to the ids that you have created.

Installing OES 6.3.2

Installing OES 6.3.2

- Login using the “oracle” installation user id
- You must be running OpenWindows or another X- Windows system on your computer
- Run the “runInstaller” program from the root directory on the OES 6.3.2 compact disk.
- Issue the following commands if you see an “Xlib” or “Failed to connect to Server” error

```
setenv DISPLAY machine_name:0.0  
xhost +
```

- Select the “Oracle Express Server 6.3.2.0.0” option
- Select the “Typical” install option

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Reference

Installation Guide, Oracle Demand Planning 11i (11.5.3)

Configuring OES for ODP

Configuring OES for ODP

- Use Express Instance Manager to configure Oracle Express Server for Oracle Demand Planning
- Use desktop icon to launch the Express Instance Manager
- (N) Network > Express Servers > (Express Instance Name)
 - Instance
 - Log
 - Modules
 - Parameters
 - Roles
 - Sessions



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Express Instance Manager

Express Instance Manager (EIM) is the primary tool for administering Express Server. You can use Express Instance Manager to:

- Start and stop Express services
- Add and remove optional modules from an Express service
- Change the configuration parameters that control the behavior of an Express service
- Create new Express services and remove existing services
- Change the user identities under which Express Server runs
- View system log files that record status messages from Express Server

Starting EIM from the desktop in Unix

- Log into the computer where you installed EIM
- Account must be on the same network as the instance of Express Server that you want to manage
- Account must have execute privileges for programs in Oracle home
- Running Open Windows or another X-Window system
- Run `$ORACLE_HOME/olap/oes632/eim/eim.sh`

Verifying OES 6.3.2 Setup Parameters

Verifying OES 6.3.2 Setup Parameters

- (N) Parameters > Database Paging Management (T) General
 - Set the PageBufferCount parameter = NA
- (N) Parameters > I/O Management (T) General
 - Verify ServerDBPath value
 - Set ShellPath to the bourne shell path
 - Verify that the SHELL command is loaded

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SHELL Command

To ensure that the SHELL command works correctly during the Oracle Workflow installation, you must perform the following tasks:

- Set the ShellPath Parameter to the bourne shell path
Match the Express Instance Manager shell path to the path returned by the following Unix command: `which sh`
- Verify that the SHELL command is loaded
- Set AllowShellOut to YES
- Permit the oesguest user to run sqlplus:
 - Edit the profile of the oesguest user as follows:
PATH = your Oracle 8 server path
ORACLE_HOME = your Oracle 8 home
LD_LIBRARY_PATH = your Oracle 8 library
 - Grant oesguest group users file write and delete access: `chmod 775 oesguest`

Note: The oesguest user must be able to write and execute files in both the plan directory (where demand plans are built) and the oesguest user directory such as `users/oesguest`.

Verifying OES 6.3.2 Setup Parameters (continued)

- **(N) Parameters > Security (T) General**
 - Verify AllowShellOut = YES
 - Verify RequiredSecurityLevel = NONE
 - Set RequirePasswordEncryption = NO
 - Set DefaultMode = 666
 - Set AcceptACLS = NO
- **(N) Parameters > Web Agent**
 - Verify WebAuthenticationType = NONE
 - Set the Time-out parameter to a higher value, such as 1800

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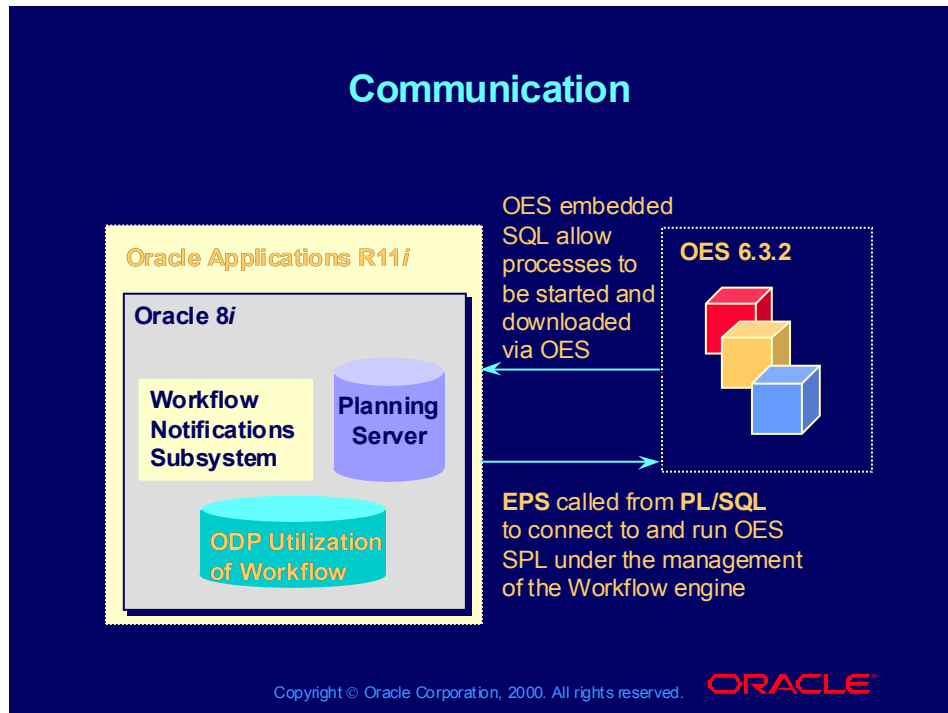
Agenda

Agenda

- Overview to ODP Express implementation
- Oracle Express Server
- **Express setup on the Planning Server**
- Client machine
- Web listener
- Single Sign-On
- Oracle Workflow in ODP
- Sizing factors

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Setting the Express Setup Dialog Box Values on the Planning Server

Setting the Express Setup Dialog Box Values on the Planning Server

- **Express Setup window defines eight parameters necessary for correct configuration of three components:**
 - Demand Planning Express
 - Demand Planning Single Sign-On
 - Demand Planning EPS
- **These parameters are passed to the components by means of a URL that is generated for each Demand Plan.**

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Express Setup Dialog Box Components

The Planning server downloads input to Express Server and receives published output from Express Server. The Express Setup window defines the parameters for communication with Express Server.

