Oracle® Project Management

User Guide

Release 11*i*

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Oracle Project Management User Guide, Release 11*i*

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Preface

Intended Audience

Welcome to Release 11*i* of the *Oracle Project Management User Guide*.

This guide contains the information you need to understand and use Oracle Project Management.

See Related Documents on page xvi for more Oracle Applications product information.

TTY Access to Oracle Support Services

Oracle provides dedicated Text Telephone (TTY) access to Oracle Support Services within the United States of America 24 hours a day, seven days a week. For TTY support, call 800.446.2398.

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Structure

1 Overview of Project Management

This chapter provides a brief overview of Oracle Project Management.

2 Workplan and Progress Management

This chapter describes how to create and manage workplans and track their progress in Oracle Projects.

3 Program Management

This chapter explains how to use Oracle Projects to setup and manage programs.

4 Project Deliverables Management

This chapter describes how you can use Oracle Projects to track and manage deliverables for projects.

5 Microsoft Project Integration

This chapter is an overview of the integration with Microsoft Project. The chapter describes features and control issues that you should consider before using the application.

6 Budgeting and Forecasting

This chapter describes how to create and manage budgets and forecasts in Oracle Projects.

7 Issue Management

This chapter describes how to manage issues related to projects or tasks in Oracle Projects.

8 Change Management

This chapter describes how to manage change requests and change orders in Oracle Projects.

9 Document Management

This chapter describes how to attach and manage documents for projects and tasks.

10 Project Performance Management

This chapter describes features that enable project managers to monitor the performance of a project, identify problem areas and determine their severity, and track variances of actual performance against budgets, forecasts, and schedules.

11 Project Status Reporting

This chapter describes how to set up and use project status reports.

A Performance Measures and Graphs

This appendix describes the measures and graphs that are used in project performance reporting.

Related Documents

You can choose from many sources of information, including online documentation, training, and support services, to increase your knowledge and understanding of Oracle Projects.

Online Documentation

All Oracle Applications documentation is available online (HTML or PDF).

- **Online Help** - Online help patches (HTML) are available on Oracle *MetaLink*.
- **About Documents** - Refer to the About Document for the mini-pack or family pack that you have installed to learn about new documentation or documentation patches that you can download. About Documents are available on Oracle *MetaLink*.

Guides Related to All Products

Oracle Applications User's Guide

This guide explains how to enter data, query, run reports, and navigate using the graphical user interface (GUI) available with this release of Oracle Projects (and any other Oracle Applications products). This guide also includes information on setting user profiles, as well as running and reviewing reports and concurrent processes.

You can access this user's guide online by choosing "Getting Started with Oracle Applications" from any Oracle Applications help file.

Oracle Projects Documentation Set

Oracle Projects Implementation Guide

Use this manual as a guide for implementing Oracle Projects. This manual also includes appendixes covering function security, menus and responsibilities, and profile options.

Oracle Projects Fundamentals

Oracle Project Fundamentals provides the common foundation shared across the Oracle Projects products (Project Costing, Project Billing, Project Resource Management, Project Management, and Project Collaboration). Use this guide to learn fundamental information about the Oracle Projects solution.

This guide includes a Navigation Paths appendix. Use this appendix to find out how to access each window in the Oracle Projects solution.

Oracle Projects Glossary

This glossary provides definitions of terms that are shared by all Oracle Projects applications. If you are unsure of the meaning of a term you see in an Oracle Projects guide, please refer to the glossary for clarification. You can find the glossary in the online help for Oracle Projects, and in the Oracle Projects Fundamentals book.

Oracle Project Costing User Guide

Use this guide to learn detailed information about Oracle Project Costing. Oracle Project Costing provides the tools for processing project expenditures, including calculating their cost to each project and determining the GL accounts to which the costs are posted.

Oracle Project Billing User Guide

Use this guide to learn how to use Oracle Project Billing to process client invoicing and measure the profitability of your contract projects.

Oracle Project Resource Management User Guide

This guide provides you with information on how to use Oracle Project Resource Management. It includes information about staffing, scheduling, and reporting on project resources.

Oracle Projects APIs, Client Extensions, and Open Interfaces Reference

This manual gives detailed information about all public application programming interfaces (APIs) that you can use to extend Oracle Projects functionality.

User Guides Related to This Product

Oracle Assets User Guide

In Oracle Assets, you can post capital project costs to become depreciable fixed assets. Refer to this guide to learn how to query mass additions imported from Oracle Projects to Oracle Assets and to review asset information.

Oracle General Ledger User Guide

Use this manual when you plan and define your chart of accounts, accounting period types and accounting calendar, functional currency, and set of books. The manual also describes how to define journal entry sources and categories so you can create journal entries for your general ledger. If you use multiple currencies, use this manual when you define additional rate types, and enter daily rates. This manual also includes complete information on implementing Budgetary Control.

Oracle HRMS Documentation Set

This set of guides explains how to define your employees, so you can give them operating unit and job assignments. It also explains how to set up an organization (operating unit). Even if you do not install Oracle HRMS, you can set up employees and organizations using Oracle HRMS windows. Specifically, the following manuals will help you set up employees and operating units:

- **Using Oracle HRMS - The Fundamentals**

  This user guide explains how to set up and use enterprise modeling, organization management, and cost analysis.

- **Managing People Using Oracle HRMS**

  Use this guide to find out about entering employees.

Oracle Inventory User Guide

If you install Oracle Inventory, refer to this manual to learn how to define project-related inventory transaction types and how to enter transactions in Oracle Inventory. This manual also describes how to transfer transactions from Oracle Inventory to Oracle General Ledger.

Oracle Payables User Guide

Refer to this manual to learn how to use Invoice Import to create invoices in Oracle Payables from Oracle Projects expense reports data in the Oracle Payables interface tables. This manual also explains how to define suppliers, and how to specify supplier and employee numbering schemes for invoices created using Oracle Projects.

Oracle Project Manufacturing Implementation Manual

Oracle Project Manufacturing allows your company to associate manufacturing costs and inventory with a project and task. Use this manual as your first source of information if you are implementing Oracle Project Manufacturing.

Oracle Purchasing User Guide

If you install Oracle Purchasing, refer to this user guide to read about entering and managing the requisitions and purchase orders that relate to your projects. This manual also explains how to create purchase orders from project-related requisitions in the AutoCreate Documents window.

Oracle Receivables User Guide

Use this manual to learn more about Oracle Receivables invoice processing and invoice formatting, defining customers, importing transactions using AutoInvoice, and Defining Automatic Accounting in Oracle Receivables.

Oracle Business Intelligence System Implementation Guide

This guide provides information about implementing Oracle Business Intelligence (BIS) in your environment.

BIS 11i User Guide Online Help

This guide is provided as online help only from the BIS application and includes information about intelligence reports, Discoverer workbooks, and the Performance Management Framework.

Using Oracle Time Management

This guide provides information about capturing work patterns such as shift hours so that this information can be used by other applications such as General Ledger.

Installation and System Administration

Oracle Applications Concepts

This guide provides an introduction to the concepts, features, technology stack, architecture, and terminology for Oracle Applications Release 11*i*. It is a useful first book to read before installing Oracle Applications.

Installing Oracle Applications

This guide provides instructions for managing the installation of Oracle Applications products. In Release 11*i*, much of the installation process is handled using Oracle Rapid Install, which minimizes the time to install Oracle Applications and the technology stack by automating many of the required steps. This guide contains instructions for using Oracle Rapid Install and lists the tasks you need to perform to finish your installation. You should use this guide in conjunction with individual product user's guides and implementation guides.

Upgrading Oracle Applications

Refer to this guide if you are upgrading your Oracle Applications Release 10.7 or Release 11.0 products to Release 11*i*. This guide describes the upgrade process and

lists database and product-specific upgrade tasks. You must be either at Release 10.7 (NCA, SmartClient, or character mode) or Release 11.0, to upgrade to Release 11*i*. You cannot upgrade to Release 11*i* directly from releases prior to 10.7.

Maintaining Oracle Applications

Use this guide to help you run the various AD utilities, such as AutoUpgrade, AutoPatch, AD Administration, AD Controller, AD Relink, License Manager, and others. It contains how-to steps, screenshots, and other information that you need to run the AD utilities. This guide also provides information on maintaining the Oracle Applications file system and database.

Oracle Applications System Administrator's Guide

This guide provides planning and reference information for the Oracle Applications System Administrator. It contains information on how to define security, customize menus and online help, and manage concurrent processing.

Oracle Alert User's Guide

This guide explains how to define periodic and event alerts to monitor the status of your Oracle Applications data.