EPS

Express, PL/SQL, SNAPI

SNAPI

Structured n-dimensional application program interface

Planning Server Express Communication Setup

Planning Server Express Communication Setup

- Demand plan
- Shared DB Prefix
- Code Location
- Shared DB Location
- Express Port
- OWA Virtual Path
- EAD Name
- Express Connect String

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Express Setup Dialog Box Components

The components of the Express Setup window are described as follows:

Component	Description
Demand Plan	Demand plan name
Shared DB Prefix	Express database names will be based on this value. If empty, will be defaulted to DPxxx, where xxx is demand plan ID.
Code Location	Express code databases directory
Shared DB Location	Express databases directory
Express Port	Express Server computer and port number
OWA Virtual Path	Virtual directory path defined in the Oracle Express Web Agent cartridge
EAD Name	Express Server instance identifier
Express Connect String	String needed for XRB to set EXPRESS_SNAPI connection

Reference

“Express Setup on the Planning Server,” Oracle Demand Planning Implementation Overview

Configuration Options

Single server:

- Oracle Applications 11*i*, with Oracle 8*i*
- Oracle Express Server (OES) 6.3.2
- “Typical” install, Oracle Demand Planning 11.5.3
- Web listener

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Configuration Options

First of two servers:

- Oracle Applications 11i (with Oracle 8i)
- OES 6.3.2
- “Custom” installation ODP 11.5.3 for EPS, *without* Single Sign-On

Second of two servers:

- Web listener
- “Custom” installation ODP 11.5.3 for EPS, *with* Single Sign-On and Oracle 8.0.6 client support files



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Demonstration

This demonstration shows you how to use the Express Instance Manager to verify the Oracle Express Server configuration for Oracle Demand Planning.



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Agenda

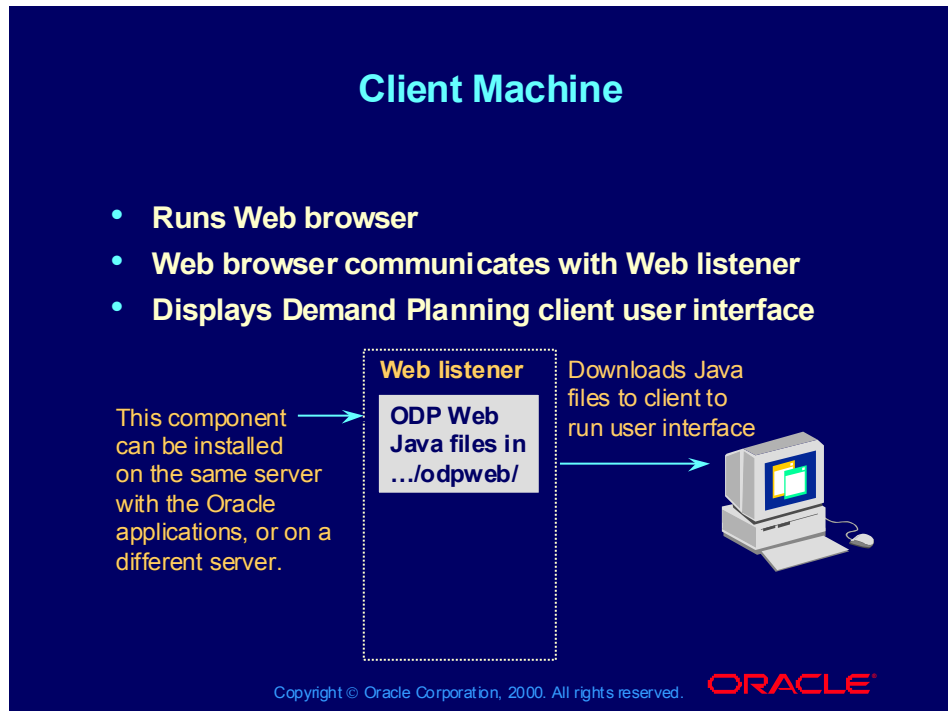
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Client Machine




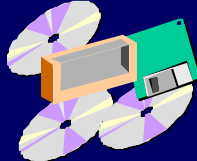

Reference

“Client Machine” *Oracle Demand Planning - Demand Planning Engine Technical Reference Manual*

Workstation Requirements

Workstation Requirements

- **Hardware**
 - Memory
 - Operating systems
 - Disk space
- **Software**
 - Supported Web browsers
 - Local installation of JAR and CAB files recommended
 - J-Initiator plug in



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Reference

Workstation Requirements and Setup Tips for Oracle Demand Planning

Hardware

- Memory, recommended 128 MB or more
- Operating systems, Windows '95, '98, 2000, NT 4.0 with service pack 5 or higher
- Disk space 12 MB



Software

- Supported Web browsers
 - Netscape Communicator 4.61 and 4.7.x
 - Microsoft Internet Explorer 4.01 or 5.0 with JVM 5
- Local install option for JAR (Netscape) and CAB (Explorer) files is recommended
- J-Initiator: Oracle Applications uses J-Initiator to understand Java in the Supply Chain products. At first time login:
 - Download J-Initiator executable to client
 - Run executable to install J-Initiator on the client
 - Restart the browser

Verifying the Setup of the Client Machine Running the Web Browser

Verifying the Setup of the Client Machine Running the Web Browser

- Certification files for user validation
- Proper browser configuration
 - Set browser to accept all cookies
 - Set browser to support JavaScript
 - Set document cache to be refreshed at least once each session
- SmartUpdate must be enabled when local installation of Web listener Java files is enabled



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Notes:

Upon accessing the application for the first time using Netscape, there may be a Web Agent authentication error. To work around this, rename the cookie.txt file located in Netscape/ users/<current user> directory. This will cause Netscape to create a new cookie.txt file that should correct the Web Agent authentication anomaly. This is not an issue with Internet Explorer.

Potential Login Conflicts

Potential Login Conflicts

- **Cookies.txt**
- Identitydb.obj
- Java



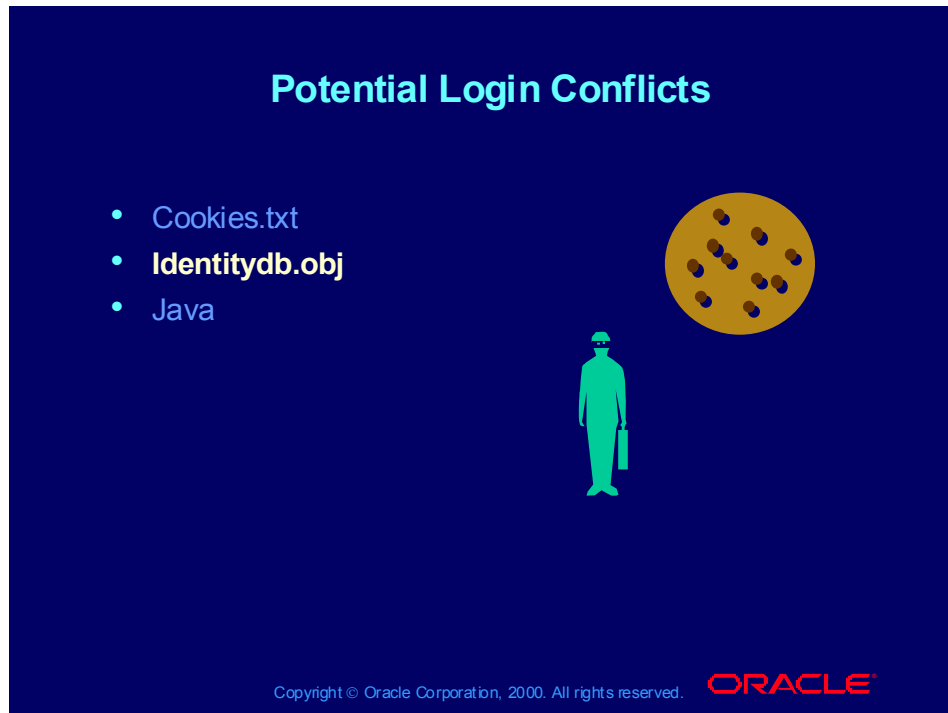
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Cookies.txt (Netscape Only)