Oracle Applications Developer's Guide

This guide contains the coding standards followed by the Oracle Applications development staff. It describes the Oracle Application Object Library components needed to implement the Oracle Applications user interface described in the *Oracle Applications User Interface Standards for Forms-Based Products*. It also provides information to help you build your custom Oracle Forms Developer forms so that they integrate with Oracle Applications.

Other Implementation Documentation

Oracle Applications Product Update Notes

Use this guide as a reference for upgrading an installation of Oracle Applications. It provides a history of the changes to individual Oracle Applications products between Release 11.0 and Release 11*i*. It includes new features, enhancements, and changes made to database objects, profile options, and seed data for this interval.

Multiple Reporting Currencies in Oracle Applications

If you use the Multiple Reporting Currencies feature to record transactions in more than one currency, use this manual before you implement Oracle Projects. This manual details additional steps and setup considerations for implementing Oracle Projects with Multiple Reporting Currencies.

Multiple Organizations in Oracle Applications

This guide describes how to set up and use Oracle Projects with Oracle Applications' Multiple Organization support feature, so you can define and support different organization structures when running a single installation of Oracle Projects.

Oracle Workflow Administrator's Guide

This guide explains how to complete the setup steps necessary for any Oracle Applications product that includes workflow-enabled processes, as well as how to monitor the progress of runtime workflow processes.

Oracle Workflow Developer's Guide

This guide explains how to define new workflow business processes and customize existing Oracle Applications-embedded workflow processes. It also describes how to define and customize business events and event subscriptions.

Oracle Workflow User's Guide

This guide describes how Oracle Applications users can view and respond to workflow notifications and monitor the progress of their workflow processes.

Oracle Workflow API Reference

This guide describes the APIs provided for developers and administrators to access Oracle Workflow.

Oracle Applications Flexfields Guide

This guide provides flexfields planning, setup and reference information for the Oracle Projects implementation team, as well as for users responsible for the ongoing maintenance of Oracle Applications product data. This manual also provides information on creating custom reports on flexfields data.

Oracle eTechnical Reference Manuals

Each eTechnical Reference Manual (eTRM) contains database diagrams and a detailed description of database tables, forms, reports, and programs for a specific Oracle Applications product. This information helps you convert data from your existing applications and integrate Oracle Applications data with non-Oracle applications, and write custom reports for Oracle Applications products. Oracle eTRM is available on Oracle *MetaLink*.

Oracle Applications User Interface Standards for Forms-Based Products

This guide contains the user interface (UI) standards followed by the Oracle Applications development staff. It describes the UI for the Oracle Applications products and tells you how to apply this UI to the design of an application built by using Oracle Forms.

Oracle Manufacturing APIs and Open Interfaces Manual

This manual contains up-to-date information about integrating with other Oracle Manufacturing applications and with your other systems. This documentation includes APIs and open interfaces found in Oracle Manufacturing.

Oracle Order Management Suite APIs and Open Interfaces Manual

This manual contains up-to-date information about integrating with other Oracle Manufacturing applications and with your other systems. This documentation includes APIs and open interfaces found in Oracle Order Management Suite.

Oracle Applications Message Reference Manual

This manual describes all Oracle Applications messages. This manual is available in HTML format on the documentation CD-ROM for Release 11*i*.

Training and Support

Training

Oracle offers a complete set of training courses to help you and your staff master Oracle Projects and reach full productivity quickly. These courses are organized into functional learning paths, so you take only those courses appropriate to your job or area of responsibility.

You have a choice of educational environments. You can attend courses offered by Oracle University at any of our many Education Centers, you can arrange for our trainers to teach at your facility, or you can use Oracle Learning Network (OLN), Oracle University's online education utility. In addition, Oracle training professionals can tailor standard courses or develop custom courses to meet your needs. For example, you may want to use your organization structure,

Support

From on-site support to central support, our team of experienced professionals provides the help and information you need to keep Oracle Projects working for you. This team includes your Technical Representative, Account Manager, and Oracle's large staff of consultants and support specialists with expertise in your business area, managing an Oracle server, and your hardware and software environment.

Do Not Use Database Tools to Modify Oracle Applications Data

Oracle STRONGLY RECOMMENDS that you never use SQL*Plus, Oracle Data Browser, database triggers, or any other tool to modify Oracle Applications data unless otherwise instructed.

Oracle provides powerful tools you can use to create, store, change, retrieve, and maintain information in an Oracle database. But if you use Oracle tools such as SQL*Plus to modify Oracle Applications data, you risk destroying the integrity of your data and you lose the ability to audit changes to your data.

Because Oracle Applications tables are interrelated, any change you make using an Oracle Applications form can update many tables at once. But when you modify Oracle Applications data using anything other than Oracle Applications, you may change a row in one table without making corresponding changes in related tables. If your tables get out of synchronization with each other, you risk retrieving erroneous information and you risk unpredictable results throughout Oracle Applications.

When you use Oracle Applications to modify your data, Oracle Applications automatically checks that your changes are valid. Oracle Applications also keeps track of who changes information. If you enter information into database tables using database tools, you may store invalid information. You also lose the ability to track who has changed your information because SQL*Plus and other database tools do not keep a record of changes.

1

Overview of Project Management

This chapter provides a brief overview of Oracle Project Management.

This chapter covers the following topics:

- Features of Project Management

Features of Project Management

Oracle Project Management provides project managers a solution for maintaining control and visibility of all aspects of their projects.

As a project manager, you can view project information at a single source point enabling you to track and manage a project through the project lifecycle, from creating and planning, through to completion. Using Oracle Project Management, you can:

- Create, manage, version, and view workplans.

- Track progress against the workplan.

- Link Microsoft Project with Oracle Projects enabling you to work with a project using both applications.

- Create budgets and forecasts to plan and manage the financial performance of projects throughout the project lifecycle.

- Track and monitor the performance of a project, and analyze financial and effort information by task, resource, and time.

- View exceptions for key financial and schedule metrics, and send automated status report notifications to key project stakeholders.

- Provide a timely and consistent view of project status information to all audience members and project stakeholders.

- Manage issues such as concerns, problems, and outstanding questions for projects and tasks.

- Manage actions or changes that affect the scope, value, or duration of projects and tasks.

- Attach and manage documents for projects and tasks.

- Search and review the current financial status of projects and review detailed financial performance for projects and tasks.

Workplan and Progress Management

A workplan contains a hierarchical organization of tasks within a project. Each workplan contains an unlimited number of tasks and you can define as many levels as you want. A project structure is sometimes referred to as a work breakdown structure, or WBS.

You can set up two types of structures in Oracle Projects: workplan structures and financial structures. Workplan management helps project managers and team members deliver projects on time, financial structures help project and financial administrations track financial information for one project, or for all projects within an organization.

You can define a unique workplan for each of your projects, as opposed to using a single standard template. You can create tasks, or copy tasks from other projects and templates to save time. You can manage tasks and task hierarchies within the workplan, and expand or collapse the work breakdown structure to give you a high-level view of your projects and tasks. Workplan and progress management also assists team members to manage their tasks effectively, and communicate their progress to project managers.

You can view the latest unpublished workplan, create and maintain tasks, and publish a new workplan version.

Project managers and team members can update the workplan with progress reports. As a team member, you can view all individual tasks assigned to you that require progress reports. As a project manager, you can provide progress reports for individual tasks, and also update the progress on the whole project.

By publishing your progress, you can communicate changes to the workplan to the project team. You also can communicate progress information with reduced administration by automatically rolling up the progress information within the work breakdown structure.

When a team member provides progress for your project, you receive an automated email notification alerting you to any significant issues or date changes. maintains a history of progress updates. In addition, you can also enable the collection of remaining effort and percentage complete to be reported at the workplan level.

You can use workplan versioning to create multiple working versions and evaluate schedule changes. All previously published workplan versions are stored for tracking purposes and are saved in the historical archive.

For more information on workplan and progress management, see: Creating and Updating Workplans, page 2-2.

Integrating with Microsoft Project

You can continue to use Microsoft Project when working with your projects, while benefiting from the features that it has to offer.

You can send and receive a project, send an update, view real-time project information, and receive real-time values for task attributes. You can send the following information from Microsoft Project to :

• Schedule

• Budget

You can send the following information to Microsoft Project from:

• Project templates

• Existing projects

- Resources and rates

- Progress and actual effort

- Cost progress

You can use Microsoft Project to update the project schedule, progress, and budget information. After all project details have been entered, you can then send the project plan to a workplan or financial structure. Version details are displayed when a project plan is linked to a workplan structure and versioning is enabled.

For more information on integrating with Microsoft Project, see: Overview of Microsoft Project Integration, page 5-2.

Budgeting and Forecasting

You can create budgets and forecasts to manage the financial performance of a project throughout the project lifecycle. You can also create multiple budgets and forecasts for a project to demonstrate different scenarios. You can track project status and performance by comparing project budget and forecast amounts to actual amounts using Project Performance Reporting and Project Status Inquiry features.

Using budgeting and forecasting you can perform the following functions:

- Maintain budget and forecast plan types

- Create plan versions and enter amounts

- Generate budgets and forecasts from staffing plans, workplans, and other financial plans

- Enter plan amounts using Microsoft Excel and HTML

- Enter plan amounts in multiple currencies

- Maintain budgets in reporting currency

- Maintain plan versions

- Include change documents

- View plan amounts

For more information on budgeting and forecasting, see: Using Budgeting and Forecasting, page 6-14.

Project Status Reporting

You can report relevant project status information for targeted audiences controlling the content, publishing, frequency, and format. For example, you can provide a monthly internal management report for your project steering committee, and a weekly team project status report for your project.

As the project manager, you can control access to unpublished reports, prevent updates and deletion of published reports, publish reports to be viewed online, and communicate information to users without system access, via email. Email and workflow notifications are sent out containing a snapshot of the status report, the report is then approved, rejected, or forwarded to another approver.

You create status reports based on report types. Report types determine the audience, and other details such as the reporting cycle, reminder rules, and report approver options.

When you associate a report type with a project, you define the reporting cycle, set up the reporting approver's options, and choose a reminder rule for the report. Reporting cycles define the start and end dates for the reporting period.

For more information on project status reporting, see: Overview of Project Status Reporting, page 11-1.

Issue and Change Management

Oracle Projects provides you with a centralized system to manage issues and change requests. This functionality enables team members to work together collaboratively to resolve issues and communicate and implement changes to the project.

Using issue management, you can track issues and change requests from creation through to completion, and deal with concerns or outstanding questions on projects. You can:

- Create issues based on predefined issue types

- Associate documentation for easy access

- Assign actions to people to help resolve the issues

- Enable team members to comment on issues

- Copy existing issues to accelerate the creation of new issues

- Export a list of issues into a Microsoft Excel spreadsheet for further analysis

- Automatically route issue approval using Oracle Workflow

Using change management, you can deal with events, actions, or conditions that affect the scope, value or duration of a project or task.

For more information on issue management, see: Overview of Issue Management, page 7-1.

For more information on change management, see: Overview of Change Management, page 8-1.

Document Management

Oracle Projects enables you to attach and store documents with projects on which you are a team member. You can attach the following types of documents:

- a file

- a URL

- a plain text box

To attach documents, you must have authority to access the corresponding project, task, or function. If you have access to a project, task, or function, you automatically have access to all attached documents.

You can utilize folders and versions, checking documents in and out, and ensure security for all documents.

You can specify attachment categories to help you define the types of documents that can be attached to a project, task, or function. You can define attachment categories based on common characteristics that a class of documents have, and to improve search results.

For more information on document management, see: Overview of Document Management, page 9-1.

Expenditure Review

You can see the amount and type of expenditure items charged to a project, the date an expenditure item occurred, and accrued revenue. You can also drill down to Oracle Payables to view the Invoice Overview window, or to Oracle General Ledger to view T-accounts.

This feature requires the installation of Oracle Project Costing. For information on expenditure review, see: Viewing Expenditure Items, *Oracle Project Costing User Guide*.

Billing Review

You can review each invoice before you approve and release it, using the Invoice Summary window or the Invoice Review report.

You can review invoice information such as:

- Invoice amount
- Withheld amount
- Invoice lines
- Withheld basis amount
- Currency attributes
- Expenditure items that back up invoice items
- Invoice customer

In addition to reviewing invoice information, you can review an invoice to ensure that it did not encounter any generation errors or distribution warnings during generation, and to monitor the status of your invoices.

You can use the Invoice Review report to review and verify the draft invoices associated with a project before approving and releasing them. Once a draft invoice has been released, it is interfaced to Oracle Receivables. This report also shows detail items billed on an invoice.

This feature requires the installation of Oracle Project Billing For information on billing review, see: Reviewing Invoices, *Oracle Project Billing User Guide*.

Project Performance Reporting

Project performance reporting features provide you with an at-a-glance comparison of actual versus planned performance as defined in project budgets and forecasts. You can view performance in the areas of effort, cost, profitability, earned value, billing and collections, or capital costs.

You can use project performance reporting to obtain a graphical and tabular overview of project performance and use this information to make informed decisions. You can view project performance information at the project, task, and resource levels by time period. After viewing key financial metrics for tasks and resources, you can drill down to view detailed transaction information such as commitments, expenses, and events. You can use the Oracle Applications personalization feature to configure the

project performance information contained in measures and graphs, and the layout of project performance pages.

For more information on project performance reporting, see: Project Performance Reporting, page 10-2.

Performance Exceptions Reporting

Performance exceptions reporting features enable you to view a summary of exceptions and issues on a project through visual status indicators that denote exceptions. The status indicators provide you with an immediate understanding of critical, at risk, and on track issues on the project. These features enable you to focus your time and effort on solving critical problems faced on a project.

You can drill down to the details of a single exception, and enter or review remarks and reminders for corrective actions. You can set up Oracle Projects to automatically generate the latest exceptions and key performance area status indicators on a periodic basis. You can also set up Oracle Projects to automatically communicate the latest key performance area performance statuses and exceptions to key stakeholders via e-mail.

For more information on performance exceptions reporting, see: Performance Exceptions Reporting, page 10-32.

Project Status Inquiry

You can quickly and easily review the current status of a project, and then drill down for a more detailed review of the project and its tasks. It enables you to search for a project using search criteria. You can review project, task, and resource summary amounts, and actual and commitment amounts using a different resource list.

Oracle Projects maintains various levels of project summary amounts for cost, commitment, revenue, and budget amounts by project, task, and resource. You can review project summary amounts to quickly determine the status of a project, such as reviewing the current and original budgeted amounts and compare them to actual and commitment amounts. You can drill down to see summary amounts for the resources of the project or the selected task. You can select a resource list by which you want to view actuals and budgets. In addition, you can export project status inquiry data into an Excel spreadsheet for further analysis.

For more information on project status inquiry, see: Project Status Inquiry, page 10-7.

2

Workplan and Progress Management

This chapter describes how to create and manage workplans and track their progress in Oracle Projects.

This chapter covers the following topics:

- Overview of Workplan and Progress Management
- Creating and Updating Workplans
- Managing Workplan Effort and Cost
- Versioning a Workplan
- Viewing Workplans
- Managing Progress

Overview of Workplan and Progress Management

The workplan and progress management functionality in *Oracle Projects* helps your project managers and team members drive towards scheduled completion of project work through efficient collaboration.

This functionality provides project managers with a high degree of visibility and control over their projects. It also enables task managers and team members to manage their tasks and communicate progress to their project managers.

This chapter shows you how to:

- create, manage, version, and view workplans
- create and maintain tasks and resource assignments.
- track progress for projects, tasks, and resource assignments

Enabling the Workplan Structure

You use workplan structures to plan project work and collect progress information for projects and tasks.

You must enable the workplan structure for a project before you can create the project's workplan task hierarchy. You can also take advantage of other features such as workplan versioning, workplan approval, workplan publication, and progress tracking for projects and tasks. For more information about enabling workplan structures, see Enabling Project Structures, *Oracle Projects Fundamentals*.

Task Attributes for Your Workplan

Project workplans consist of a hierarchy of tasks that you individually create and define with the help of task types. Task types assign default planning and progress collection attributes to tasks.

For information about task types and setting up tasks, see Managing Tasks, page 2-16.

For information about task attributes for workplan structures, see Task Attributes for Workplan Structures, *Oracle Projects Fundamentals*.

Creating and Updating Workplans

Oracle Projects makes it easy for you to set up workplans that meet the needs of your projects or project templates. After you enable a workplan structure, Oracle Projects allows you to efficiently create and manage the tasks within it.

You can set up workplans that utilize specific lifecycles and progress tracking options. If you enable workplan versioning for your workplans, you can also choose options for workplan approval and publication that suit the project requirements.

For more information about lifecycle functionality, see: Project Lifecycles, *Oracle Project Fundamentals User Guide*.

Once you define a workplan you can use OracleProjects to create tasks and manage the workplan's task hierarchy. You can create an entire task hierarchy at once and then fine tune it by moving, copying, and deleting tasks. You can also update task detail information.

Setting Up Workplans

You can define workplans that meet the specific requirements of your various projects or project templates. You can:

- Set up basic starting information for a work breakdown structure, including the structure name, lifecycle, current phase, and default display outline level.

- Enable workplan versioning.

- Enable work quantity planning and progress collection for a workplan and each of its tasks.

- Automatically update the tasks' transaction dates.

- Define approval options for the workplan (if versioning is enabled).

- Select a planning resource list for the workplan.