Use of cookies is a common method of identification used by many interactive Web sites. For example, most online shopping sites, like OracleStore.Oracle.com, use this type of identifier. The cookies.txt file is a text file containing a list of the Web site cookies used by the personal computer (PC). It is located in the Netscape user profile directory.

The cookies.txt file is created on a workstation the first time Netscape accesses a Web site that uses cookies to identify workstation properties. If a conflict occurs between the existing cookies.txt file and the new entry from Oracle Demand Planning, the user will receive an error message stating that the server could not be reached. If this occurs, rename the existing cookies.txt file on the workstation, then restart the browser. When you connect to the ODP Web site, Netscape will create a new cookies.txt file.

Potential Login Conflicts



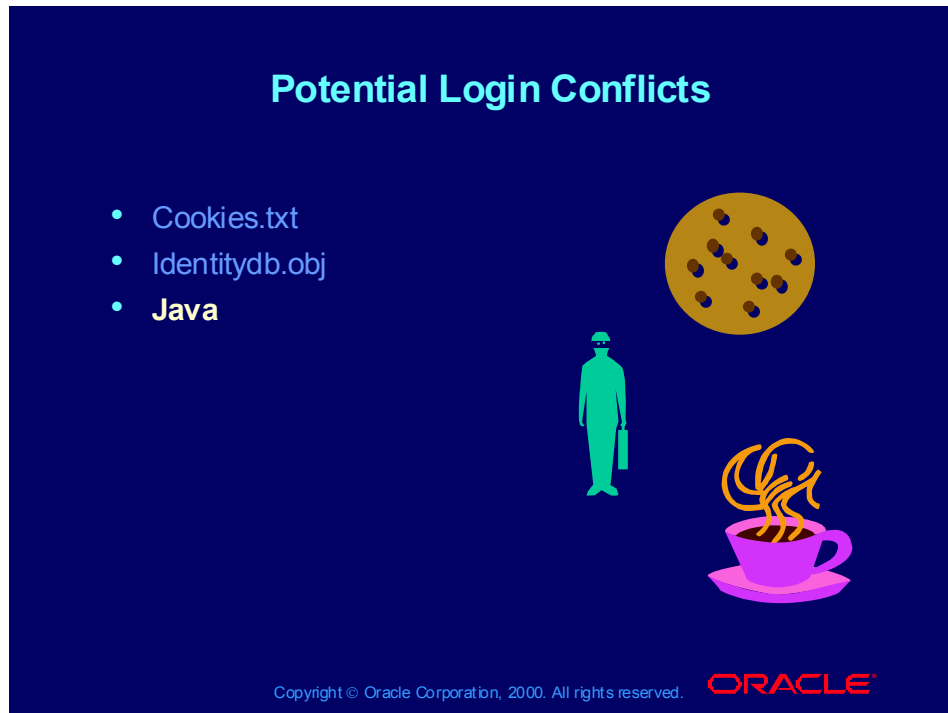
Identitydb.obj

The identitydb.obj file is a security identifier that is downloaded to the workstation the first time a user accesses an Oracle self-service application. If subsequent Oracle self-service applications are accessed with earlier or later versions of this file, a conflict may occur. The most visible symptom of this conflict is a yellow bar located across the bottom of the screen.

To overcome this issue, rename the existing identitydb.obj file on the workstation and replace it with the one being used by the current application. The identitydb.obj file is located on the workstation in the directory:

C:\Program Files\Oracle\identitydb.obj

Potential Login Conflicts



Java Conflicts (Netscape Only)

Express based applications, such as Oracle Demand Planning, Oracle Financial Analyzer, and Oracle Sales Analyzer, each offer the option of installing Java Class files locally when using Web clients. Local installation is recommended for Oracle Demand Planning.

These class files are packaged together and stored as JAR (Netscape) or CAB (Internet Explorer) files. Due to the common properties of JAR files for Express based applications, Netscape has some problems discerning which one to use when there is more than one JAR file on the workstation. The result is that Netscape will try to use the Demand Planning JAR with Financial or Sales Analyzer, and vice versa.

If this conflict occurs, when you log into the second (or third) Express application you will receive an error message that is labeled with the name of the first application that was used.

To resolve this problem, do not use the local installation option on more than one Express based application. A software solution that will remove this restriction will soon be available.

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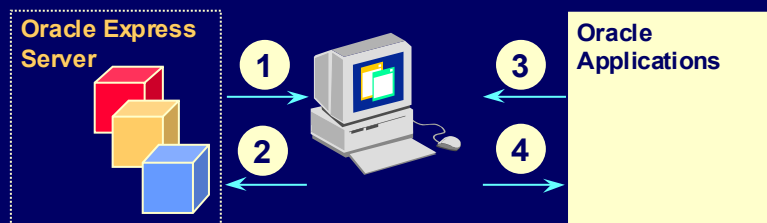
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Web Listener Coordinates Data Transfer

Web Listener Coordinates Data Transfer

1. From Express Server to client Web browser
2. From client Web browser to Express Server
3. From Oracle Applications 11i to client Web browser
4. From client Web browser to Oracle Applications 11i