- Enable workplan cost tracking.

- Enable multiple currency amount planning and define the list of transaction currencies used by your workplan.

- Enable reporting of workplan cost amounts against a selected resource breakdown structure.

- Determine whether resources assigned to the workplan use actual rates or planning rates for costing of planned quantities. If you use planning rates you can define the planning rate schedules.

To Set Up Workplan Structure Information

1. Select a project for which you want to set up a workplan and navigate to its Workplan Structure Information page. To do this you must first enable your workplan structure. See Workplan Structures, *Oracle Projects Fundamentals*.

2. **Structure Name:** Enter a name for the workplan structure.

3. **Lifecycle**: Select a lifecycle for the workplan. A lifecycle is a collection of sequential project phases. Each phase represents a set of logically related project activities. You can use a lifecycle to track the progression of a project and the top tasks within that project through the lifecycle phases.

   The system applies the lifecycle you choose to the workplan. You can also assign lifecycle phases to the top tasks in the workplan until you have selected a lifecycle for the workplan.

   For a general explanation of how you can use lifecycles in Oracle Projects, see Project Lifecycles, *Oracle Projects Fundamentals User Guide*.

4. **Current Phase:** Select a default current lifecycle phase for the workplan. The *current phase* is the starting phase for workplans associated with projects.

   The Workplan Information page and the Tasks page both enable you to update the current phase of your workplan.

   > **Note:** If you update the lifecycle for a workplan after you have assigned phases to top tasks within the workplan, the system removes those task phase assignments.

   To update the current phase of your workplan you must be the project manager or have function security equivalent to that role.

5. **Enable Workplan Versioning:** You can enable workplan versioning to create multiple versions of the workplan for your project. You must also enable workplan versioning to take advantage of workplan approval, publication, and baselining functionality.

   For general information about workplan versioning, see Versioning a Workplan, page 2-23.

   For specific information about enabling and disabling workplan versioning, see the online help for the Workplan Information page.

6. **Automatically Publish Workplan upon Project Creation from Project Template:** If you enable workplan versioning and your workplan is associated with a project template, you can use this option to have the system automatically publish the workplan when a project is created from the template.

   > **Note:** This option only appears for workplans that are enabled for a project template.

7. **Enable Work Quantity:** Select this box to enable work quantity planning and progress collection for the workplan. For more information, see: Managing Progress, page 2-27.

8. **Schedule using Third Party Software:** Select this box if you want to use a third-party software application to perform workplan scheduling operations. You can indicate whether you want the system to schedule forward from the project

start or backward from the project finish. For more information, see Managing the Task Schedule, page 2-8.

9. **Allow Dependencies Only for Lowest Tasks:** Select this box to enable dependencies only for the lowest tasks in the workplan structure. For more information about dependencies, see Defining Task Dependencies, page 2-14.

10. **Enable Task Execution Workflow:** Select this box to enable the Task Execution workflow process for the workplan structure. You must also enable the Task Execution workflow at the task level for the tasks that you want to include in the process. For more information see Using Task Execution Workflow Processes, page 2-15.

11. **Automatically Update Task Transaction Dates** and **Date Adjustment Buffer**: Task transaction dates control the financial aspects of tasks, such as when expenditures can be charged and when budget defaults can be processed. If the workplan structure is shared with a financial structure, Oracle Projects updates the transaction dates of all tasks with their actual start and finish dates (or their scheduled start and finish dates, if actual dates are unavailable).

> **Note:** If your workplan does not have versioning enabled, the system adjusts transaction dates whenever you update task actual and scheduled dates.

Use the Date Adjustment Buffer to adjust the transaction dates automatically generated by the system. The system subtracts the buffer value from newly derived transaction start dates and adds it to newly derived transaction finish dates.

For example, say that the adjusted transaction start and finish dates before the buffer is applied are 15 January 2003 and 20 January 2003. If the buffer value is 5, then the system subtracts 5 from the start date and adds 5 to the finish dates. The system saves the resulting transaction dates as 10 January 2003 and 25 January 2003.

12. **Approval Required:** You can require that the workplan be approved before it can be published. If you require workplan approval, you must designate an approver. You can also arrange for the system to automatically publish the workplan when it is approved.

For more information on workplan approval functionality, see: Approving and Publishing Workplans, page 2-24.

Defining Additional Workplan Settings

You can define additional workplan settings on the Plan Settings subtab of the Additional Workplan Options page. On this subtab you can determine whether your workplan handles cost amounts, indicate how workplan cost amounts are reported, and define required setup attributes such as the workplan planning resource list, time phase, period profile, and current planning period.

Enabling Workplan Cost Tracking

Cost tracking enables you to compute costs for the planned quantity that you define for the resources assigned to your workplan. You can enable workplan cost tracking any time during the life of your project. However, it is best to enable cost tracking *before* you assign resources to the project, because the system deletes all existing resource assignments when you perform this action. You cannot disable workplan cost tracking after you collect progress against any workplan task.

For more information on resource assignments and costs, see Managing Workplan Effort and Cost, page 2-18.

Enabling Multicurrency Cost Amount Planning

When you enable multicurrency cost amount planning for your workplan, you can plan resource assignment costs in currencies other than the project currency.

If you do not enable multicurrency cost amount planning, the system displays and calculates all resource assignment costs in the project currency. For more information about setting up multicurrency cost amount planning, see Defining Workplan Multicurrency Settings, page 2-5.

Setting up Amount Reporting

In the Amount Reporting section you can associate a resource breakdown structure with the workplan, identify whether reported costs should be raw or burdened, and define a rounding factor for reported costs. For more information about resource breakdown structures, see: Resource Breakdown Structures, *Oracle Projects Fundamentals User Guide*.

Selecting Planning Resource Lists and Time Phasing Methods

You must select a planning resource list in order to create resource assignments. You cannot create resource assignments if Planning Resource List is set to *None*. You cannot change the Planning Resource List value if progress exists against the workplan, or if versioning has been enabled and you have published a version of the workplan. For more information about workplan versioning, see: Versioning a Workplan, page 2-23.

> **Warning:** When you change the planning resource list for your workplan, the system deletes all existing resource assignments for the workplan. You have to create new resource assignments from the new planning resource list.

If you want to spread the planned quantities for your resource assignments, select a Time Phase option to determine whether the planned quantity is spread across PA or GL periods. If you retain the default *None* value, the system does not spread the planned quantity across specific periods. For more information on resource assignments, see: Creating Resource Assignments, page 2-9.

You cannot change the time phasing option if progress exists for your workplan or if versioning is enabled and you have published a version of the workplan.

> **Warning:** When you change the Time Phase value, the system deletes all existing resource assignments for your workplan. Try to ensure you have the correct Time Phase value before you begin creating resource assignments for your workplan.

If you select a time phase method of GL Period or PA Period, you can also select a period profile and identify the current planning period.

Defining Workplan Multicurrency Settings

If you have enabled multicurrency amount planning for your workplan, you can use the Currency Settings subtab of the Additional Workplan Options page to define its currency conversion attributes and transaction currencies.

You can define cost rate types, cost rate date types, and cost rate dates for the conversion of any transaction currency to the project functional currency and project currency. If you choose a Cost Rate Date type of *Fixed*, you can specify a cost rate date. When you do this, the system uses the conversion factor defined for that date in the cost rate type to convert transaction currencies to the project currency and project functional currency.

You can define as many transaction currencies as you need for your workplan. If the workplan cost rate type is User, you can define conversion rates to the project currency and project functional currency for each transaction currency. Otherwise, the system uses the conversion rate associated with the cost rate type.

For more information about multicurrency support in Oracle Projects, see:

- Multicurrency Support, *Oracle Projects Fundamentals User Guide*

- Currency Models In Oracle Projects, *Oracle Projects Fundamentals User Guide*

Selecting Workplan Rate Schedules

On the Rate Schedules subtab of the Additional Workplan Options page, you can select the type of rate schedule used for your workplan budgeting and forecasting calculations. You have the option of using the same rate schedules that you use in your project to calculate actual costs, or you can use separate rate schedules for planning purposes. If you decide to use the actual cost rate schedules, use the default values on the page. In addition, if you use actual cost rate schedules, you should also specify rate schedules at the resource class level as well.

> **Note:** The system uses rate schedules at the resource class level when it is unable to derive rates for a resource transaction using the standard rate derivation logic.

For more information about defining and using actual rates, planning rates, and rate schedules for workplans, see: Rates, Determining Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals*.

For more information about budgeting and forecasting, see: Overview of Project Budgeting and Forecasting, page 6-1.

For more information about defining rate schedules, see: Rate Schedule Definition, *Oracle Projects Implementation Guide*.

Creating Tasks

You can quickly create individual tasks and complete task hierarchies using the Create Task page.

You can create individual tasks as well as complete task hierarchies and insert these tasks into a specified location in the workplan hierarchy. You can define basic information for each task, including the task's outline level, number, task type, scheduled finish and start dates, planned effort, and task manager.

For more information about task type selection, see Selecting Task Types, page 2-7.

For more information about the task outline level, see Controlling the Task Outline Level for New Tasks, page 2-7.

For more information about the task schedule, see Managing the Task Schedule, page 2-8.

For more information about defining planned effort, see Managing Workplan Effort and Cost, page 2-18.

For more information about task associations, see Creating Task-to-Project and Task-to-Task Associations, page 2-15.

Selecting Task Types

You must associate a task type with each task. The task type contains a variety of default detail information for the task, such as the initial task status, the initial task progress status, and information relating to work quantity planning. The task type also determines how progress is collected for the task, if at all.

When you select a task and create new peer or subtasks for that task, the initial task type of the new task is inherited from the selected task. You can change the task type until the project is published.

For more information about task types, see: Task Types, *Oracle Projects Implementation Guide*.

Controlling the Task Outline Level for New Tasks

You can also use the Create Tasks page to set the outline levels for your new tasks. This feature enables you to insert a complete task hierarchy--a set of summary tasks and the tasks subordinate to them--into the workplan at once.

The first task entered must always have an Outline Level of 0 or 1 to indicate how it relates to the selected task on the Update Work Breakdown Structure page. If the first task's outline level is 0, it will become a peer of the task that was selected on the Update Work Breakdown page. If the first task's outline level is 1, it will be subordinate to the selected task.

> **Note:** The first task you create for your workplan structure always has an outline level of 1.

To understand how this outline level rule works, consider the following example:

1. You have a workplan composed of five tasks, numbered one through five: Task 1, Task 2, Task 3, Task 4, and Task 5. Each of these tasks is at the outline level of 1.

2. Now you must create more tasks and insert them beneath Task 2. Begin by selecting Task 2 on the Update Work Breakdown Page and selecting Create Tasks.

3. Create five more tasks identified by letter, with outline values as follows: Task A, Outline: 0; Task B, Outline: 1; Task C, Outline: 2; Task D, Outline: 1; and Task E, Outline 0.

4. Because Task A's outline level is 0, the system inserts it into the workplan as a peer of Task 2. The resulting workplan structure looks like this:

- Task 1

- Task 2

- Task A

    - Task B

        - Task C

    - Task D

- Task E

- Task 3

- Task 4

- Task 5

If Task A had an outline level of 1, the system would have made the entire task structure subordinate to Task 2.

Defining Task Details

The Task Details page enables you to define and update task information for both lowest-level and summary tasks. It enables you to:

- Define general task information

- Manage the task schedule.

- Define effort and work quantity.

- Track cost and earned value.

- Define task dependencies.

- Create and manage resource assignments.

- Define and maintain task deliverables.

- Set up task financial attributes, enable task execution workflow, link tasks to other projects, and create task/project associations.

The work item value, unit of measure, actual work quantity entry method, and additional information page layout for the task are defaulted from its task type.

You can redefine basic task information, including the task status and task type. When you change the task type, the system automatically applies the attributes of the new task type to the task.

> **Note:** You cannot use the Task Details page to change Task Status values for tasks that have progress tracked against them. You have to use the Task Progress page to change task status for such tasks.

Related Topics

Managing the Task Schedule

The Schedule tab of the Task Details and Update Task pages enable the communication of important date information for each task:

- **Transaction Dates:** Indicate start and finish dates for financial transaction purposes. Transaction dates only appear on workplans that share their structure with a financial structure.

  Transaction dates are entered manually and can be updated at any time for all tasks.

- **Scheduled Dates:** Indicates when work on the task is scheduled to start and finish. Scheduled dates can be updated for lowest-level tasks.

- **Baseline Dates:** The dates against which the current schedule can be measured. Baseline dates reflect the scheduled dates within the designated baseline workplan version. For more information about designating a baseline workplan version for your project, see: Versioning a Workplan, page 2-23.

- **Actual Dates:** Indicate when work on the task actually started and finished. Actual dates are typically updated by task managers when they enter progress.

- **Estimated Dates:** Indicate when work on the task is likely to start and finish. Estimated dates are typically updated by task managers when they enter progress.

- **Early Dates:** Indicate the earliest possible dates that the uncompleted portions of a task activity can start based on the logic of its activity sequence and any schedule constraints. Early dates can apply to projects as well. Early dates can change as the project progresses and you make changes to the project plan.

- **Late Dates:** Indicate the latest possible dates that uncompleted portions of an activity can finish based on the activity sequence and any schedule constraints.

With the exception of transaction dates, all date information automatically rolls up from lowest level tasks to summary tasks.

You can also set up external task scheduling attributes for use by third party project scheduling software such as Microsoft Project. Third party scheduling applications can use attributes such as Task Type, Constraint Type, Constraint Date, Free Slack, and Total Slack to determine how tasks are scheduled in relation to each other on an externally generated project plan. The third party attributes are computed in the external scheduling system and displayed in Oracle Projects.

> **Note:** The Task Type external task scheduling attribute is different from the Task Type attribute used for tasks in Oracle Projects. This Task Type attribute is a scheduling attribute that is stored for external scheduling software. When you change the Task Type external scheduling attribute for a task, it only impacts the way that the external scheduling software schedules the task or tasks involved.

For more information about using Microsoft Project as a third party tool, see: Microsoft Project Integration, Overview of Microsoft Project Integration, page 5-2.

Creating Resource Assignments

As you define your project workplan, you assign resources to tasks. You can select these resources from the planning resource list associated with your workplan.

When you want to assign a planning resource to a task, you go to the Resources subtab of the Task Details page. You start by choosing the class of the resource that you would like to assign. You can assign planning resources from any of the four resource classes to a task. These resource classes are:

- **People:** The system tracks assignments belonging to this resource class in hours. You use team roles to give project-level assignments to people class resources.

- **Equipment:** Assignments belonging to this resource class enable you to track cost expenditures related to the use of equipment.

- **Material Items**: Assignments of this resource class enable you to track usage of material items on tasks.

- **Financial Elements:** Assignments of this resource class enable you to track miscellaneous task expenditures.

After you choose the resource class of the planning resource that you want to add, you go to the Assign Planning Resources page, where you can select one or more planning resources of the resource class you specified from the planning resource list.

Each planning resource can only be assigned once to a task. If you need to assign the planning resource for two distinct time periods, you must create a single assignment that encompasses both assignment periods.

For more information about planning resources and planning resource lists, see: Resources, *Oracle Projects Fundamentals User Guide*.

After you assign your resources you can use the Resources tab of the Task Details page to maintain those assignments. You can define assignment schedule dates, planned quantities, and override the rates that the system uses to cost the planned quantity. For more information, see Managing Workplan Effort and Cost, page 2-18.

Defining Resource Assignment Details

You can use the Update Resource Assignment Details page to define or update additional attributes for your resource assignments. Resource assignment attributes enable the system to accurately derive costs for the resource. This page enables you to change the planning resource associated with the resource assignment and enter or update scheduling information, planned quantity, the spread curve, and the forecast ETC method. You can also use this page to review a summary of the raw and burdened cost for the assignment, and to override the cost rates that the system uses to calculate costs.

For more information about defining and managing quantity, effort, and cost for task assignments, see Managing Workplan Effort and Cost, page 2-18.

For more information about planning resources and resource attributes, see Resources, *Oracle Projects Fundamentals*.

Integrating Work Planning with the Project Team

Oracle Projects makes it easy to integrate your task-level workplan staffing efforts with the creation and maintenance of an overall project team. It enables you to create project-level team role requirements and assignments from rolled-up task assignments through a staffing process called *bottom-up resource planning*. And it enables you to create roles on the project team for resources and then assign those resources to tasks through a staffing process called *top-down resource planning*.

This section covers bottom-up and top-down resource planning. It also discusses the Resource Usage page, which enables you to review scheduled usage of planning resources. You use this page when you perform bottom-up resource planning, but it can also be used simply to track how particular project resources are being used on a project and identify resources that are in danger of becoming overextended.

Reviewing Resource Usage

You can use the Resource Usage page to review the overall usage capacity of all planning resources associated to your projects. This helps you to determine how well resources are being used on the project and can highlight situations where specific resources are being under- or overutilized.

When you access the Resource Usage page, you choose the workplan version for which you want to view resources and the class of resource that you want to see. You can view all planning resources at once, or only the resources that belong to one of the four resource classes.

The Resource Usage Page is view-only when you are reviewing planning resource usage information for resources of the equipment, material item, and financial element resource classes. The Resource Usage page is also view only when you view planning resource usage information for all resource classes at once.