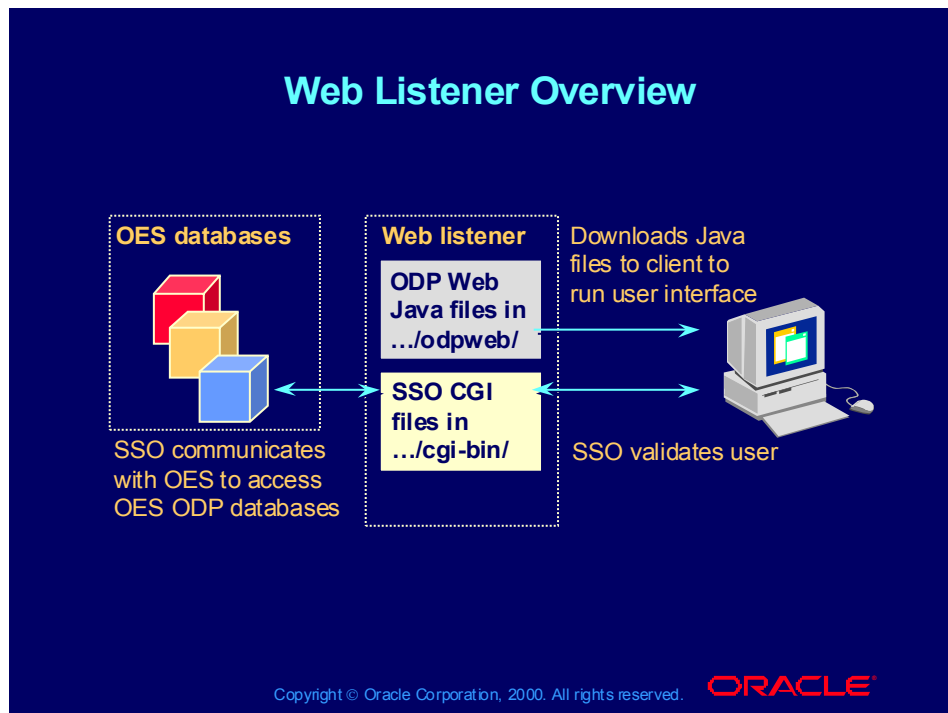
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Reference

“Web Listener” *Oracle Demand Planning - Demand Planning Engine Technical Reference Manual*

Web Listener Overview



Web Listener Files

- Web listener files are used to create the Demand Planning user interface on the client Web browser
- Types of Web listener files:
 - .gif
 - .html
 - java
- Stored on the client machine, or downloaded each time the user logs into Demand Planning



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Web Listener File Storage or Transfer

The Demand Planning Administrator determines whether the files are permanently stored on the client machine, or whether they are downloaded each time the user logs into Demand Planning.

Note: Enable local installation using the Page Setup menu option of the Planning Administrator user interface.

Verifying Web Listener Setup

Verifying Web Listener Setup

- The Web listener's virtual directory, called /odpweb, must be mapped to the physical directory that contains the Web listener files.
- The directory is a subdirectory of the Oracle home where the Web listener files were installed such as <oracle_home>/olap/odp100/odpweb/
- When the local installation option of the Web listener Java files for Netscape browsers is enabled, Netscape's SmartUpdate feature must also be enabled



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Directory Location

Ensure that the Web listener has a virtual directory called /odpweb, which maps to the physical directory containing the Web listener files. By default, the Oracle Universal Installer (Installer) places this directory in a subdirectory of the Oracle home where the Web listener files were installed:

<oracle_home>/olap/odp100/odpweb/

Verifying Web Listener Setup

Verifying Web Listener Setup

- For Solaris the Web listener must include in its library path the directory that contains the Oracle 8.06 client support files
- Configure the Web listener
 - Edit the file “mime.types” in the apache_1.3.9/conf directory
 - Add the following lines to the end of the file:

MIME Type	File Extension
application/csv	csv
application/java-archive	jar JAR

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Solaris Web Listener

For Solaris the Web listener must include in its library path the directory that contains the Oracle 8.06 client support files. This library path is referenced by the LD_LIBRARY_PATH environment variable. The Web listener must have read access to this directory.

Reference:

Troubleshooting the Initial Login Process

SmartUpdate and Export to Spreadsheet Features

In order to use the Export to Spreadsheet tool and the Netscape SmartUpdate feature, the Web listener must be configured to recognize the mime types shown in the figure.

Agenda

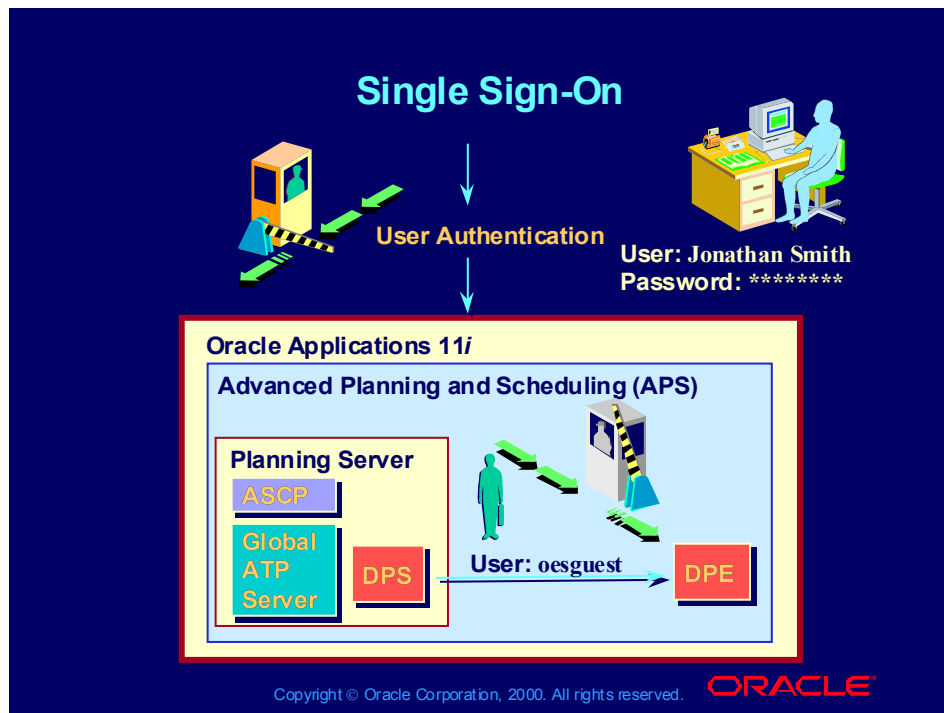
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Single Sign-On



Single Sign-On

Single Sign-On is a Web Agent Common Gateway Interface (CGI) program that allows authenticated Oracle Applications users to access Demand Planning without incurring additional security challenges. Once Single Sign-On has been installed and configured on the Web listener, Oracle Demand Planning 11i can be invoked through an Oracle Applications client.

Oracle Demand Planning sign-on responsibilities are:

- Demand Planning Integration Administrator
- Demand Planning Administrator
- Demand Planner
- Demand Plan Manager

Anonymous Login to Demand Planning Engine

The default user ID: oesguest is used for anonymous login to the Demand Planning Engine. OES Security is set to none, so no additional security clearance is required.

Reference

"Single Sign-On" Oracle Demand Planning - Demand Planning Engine Technical Reference Manual

Installing Oracle Single Sign-On (SSO)

Installing Oracle Single Sign-On (SSO)

- SSO modules consist of the following three files:

1	2		
CGI Program	CGI Configuration	Web listener	Express server
xsoowaroas.exe	xsoowaroas.cfg	Unix	Unix or WinNT
xsoowaroas.exe	xsoowaroas.cfg	WinNT	Unix or WinNT
xsoowaas.exe	xsoowaas.cfg	WinNT	WinNT
3	.dbc file (if not already created by Oracle Applications 11i)		

- Single Sign-On modules rely on proper setup of J-Initiator and Web browser on the client machine

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SSO Modules Consist Of:

A CGI program file, as follows:

- xsoowaroas.exe for communication between a Web listener running on Unix and Express Server running on either Windows NT or Unix
- xsoowaroas.exe for communication between a Web listener running on Windows NT and Express Server running on either Windows NT or Unix
- xsoowaas.exe for communication between a Web listener running on Windows NT and Express Server running on Windows NT

A CGI configuration file, as follows:

- xsoowaroas.cfg—for Unix systems
- xsoowaroas.cfg or xsoowaas.cfg—for Windows NT systems

A .dbc file, if this file was not already created by Oracle Applications 11i.

Note: The Single Sign-On modules rely on proper setup of J-Initiator and the Web browser on the client machine.

Verifying the CGI Program File Setup

Verifying the CGI Program File Setup

- The Single Sign-ON CGI program file must reside in a physical directory that is mapped to a virtual directory that the Web listener recognizes, such as /CGI-BIN/
- The CGI program must access the Oracle 8.06 client support files. These files are shipped with:
 - Oracle 8 Application Client 8.05 or 8.06
 - Oracle Application Server 4.08

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Verify SSO CGI file Setup

For Unix and Windows NT, a virtual directory must be mapped to the physical directory on the server that contains the Demand Planning Single Sign-On CGI program file.

Note: Depending on which Web listener you are using, this virtual directory may be named: /CGI-BIN/.

Verifying the CGI Configuration File Setup

The CGI configuration file must:

- Contain no stray or unprintable characters
- Refer to the FND_TOP directory, which exists on the Web listener host, and has a subdirectory named “secure” that contains the .dbc file for the current instance of Oracle Applications 11i
- Refer to an instance of Express Server, as specified in the EAD Name field in the Express Setup Form in the Planning Server user interface
- Have the correct Express Instance port number, as specified in the Express Instance Manager for this instance of Express

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Sample CGI Configuration File

Sample CGI Configuration File

```
MessageTemplatePath
/db1/orac806/app/oracle/product/8.0.6/olap/sample/message
en.htm
AuthenticationTemplatePath
/db1/orac806/app/oracle/product/8.0.6/olap/sample/loginen
.htm
CloseTemplatePath
/db1/orac806/app/oracle/product/8.0.6/olap/sample/closeen
.htm
OracleHome /db1/orac806/app/oracle/product/8.0.6
FND_TOP /db1/orac806/app/oracle/product/8.0.6/owa_sso
FND_DBC_FILE ap505dbs_dom1151.dbc
CookieName ap505dbs_dom1151
ExpSrv632 ora_ro_tcp:ada.us.oracle.com[12288]
```

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Setting the .DBC File

- **File Name:** The name of the .dbc file. The default file name is <machine name>_<SID>.dbc
- **Connection String:** The SQL*Net name of database, which is referenced by the TWO_TASK environment variable
- **FNDNAM:** The Oracle User to be used for Oracle 8i Applications connection
- **GWYUID:** The Oracle User/Password of the public account to be used for initial Oracle Applications connection to the Oracle 8i database
- **Server ID:** The ID of the Applications server if Applications Server Security is enabled
- **Guest Application User:** The Applications User/Password of the Guest user

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Sample .dbc File

Sample .dbc File

```
# ...
TWO_TASK=dom1151
FNDNAM=apps
GWYUID=aplsyspub/pub
APPL_SERVER_ID=xxx
GUEST_USER_PWD=ASGUEST/welcome
# ...
```

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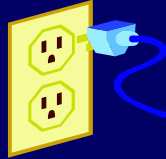
Sample .dbc File

```
# $Header: template.dbc 110.1 98/04/01 16:40:57 porting ship $
# TEMPLATE.dbc
# Template database configuration file.
#
# Create one copy of this file for each database instance
# this Applications Server will connect to. Each file should
# have the name
# <database_host_name>_<database_instance_name>.dbc
# and be located in this directory ($FND_TOP/secure).
# Change each of the parameters below to values appropriate
# for the database instance. Do not change the syntax.
# This file can also be automatically generated using
# the AdminAppServer utility.
#
# TWO_TASK
# SQL*Net name of database.
#
TWO_TASK=dom1151
#
# FNDNAM
# Oracle User to be used for Oracle Applications
# connection. The FNDNAM Oracle User must have Oracle
# Applications privilege level 'Universal'.
#
FNDNAM=apps
```

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```
#
# GWYUID
# Oracle User/Password of the public account to be used for
# initial Oracle Applications connection.
# The GWYUID Oracle User must have Oracle Applications
# privilege level 'Public'.
#
GWYUID=applsypub/pub
#
# APPL_SERVER_ID
# ID of this Applications server if Applications Server
# Security is enabled on this database.
# This ID must be generated by the AdminAppServer utility.
# If Application Server Security is not enabled, this
# ID can be left blank.
#
APPL_SERVER_ID=xxx
#
# GUEST_USER_PWD
# Applications User/Password of the Guest user.
# The Guest Applications User is a public Applications
# user with no responsibilities assigned.
#
GUEST_USER_PWD=ASGUEST/welcome
```

Troubleshooting Login



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Troubleshooting Initial Login

1. The user cannot log into Demand Planning.
Ensure that the user is defined in Oracle Applications.
2. The Demand Planning responsibilities are not selectable after the user logs in.
Check whether responsibilities exist in the Define Responsibility dialog box in Oracle Applications.
 - If yes, verify assignments to users
 - If no, check MetaLink for the appropriate patch

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Reference

“Troubleshooting the Initial Login Process” *Oracle Demand Planning - Demand Planning Engine Technical Reference Manual*

Troubleshooting Initial Login (continued)

3. After choosing the Demand Planner responsibility, the Select Demand Plan page fails to display.
Check MetaLink for the appropriate patch.
4. No demand plans are listed on the Select Demand Plan page. Likely causes are:
 - Demand plans have not been generated
 - Oracle Applications release version is previous to 11.5.2, and during setup no organizations were associated with the Demand Planning responsibilities

(N) Inventory > Setup > Organization Setup > Org Access

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Troubleshooting Initial Login (continued)

5. **Selecting a plan produces an incorrect URL, causing the server to fail to respond.**
If you receive the Server not responding message, verify that the Express Setup form in the Planning Server has the correct Express Server entries.
6. **Unable to access a demand plan after selecting it on the Demand Plan Selection page.**
Refer to the notes section of this page.

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Verify that the Express Setup form is set up according to the information in the section of the Technical Reference Manual titled *Express Setup on the Planning Server*.

For Unix Installations:

- Create a file called `env.sh` having the following contents. Place it in a CGI directory.