When you use it to review information for people class planning resources, the Resource Usage page enables you to update team roles for people class planning resources with scheduled team roles on the project and create team roles for people class planning resources that have not been scheduled on the project. The act of creating team roles for unscheduled planning resources is part of bottom-up resource planning.

For more information about bottom-up resource planning, see Planning Resources from the Bottom Up, page 2-11.

When you use the Resource Usage page to view usage for people class planning resources only, you can see how each people resource is being utilized on each task to which they are assigned. The resource usage page also tells you whether their current usage is above or below their overall project capacity. It does this by subtracting the overall planned quantity for a people resource from its project capacity. The planned quantity is the planned effort for the task assignments with which the people resource is associated. The project capacity is the team role effort for the people resource.

When a people class resource does not have a scheduled team role on the project, the system lists its Team Role as None and does not display a value for it in the Project Capacity column. Because their project capacity is effectively zero, people class planning resources without project team roles are always under capacity according to the Resource Usage page.

Planning Resources From The Bottom Up

When you plan your resources from the bottom up, you create project-level team role requirements and assignments for people class planning resources that have already been given task assignments on your project.

To Plan Resources From The Bottom-Up

1. After you create your workplan, assign planning resources to its tasks.

   For more information about assigning planning resources to tasks, see Creating Resource Assignments, page 2-9.

2. Go to the Resource Usage page to review the overall usage of the planning resources on your project. Use the Create Team Roles button to create new team roles for your project.

   If you have planning resources with team role schedules that are out of sync with the overall project, you can select them and use the Update Team Roles button to update them.

For more information about the Resource Usage page, see Reviewing Resource Usage, page 2-11.

3. On the Create Team Roles page, you can further define the team roles that you are creating for your project and apply your changes to have the planning resources show up at the project level on the Scheduled People page. For more information, see Creating Team Roles, page 2-12.

When all your team roles are created, the system associates the planning resources to open project requirements or assignments. For more information about project requirements and assignments, see Defining Scheduled Team Members, *Oracle Projects Fundamentals User Guide*.

You can also use the Update Team Roles page to update team role start and end dates in reaction to changes to the workplan.

The manner in which you carry out bottom-up resource planning differs depending upon whether or not you use a centralized or decentralized planning resource list for your project.

If you use a centralized planning resource list (a planning resource list that covers more than one project in your organization), the tasks of planning resource creation and team role creation are divided between two team members with different project roles. For example, when a centralized planning resource list is being used, you typically would have the project manager create the task assignments while a staffing manager that oversees all the projects that use the planning resource list would review resource usage and create team roles.

If you use a non-centralized planning resource list that is specific to the project you're working with, then the same team member can create planning resources and team roles for the project.

Creating Team Roles

You use the Create Team Role page to create roles on the project team for planning resources that have been assigned to workplan tasks.

The Team Role and Role fields are populated with the team roles and project roles of the selected planning resources, if they have already been defined for those resources. If the planning resource has multiple roles on various task-level resource assignments, the Role field is blank. You can only update the Team Role field for planning resources without defined team roles.

If a planning resource has a person defined for it, the name of the person appears in the Person column, and it is view-only. If the planning resource does not have a defined person, the Person column is blank.

> **Note:** If you have a generic task-level planning resource assignment that is linked to a project requirement, that generic planning resource is by replaced by the specific planning resource you use to fill the project requirement. For example, say you have a task with a generic "DBA" planning resource assignment, and that this resource assignment is linked to a specific project requirement. You decide to fill the project requirement with Mary Smith, a specific person-class planning resource. When you do this, the system replaces the generic "DBA" planning resource on the task with Mary Smith. For more information about project requirements, see Defining Scheduled Team Members, *Oracle Projects Fundamentals User Guide*.

On the Create Team Roles page, you cannot edit the Team Role value if it is part of the planning resource format. You can always update the Role value, which is a required attribute for team role creation.

You can base the resource schedule on the project calendar, the resource calendar, or the task assignment schedule. When you select the task assignment schedule and create the team role, the system sums the effort hours from all of the resource assignments for the planning resource and spreads them evenly across the working days between the team role start and end dates.

When you apply your changes, the system creates the team roles and updates the Resource Usage page with the new usage information.

Planning Resources From The Top Down

With Oracle Projects Management, when you plan your resources from the top down, you can create roles on the project team for resources and then assign those resources to tasks.

You start by determining the staffing needs of the project by creating project requirements or assignments and associating team roles to them. The system then either matches those project requirements with existing planning resources or, if no matching planning resources exist, generates planning resources that fit the requirements using a predefined resource format. You can then assign these scheduled planning resource to tasks.

The manner in which you carry out top down resource planning differs depending upon whether or not you use a centralized or decentralized planning resource list for your project.

If the planning resource list for your organization is not centrally controlled (specific to your project), one person can perform this process.

If your planning resource list is centrally controlled (used across multiple projects), then typically a person in a staffing manager or similar role defines the project requirements and assignments and oversees the matching of planning resources to them. When the system has made all possible matches it can make, the project manager reviews the updated planning resource list and assigns the scheduled planning resources to tasks.

> **Note:** If you use a centrally controlled planning list for your project, the system cannot automatically generate planning resources for project requirements and project assignments. It instead sends a message stating that no matching planning resources exist.

Defining Resource Formats

Top-down resource planning functionality enables the system to try to match available planning resources to the open project requirements and assignments that you create. If it cannot find any planning resources that match, and you use a decentralized planning resource list for your project, it can automatically generate a planning resource that fits the open requirement or assignment according to resource formats that you predefine.

These formats are defined on the Additional Staffing Information setup page under the Resources tab. You can define separate resource formats for project requirement creation and project assignment creation. For example, if you define a resource format of *Job-Org* for project requirement creation, the system generates a planning resource with a Job-Org format to fit the project requirements that you create.

Related Topics

Creating Resource Assignments, page 2-9

Defining Scheduled Team Members, *Oracle Projects Fundamentals*

Defining Task Dependencies

You can use task dependencies to relate tasks within or across projects as predecessors and successors.

Setting Up Task Dependency Functionality

By default you can create dependencies for any task in a workplan structure. You can limit task dependency creation to lowest-level tasks only by going to the Workplan Structure Information page and selecting Allow Dependencies Only for Lowest Tasks.

Creating and Maintaining Task Dependencies

You create and maintain task dependencies through the Dependencies subtab of the Task Details page. You can create both intraproject dependencies (dependencies between tasks in the current working version of a workplan) and interproject dependencies (dependencies between tasks in the current working versions of separate project workplans).

When you create an intraproject dependency you must follow these rules:

- You cannot create duplicate dependencies.

- You cannot create circular dependencies between two or more tasks.

- You cannot create tasks that depend upon themselves.

- You cannot create a predecessor dependency from a task to a successor task if the task has subtasks that depend on the successor task.

- You cannot create a dependency between tasks that are in the same hierarchical "path" from lowest task to highest task

You can create four types of task dependencies:

- **Finish to Start:** Indicates that the predecessor task must finish before the successor task can start.

- **Start to Start:** Indicates that the predecessor task must start before the successor task can start.

- **Finish to Finish:** Indicates the predecessor task must finish before the successor task can finish.

- **Start to Finish:** Indicates that the predecessor task must start before the successor task can finish.

You can also specify a lag value for the predecessor task This value represents the number of days by which the successor task start or finish can be delayed with respect to the start or finish of the predecessor task. For example, if you enter three lag days for a finish to start dependency, the successor task starts three days after the predecessor has finished. You can enter a negative lag value.

The Gantt chart view of your workplan structure provides a comprehensive view of the task dependencies in your workplan and illustrates how they relate to each other. You can also review information about task predecessors using the flat list and hierarchical views of your workplan structure.

For more information about workplan structure views, see Viewing Workplans, page 2-26.

You cannot delete dependency relationships once the workplan version for which they have been created has been published.

Mapping Tasks

You use task mapping to map tasks between non-shared workplan and financial structures in a project. You can map work breakdown structure tasks to lowest level financial structure tasks. For more information about this method of workplan and financial structure integration, see Integrating Workplan and Financial Structures, *Oracle Projects Fundamentals*.

Creating Task-to-Project and Task-to-Task Associations

You can create an association between a lowest task and a project or between a lowest task and a task within another project. This association is for informational purposes only.

You create associations for lowest level tasks using the Associated Project Name and Associated Task Name fields on the Setup subtab of the Task Details, *Oracle Projects Fundamentals* page. Use the Associated Project Name field to create a simple task-to-project association. If you want to create a task-to-task association, you must first enter the name of the project to which the associated task belongs, and then enter the associated task name. The prompt for the Associated Task Name field only shows published tasks for the project name that you have chosen

After you create a task association, users with view access to the task can use the Associated Project Name and Associated Task Name fields to navigate to the associated project or task. If you click on an Associated Name link, the system displays the Project Overview page for the associated project. If you click on an Associated Task Name link, the system displays the Task Overview page for the associated task. There are no links back from the destination project or task to the original task.

When you delete an associated project or task, the system deletes associations with the project or task.

Using Task Execution Workflow Processes

Oracle Projects enables you to define Task Execution Workflow processes and assign them to specific tasks or task types.

Task Execution Workflow processes can automate various task functions. For example, you can create workflows that:

- create a purchase order for tasks on the task start dates
- notify task managers when specific tasks are about to start
- notify task managers when specific tasks are ready to finish
- enable remote update of task progress through the workflow notification response
- track task completion progress
- publish task progress business events

You can associate Task Execution Workflows with specific task types. When you create tasks that use those task types, they are associated with those Task Execution Workflows by default. For more information about task types, see Task Types, *Oracle Projects Implementation Guide*.

You can also define flexible lead time for Task Execution Workflows. This enables the workflow to start before the task start dates based on the amount of lead time that you define. For example, a project manager could arrange for a Task Execution Workflow process to start two days before the task it has been associated with starts.

You must enableTask Execution Workflow functionality for an entire project workplan before you can enable it for tasks within the workplan. When you enable Task Execution Workflow for a task, you also choose the Task Execution Workflow item type,Task Execution Workflow process, and number of lead days (if any).

You can change the attributes for a Task Execution Workflow at the individual task level. You can do this whether you assigned the workflow to the task yourself or the system assigned the workflow to the task by default through the task type.

For more information about the Task Execution Workflow process, see: Project and Task Execution Workflow Processes, *Oracle Projects Implementation Guide*.

Managing Tasks

Oracle Projects provides a variety of tools and functionality to aid in the efficient creation and management of tasks for your workplan. This section explains how to use Oracle Projects' web-based pages to:

- Copy tasks, both from within the same project and from other projects

- Indent, outdent, and move tasks

- Update task detail information

Copying Tasks

You can copy tasks and complete workplan versions into your current working workplan version. These tasks and workplan versions can come from the following sources:

- the current working version of your project workplan

- other versions of your project workplan

- other workplan versions belonging to other projects

When you copy internal or external tasks with dependencies, you can choose whether or not to copy the task dependencies. You can copy both intraproject and interproject dependencies. A dependency is only copied if the successor and predecessor tasks it is associated with are copied.

For more information about task dependencies, see Defining Task Dependencies, page 2-14.

You can choose whether or not to copy task deliverable associations. However, you cannot copy the deliverable associations of a task with a physical percent complete derivation method of Deliverables. Tasks with deliverable-based progress must have unique deliverables.

For more information about deliverables, see Creating and Managing Project Deliverables, page 4-2.

When you copy a task or set of tasks you can choose not to copy the resource assignments. If you choose to copy the assignments, you can select which resource classes to copy. For example, you could choose to copy a set of tasks in your workplan into another part of your workplan but only copy over their material item and

equipment class resources. This would enable you to assign a different set of people class resources to these tasks.

Copying A Task Within Your Project Workplan

1. Navigate to the Update Work Breakdown Structure page.

2. Select the task that you want to copy.

3. Select the Copy button.

4. Identify whether you are copying a single subtask or a summary task and all its subtasks.

5. Identify where and how you want to place the task into your workplan.

Copying Tasks from Outside Your Project Workplan

1. Navigate to the Update Work Breakdown Structure page.

2. Choose the Copy External action from the Action pulldown list.

3. Identify the project, structure, structure version, and task that you want to copy. You can choose to copy an entire structure version into your workplan instead of a task or set of tasks.

4. Identify where and how you want the task, set of tasks, or structure version to be copied into your workplan.

Moving Tasks

You can move tasks within the workplan task hierarchy in a couple of ways. You can move tasks physically within the workplan hierarchy. You can change a task's outline level by indenting or outdenting it.

You can easily move tasks within a workplan using the Update Work Breakdown Structure page. Select the task you want to move and select the Move button. Tell the system where and how you want the task to be moved within your workplan. The system moves the task to the selected location.

Indenting and Outdenting Tasks

Indenting and outdenting helps you to organize your tasks into summary tasks and subtasks. Use the Indent and Outdent buttons on the Update Work Breakdown Structure page to change a selected task's outline level within a workplan. When you indent or outdent a summary task, the summary task's subtasks are indented and outdented as well, relative to the position of the summary task.

Updating Tasks

The Update Tasks page enables you to see all of the tasks in your workplan and update basic information for several tasks at once rather than on a task by task basis.

> **Note:** The Update Tasks page is the only page that enables you to update task weighting values for individual tasks, and you can only change them if you are using the manual percent complete update method. For more information on task weighting functionality, see: Collecting Progress for Workplans, Rolling Up Physical Percent Complete, page 2-45.

Deleting Tasks

The Update Work Breakdown Structure page enables you to select and simultaneously delete multiple unpublished tasks.

If you have enabled workplan versioning and have created multiple versions of your workplan, several versions of the same task may exist. If you select one of these task versions for deletion the system only deletes that task version.

If you have enabled workplan versioning and published workplan versions contain the task you have selected for deletion, the system will not delete the selected task until you publish the task's workplan version. Tasks "waiting for deletion" are marked with a blue circle next to their outline number.

You cannot delete tasks in published workplan versions.

Managing Workplan Effort and Cost

Oracle Projects enables you to plan and track the effort and cost required to complete your project on time and under budget. You do this by carefully planning the quantity and cost required to complete each assignment and then tracking the progress of each assignment over the lifespan of the project. Planned effort, and cost roll up to contribute to the task effort and cost, which in turn roll up further to contribute to the overall effort and cost for the project workplan.

The system uses planned quantity values to calculate the planned cost for resource assignments. You can define planned quantity for each resource assignment in your project workplan structure. This enables you to track progress against planned assignment cost and effort as actual effort and cost is spent over the duration of the project. And it lets you adjust planned quantity and cost values for your quantity assignments.

For more information about adding and defining resource assignments on tasks, see Creating Task Resource Assignments, page 2-9.

Defining Planned Effort at the Task Level

Effort for a summary task is summed up from the resource assignments to that task (if any) and rolled up from its lower level tasks. Effort on a lowest level task is summed up from its resource assignments. If the task has no resource assignments, you can define planned effort at the task level, on the Schedule tab of the Task Details page.

When you enter planned effort for a task that does not already have a resource assignment, the system generates a People class resource assignment to store that effort. If you change effort at the task level, the system displays that effort change for the People class resource assigned to the task. If you change effort at the resource assignment level, the new effort is rolled up to the task.

If you create resource assignments for the task, the system disables your ability to edit planned effort at the task level. At this point you have to enter all planned effort for the task at the resource assignment level.

> **Note:** If you have planned for task level effort without adding any assignments, then you can enter progress directly against the task. The system automatically stores this progress in the system-generated People class task resource assignment.

Defining Planned Quantity and Cost for Resource Assignments on Tasks

You can use both the Resources subtab of the Task Details page and the Update Resource Assignment page to enter and update resource assignment information. You can use these pages to define planned quantities and calculate costs for resource assignments.

Both pages enable you to define planned quantity for all of the resource assignments of a specific task. You can also use these pages to define scheduled dates and override rates for assignments.

For People and Equipment class resource assignments, quantity is equivalent to effort, while for Material Item and Financial Element class resource assignments, quantity refers directly to the number items or elements used or consumed.

The quantity unit of measure for People and Equipment resource assignments is always measured in terms of hours. For example, if on the Resources subtab you define a planned quantity of 25 for a People class resource assignment, that value represents 25 hours of effort.

Each resource assignment has its own cost rate. The system multiplies the quantity value by the cost rate to get the cost incurred by the assignment. You can use the Calculate button to have the system calculate resource assignment cost values, based on the defined quantity. So, to follow the previous example, if you have a resource assignment with a planned quantity of 25, the system determines the planned cost of the assignment by multiplying the rate associated with the assignment by 25. The planned cost of the resource assignment then rolls up to factor into the overall planned cost for the task.

People and Equipment class resource assignments are always rate-based. Material Item and Financial Element class resource assignments, on the other hand, can be rate based or planned in cost. Material Item and Financial Element class resource assignments are only rate-based if the planning transaction contains:

- An expenditure type that requires rates

- An inventory item that is not measured in terms of cost

The transaction currency for a rate-based assignment is governed by the initial currency of the cost rate. You can override this transaction currency, but when you do so, the system requires you to enter an override rate value.

For a non rate-based assignment, you can define the transaction currency by deciding the planned quantity's currency unit of measure. You cannot change the transaction currency of an assignment after you collect progress against it.