```
#!/bin/sh
echo Content-type: text/plain
echo
env
```
- Ensure that the file mode allows it to be executed. Run the file at the command line to make sure that it produces the expected results.
- Access a browser and execute the following URL:
`http://<hostname>/<cgi-bin>/env.sh`
- Verify the `LD_LIBRARY_PATH` environment variable is set to access the directory that contains the Oracle 8.06 client support files. The Oracle 8.06 client support files must be specified first in the path referenced by the `LD_LIBRARY_PATH` environment variable.

Troubleshooting Initial Login (continued)

7. The first time you select the demand plan, you receive an OLAP Web authentication error.

If this behavior is happening only with Netscape browsers, there is a problem with the cookie.txt file, which is located in the following directory:

`<Netscape_installation_directory_path>/Netscape/users/<current_user>`

Rename the cookie.txt file. This will cause Netscape to create a new cookie.txt file and correct the Web Agent authentication anomaly.

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Troubleshooting Initial Login (continued)

8. Single Sign-On will not authenticate an Oracle Applications 11i user running Netscape.

- Run the `env.sh` script to view the CGI environment. If the `HTTP_COOKIE` variable is either null or is not listed, the cookie has not been sent to the client browser.
- Refer to the notes section of this page.

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By default, the Applications Object Library will only send the session cookie to requesters in the same domain. The domain should be part of the demand plan URL in the Demand Plan Selections page.

Make sure that the domain is specified in the Planning Server Express Setup form in the Express Port field.

For more information, refer to the section of the Technical Reference Manual titled *Express Setup on the Planning Server*.

If there is still a problem, use these steps:

- Log into the Oracle Applications schema using SQL*Plus. From within SQL*Plus, run the following SQL command:

```
>select session_cookie_domain from ICX_PARAMETERS;
```
- If the value for this row is NULL, then the Applications Object Library will only send the cookie to the requesters in the same domain as the initializing URL. To specify that the cookie be sent to a specific domain, run the following commands:

```
>update ICX_PARAMETERS>set session_cookie_domain =  
  <your org domain>;
```

Troubleshooting Initial Login (continued)

9. A relatively long process, such as creating a new forecast, copying a forecast, or copying a history, does not finish correctly, but does not give an error message:

The Web listener may be timing out when a process runs too long without giving any response to the listener

Increase the time-out parameter of the Web listener.

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- Overview to ODP Express implementation
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- Single Sign-On
- **Oracle Workflow in ODP**
- Sizing factors

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ODP Utilization of Workflow

Governing Demand Plan Administrator batch activities:

- Download demand history from planning server
- Generate baseline forecast and distribute
- Collect and consolidate forecast scenarios from demand planners
- Upload to planning server



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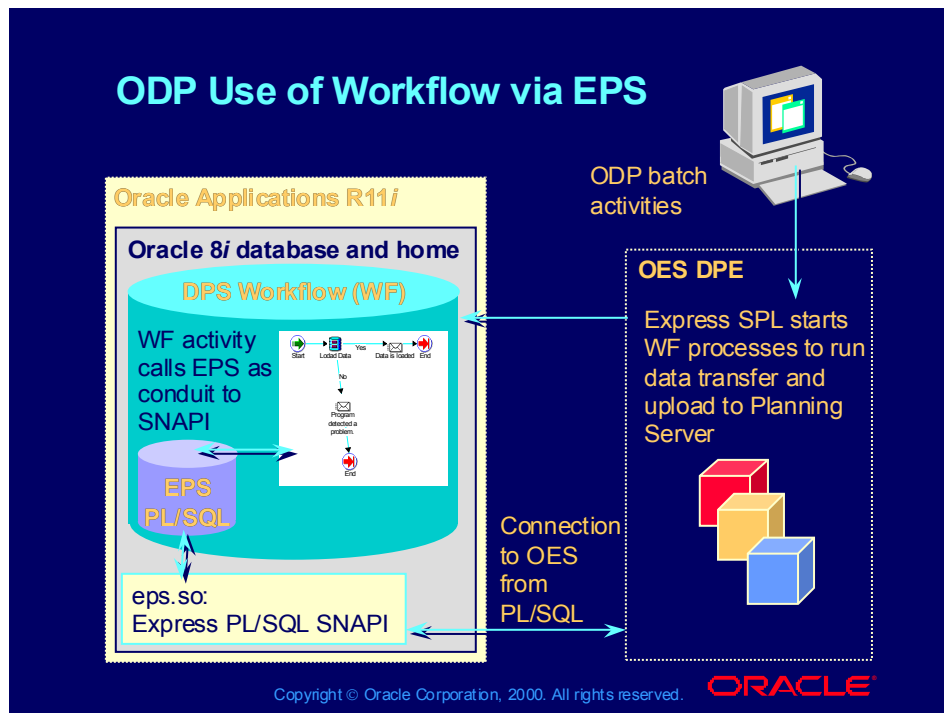
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Using Workflow to Govern Batch Activities

Demand Planning has extensive batch and background processing needs. It has a repetitive cycle of processing that is organized as a well defined business Workflow. Notifying the user community of processing status as the workflow progresses through its many stages is a central issue.

Oracle Workflow is used to govern these application process flows. This requires the Planning Server via Oracle Workflow to execute tasks and receive responses from Express Server. The Express PL/SQL SNAPI interface (hereinafter referred to as EPS) working as the conduit to the Express Structured N-dimensional API (hereinafter referred to as SNAPI) provides the capability to have Workflow activities call functions in the Oracle 8.1.6 environment to connect to Express Server and run functions in the Express Server environment.

ODP Use of Workflow via EPS



How It works

The flow is initiated from the Demand Planning user interface. This is accomplished by using the user interface to call the Express Structured Programming Language (hereinafter referred to as Express SPL), which in turn starts a predetermined Oracle Workflow process. This Workflow process takes control and, when needed, attaches to Express Server from PL/SQL through EPS and SNAPI by using Workflow function Activities.

Some of the Workflow processes have activities that are deferred and require background engines. To manage this, the Express Server SHELL capability is used to programmatically shell out of Express Server and start Oracle Workflow background engines, when these are needed. This requires that the user ID logged to Express Server is able to run SQL*Plus.

ODP Four-Stage Workflow Processes

Stage	Status
<input type="radio"/> Download data	Complete
<input checked="" type="radio"/> Forecast and distribute	Incomplete
<input type="radio"/> Collect forecasted data	Incomplete
<input type="radio"/> Upload forecasts	Incomplete

Apply

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Demand Planning Administrator Stages

The Demand Planning cycle is made up of four stages, each of which initiates a specific Workflow process to govern a task that is performed during that stage. These Workflows should not be modified. Each stage is initiated from the Demand Planning Administrator page.

The four stages as they actually appear on the Demand Planning Administrator page are:

- Ⓒ Download Data from Planning Server
- Ⓒ Forecast Data and Distribute to Planners
- Ⓒ Collect Forecasted Data from Planners
- Ⓒ Upload Forecasts to Planning Server

ODP Use of Workflow for Alert Notifications

Alert criteria defined within Demand Planning Engine user interface triggers workflow notifications subsystem

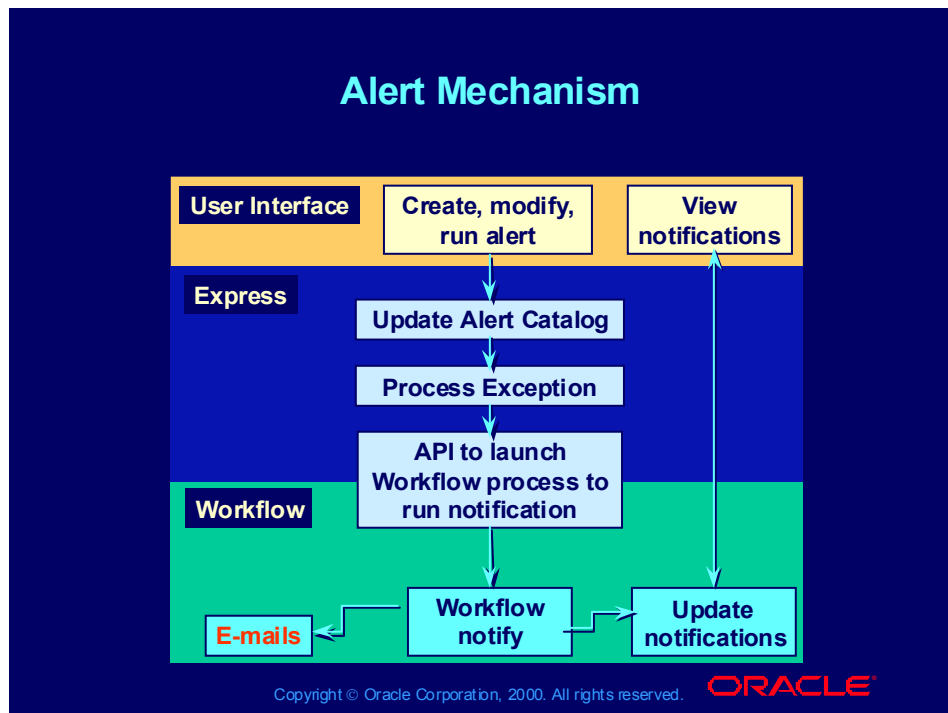
- Choose user names to notify
- Specify header



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Alert Mechanism



Verifying the Setup of Oracle Workflow

Verifying the Setup of Oracle Workflow

The following EPS files should be resident in the lib directory of the Oracle 8i Home and not the Oracle Express Server (OES) home:

File Name	Desired Location	Description
eps.so	Oracle 8i Home/lib	EPS library
eps.ini	Oracle 8i Home/lib	Initialization files
epsus.msb	Oracle 8i Home/lib	Message file

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Verifying the Setup

The Installer software should copy the necessary library files to the correct locations. The supporting PL/SQL code is already present in the 11i database as a result of installing Oracle Applications Advanced Planning and Scheduling (APS) software. If you suspect a problem, verify that Express Server and certain Unix environment variables are configured correctly.

Verifying the Setup of Oracle Workflow

- The following SNAPI files should be in the lib directory of the Oracle 8i Home even if a copy of these files already exists in the Express Server home

File Name	Target Location	Description
libncro.so	Oracle 8i Home/lib	Express
libsnlr.so	Oracle 8i Home/lib	Server SNAPI
libsnro.so	Oracle 8i Home/lib	Libraries

- Verify the Oracle 8i Home/lib directory is referenced by the LD_LIBRARY_PATH environment variable

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Verifying the Setup of Oracle Workflow

To ensure that the SHELL command works appropriately for Oracle Workflow, verify that the following tasks were performed as part of configuring the OES installation:

- (N) Express Instance Manager > Network > Express Instance Name > Modules
verify that the SHELL command is loaded
- (N) Express Instance Manager > Network > Express Instance Name > Security

Verify:

- AllowShellOut parameter is set to YES
- AcceptACLS parameter is set to NO
- DefaultMode parameter is set to 666

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Verifying the Setup of Oracle Workflow

- (N) Express Instance Manager > I/O Management, verify the ShellPath parameter is set to `/bin/-sh`
 - The ShellPath must be that path pointing to either the bourne or korn shell in use.
 - The Unix command `> which shell` may be helpful in determining the path.
 - The “-” preceding “sh” is necessary for OES version 6.3.2 or later.
- Verify that the following user IDs have been given the ability to run SQL*Plus:
 - The oesguest ID
 - The ID that connects to Express Server from PL/SQL using SNAPI

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Verifying the Setup of Oracle Workflow

Verify that the **SHELL** command is set for **SQL*Plus** in **Unix**. To do so, edit the profile file and ensure that the environment variables listed below include the appropriate settings.

- **PATH=** your Oracle 8 or 8i server path where the **/BIN** directory resides. This directory contains the **SQL*Plus** executable file
- **ORACLE_HOME=** your Oracle 8 or 8i home
- **LD_LIBRARY_PATH=** your Oracle 8 or 8i library to load the **SQL*Plus** libraries

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Verifying the Setup of Oracle Workflow

- Ensure that the mode is set to grant owner and group access to the oesguest directory, and that write and delete access have been given to the oesguest group users, as follows:

```
> chmod 775 oesguest
```

- Verify that Express Server Connect String is set up as follows on the Planning Server:

```
server=<SNAPI_bind_string>/sl=0/st=1/ct=0/sv=1  
" The SNAPI_bind_string is formatted as:  
:protocol:host[endpoint]
```

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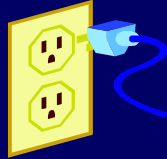
Verifying the Setup of Oracle Workflow

- **Code Location parameter:** This setting specifies the directory path for the Demand Planning Express component code and language databases (ODPCODE.db and odpen.db)
- **Ensure that Workflow background engines are appropriately set up**

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Troubleshooting Workflow



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Troubleshooting Oracle Workflow

1. On previous occasions, this Workflow process usually completes, but this time it keeps running and does not finish.

Something has interfered with running the background Workflow engine. Restart the Workflow engine.

2. The Workflow process starts but the Demand Planning log file, dpbatch.log, is not created, and the process never finishes.

Review the steps for verifying the SHELL command setup.

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Troubleshooting Oracle Workflow (Continued)

3. The following error message is received:

**ORA-20002: Failed to open a connection to an
Express Server**

Likely causes:

- **Express Server is not running**
- **Express Connection string is not set correctly**

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Troubleshooting Oracle Workflow (continued)

4. The following error message is received:

ORA-20001: Failed to start Express Server

This problem results when EPS unsuccessfully attempts to use SNAPI. Likely causes:

- EPS cannot find SNAPI because it is not set correctly in the LD_LIBRARY_PATH environment variable
- One of the Three SNAPI files is damaged or missing and cannot be loaded
- Express Server is not started
- Express Connection string is not set correctly

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Troubleshooting Oracle Workflow (Continued)

5. The following error message is received:

ORA-20004: Failed to attach an Express database

Likely causes:

- The Code Location parameter in the Planning Server Express Setup form is incorrect
- ODPCODE.db database cannot be attached

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Troubleshooting Oracle Workflow (continued)

6. The following error message is received:

ORA-20008: Failed to attach an Express system database

Likely cause: One of the Express Server system databases was not attached by Express Server when it was started by SNAPL. The likely offending database is xpdadmin.db or xpddcode.db

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Troubleshooting Oracle Workflow (continued)

7. The following error message is received:

**ORA-06520: PL/SQL: Error loading external library.
EPS cannot be found and loaded.**

**EPS should be in the Oracle 8i/lib directory, which
should be referenced by the LD_LIBRARY_PATH
environment variable.**

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Agenda

Agenda

- Overview to ODP Express implementation
- Oracle Express Server
- Express setup on the Planning Server
- Client machine
- Web listener
- Single Sign-On
- Oracle Workflow in ODP
- **Sizing factors**


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DPE Sizing Factors

DPE Sizing Factors

- Quantity of demand plans
- Quantity of demand planners
- Average number of forecast scenarios per demand plan
- Average number of historical time periods collected at lowest aggregates
- Quantity of forecast time periods projected



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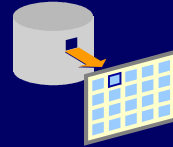
Sizing Calculator

An ODP sizing questionnaire requests the information listed on these slides. Contact Oracle Demand Planning product managers for assistance in sizing computer memory and storage requirements.

DPE Sizing Factors

Dimensions

- Quantity of products or product families forecast
- Quantity of geographies
- Quantity of customers and ship to locations
- Quantity of sales representatives and sales channels
- Quantity of user defined dimensions



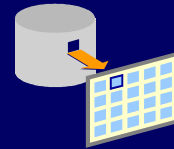
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DPE Sizing Factors (continued)

DPE Sizing Factors (continued)

- Average number of forecast variants expected per plan per planner
- Average number of personal histories expected to be created per plan per planner
- Sparsity factor, ratio:
Number of populated cells
Number of possible records
- Expected fraction of cells commented or locked



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Sparsity Factor

For a simple example, visualize the multidimensional database as a three dimensional cube. Each data element would occupy a cell in a position identified by the X, Y, and Z coordinates. Say that the X dimension represents 12 months of time, Y represents 6 geographic regions, and Z represents 3 products. Then the number of cells or intersections in the “cube” of data is $12 * 6 * 3 = 216$.

When three products, for example snow shovels, fishing boats, and baseballs are sold seasonally, or in some geographic regions are not sold at all, then the number of cells that will contain sales information will be much less than the possible number of 216. The data is sparse.

In most situations, the sparsity factor is much smaller than 0.01. One advantage of the Express multidimensional database is that it can deal with sparse data without having to occupy nearly as much storage space as would a relational database.

Review Question

Review Question

Which of the following is not required to be installed on the same server along with the others?

- 1. Oracle 8i database**
- 2. Oracle Applications R11i**
- 3. Oracle Express Server 6.3.2**
- 4. Oracle Planning Server**
- 5. Oracle Workflow**

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Answer to Review Question

Answer to Review Question

Which of the following is not required to be installed on the same server along with the others?

1. Oracle 8i database
2. Oracle Applications R11i
- 3. Oracle Express Server 6.3.2**
4. Oracle Planning Server
5. Oracle Workflow

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OES can be, but is not required to be, installed on a separate server.

Review Question

Which of the following is used to configure the OES installation for use in ODP?

- 1. Concurrent Manager**
- 2. Demand Planning Administrator page**
- 3. Express Instance Manager**
- 4. Structured n-dimensional API**
- 5. Workflow**

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Answer to Review Question

Which of the following is used to configure the OES installation for use in ODP?

1. Concurrent Manager
2. Demand Planning Administrator page
- 3. Express Instance Manager**
4. Structured n-dimensional API
5. Workflow

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Review Question

Before you install OES 6.3.2 you should ...

- 1. Use EIM to configure OES for ODP**
- 2. Download J-Initiator**
- 3. Install the Web listener application**
- 4. Set the Timeout Parameter to a higher value**
- 5. Stop any existing Express services**

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Answer to Review Question

Before you install OES 6.3.2 you should ...

1. Use EIM to configure OES for ODP
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Review Question

Review Question

Which of the following is the Express-based application component?

- 1. Demand Planning Engine**
- 2. Demand Planning Server**
- 3. Oracle 8i**
- 4. Oracle Web Agent**
- 5. Single Sign-On**

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Answer to Review Question

Which of the following is the Express-based application component?

- 1. Demand Planning Engine**
2. Demand Planning Server
3. Oracle 8i
4. Oracle Web Agent
5. Single Sign-On

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Summary

In this lesson, you should have learned how to:

- **Recognize the major components of the Oracle Demand Planning implementation**
- **Describe the setup process**
- **Verify the setup**
- **Troubleshoot login and workflow problems**

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