All assignment costs are burdened using a burdened rate that can be derived for all assignments. The Update Resource Assignments page enables you to override the raw and burdened cost rates for the assignment. For more information about rates in Oracle Projects see: Rates, *Oracle Projects Fundamentals*.

You can also define planned quantity for individual resource assignments through the Update Resource Assignments page. This page enables you to set a spread curve for the planned quantity. The spread curve distributes the planned quantity across the set of periods that fall within the planned start and finish dates of the resource assignment according to the type of curve that you select. The default spread curve for each assignment comes from the definition of the planning resource.

For more information about spread curves, see Using Spread Curves.

> **Note:** The system only uses spread curves when workplan time phasing is set to a PA or GL period.

You may want to define new period profiles for the distribution of cost and quantity over the assignment duration. For more information about period profiles and how to define them, see Period Profiles, *Oracle Projects Implementation Guide*.

Calculating Costs and Refreshing Rates

You can calculate costs for resource assignments on both the Resources subtab of the Task Details page and the Update Resource Assignment page. On both pages you can use the Calculate button to calculate the assignment costs after you define or update planned quantity. The system calculates the raw and burdened cost of the assignment based on its planned quantity for the scheduled assignment duration using the raw cost rates and burdened rates.

If you have enabled multicurrency functionality for your workplan and have overidden the project currency or project functional currency conversion rates, you can use Refresh Conversion Rates to revert to the conversion rates that you defined on the Currency Settings subtab of the Additional Workplan Options page during workplan setup.For more information, see Defining Workplan Multicurrency Settings, page 2-5.

If you are planning with multiple currencies and you change a transaction currency, you can select Refresh Conversion Rates on the Resources subtab of the Task Details page to refresh the conversion rates for the selected transaction or transactions. It recomputes the conversion of the existing transaction amount in the project currency and project functional currency.

For more information about rates in Oracle Projects see: Rates, *Oracle Projects Fundamentals*.

For more information about rate derivation, see: Deriving Rates, *Oracle Projects Fundamentals*.

Example of Task Effort Calculation

Here is an example of effort calculation at the task and task assignment level:

Imagine that you have a lowest-level task that is numbered 1.2 in your task hierarchy. This task has no task resources assigned to it.

You enter 50 hours of planned effort for the task. At this point the system generates a resource assignment for the task and transfers the effort that you entered to this task.

Later in the day you realize that the planned effort for the task ought to be 60 hours. You go to the Schedule subtab of the Task Details page and change the planned effort for the task from 50 to 60. When you do this, system automatically increases the planned effort for the People class assignment from 50 to 60 hours as well.

Then you decide to add another Material class resource assignment to the task. When you do this, you no longer have the ability to edit planned effort at the task level. To change planned effort for the task, you need to edit the planned effort for the People class resources that are assigned to the task.

At this point the planned effort for the task is equivalent to the sum of the planned effort for the People and Equipment class resources that are assigned to that task.

Updating Periodic Amounts

You use the Update Periodic Amounts page to review and adjust planned quantities, planned raw cost rates, and planned burdened rates across a set of periods for

individual resource assignments. You can only update amounts for the current period and future periods. Past periods are displayed for informational purposes only.

The system initially spreads planned quantities across the set of periods spanning across the planned duration of the assignment using the assignment spread curve. All periods that occur before the cycle date that progress records were last applied against the current working version of the workplan are considered past periods by the system. You cannot update data for past periods. You can update planned and ETC quantity values as well as raw and burdened cost rates for any current or future period line.

> **Note:** The system derives actual quantity values from progress collection. To see progress data for a working version of the workplan, you must first apply progress. For more information about progress collection, see Managing Progress, page 2-27.

The system does not display periodic ETC data for published workplan versions. ETC is only available for published workplan versions as a cumulative value for any resource assignment or task. For more information about spread curves, see Using Spread Curves.

You can update and recalculate the planned quantities and cost rates for any open period line. When you make a change to a period line, the spread changes, as does the total planned quantity and cost for the resource assignment. If you want to redistribute the present quantity based on the spread curve of the resource assignment, select Distribute.

The system computes costs by multiplying the quantity on each period line with the cost rate present on the line. The summation across period lines generates the net assignment quantity and cost.

> **Note:** If the assignment is not rate-based, you cannot edit its raw cost rates.

If you want to override the project currency or project functional currency conversion attributes for any current or future period line, select the Detail icon to go to the Update Currency Conversion Details page. This page enables you to override or update conversion attributes for the project currency and project functional currency. Any changes you make are only valid for the selected period line.

> **Note:** If time phasing is not enabled for your workplan, you can access this page by selecting the Update Currency Conversion Details button on the Update Resource Assignment page.

You can delete any period line without reported actuals. When you delete a period line, the system updates the total quantity and cost values for the resource assignment to reflect the change.

Reviewing Workplan Cost

Resource assignments on tasks incur costs over the lifespan of every project. Employees are paid, expenditures are generated by equipment, material items are used, and miscellaneous expenses are incurred such as flight charges, hotel expenses, and client dinners.

Oracle Projects enables you to review and compare planned and actual cost and effort at any level of your workplan task hierarchy. You can also review costs against the

resource breakdown structure, enabling you to understand how much cost is incurred for each resource-providing organization.

When you associate a resource breakdown structure to your workplan structure, the system maps the resource assignments to the resource structure. This gives you an easy way to review project costs from a resource perspective.

Oracle Projects provides cost analysis mechanisms that enable you to:

* Review planned and actual cost against any level of your workplan or resource breakdown structure.

* Adjust cost rates and planned quantity at any level of the workplan or resource breakdown structure.

* View quantities and costs for tasks and resources spread across periods.

The system gathers actual cost and effort during the progress collection process. For more information on progress collection see Collecting Actual Quantities and Costs, page 2-34.

Reviewing Workplan Cost and Effort

You can use the View Workplan Cost page to review the overall cost and effort for the project rolled up against the workplan structure or resource breakdown structure. The following views provide different ways to analyze cost and effort:

* **Task Summary:** Enables you to review planned and actual cost and effort amounts for any node of the workplan structure. You can select and compare data with any other two workplan versions.

    > **Note:** When you use this page to compare a workplan version to another workplan version, the system only performs comparisons for the tasks in the context workplan version (the version you begin with). So, for example, when the context version contains tasks that are not present in the compared version, it does not provide data for that task in the comparison results. Similarly, when the compared version has an additional task, the comparison results do not include data for that task.

* **Resource Summary:** Enables you to review cost and effort amounts for any node of the resource breakdown structure.

* **Task Analysis:** Provides an analysis by task of cost and effort for any node in the resource breakdown structure. For example, you can use this page to find all of the tasks with resources that correspond to a specific node in the resource structure and review their associated cost and effort amounts.

* **Resource Analysis:** Provides an analysis by resource breakdown structure node of cost and effort for any task in the workplan structure. For example, you can use this page to find all of the planning resources that map to a specific task in the workplan structure and review their associated cost and effort amounts.

* **Periodic Amounts:** Displays total cost and effort in terms of periodic amounts, such as period, quarter, or year, depending on the suitability of the planned and actual assignment date ranges. You can review periodic cost and effort amounts for any node of the work breakdown structure or resource breakdown structure. This view also provides trend graphs that display cumulative effort and cumulative cost by the chosen period.

> **Note:** The system derives the Remaining Effort and ETC values for any task from the last submitted progress record. For more information about progress collection, see Managing Progress, page 2-27.

If you are looking at workplan structure information for a working version of a project, you can adjust the quantity, cost rates, and burdened rates for any node in the structure that you are viewing.

For more information about adjusting costs and quantities for resource assignments, see Adjusting Cost and Quantity for Resource Assignments, page 2-23.

> **Note:** The workplan information displayed on these pages is updated by project performance summarization processes. Please refer to Performance and Exceptions Reporting Processes , *Oracle Projects Fundamentals*for more details.

Adjusting Cost and Quantity for Resource Assignments

There are two ways that you can adjust cost rates and quantity for resource assignments:

- You can use the Task Summary and Resource Summary pages to make cost rate and quantity adjustments that apply to all resources belonging to a specific task in the work breakdown structure or node of the resource breakdown structure

- You can use the Task Details page to make adjustments to specific resource assignments or selectively adjust multiple resource assignments belonging to a specific task.

  > **Note:** If you are not tracking workplan costs, or if the assignment is non rate-based, you can only adjust quantity for the resource assignment.

When you adjust cost rates, conversion rates, effort, or quantity for an assignment, the system automatically recalculates cost amounts for that assignment.

You use the Adjust page to adjust quantity, cost rates, or burdened rates for the resource assignments that belong to a specific task or resource node. You can reach the Adjust page from either the Task Details page or the View Workplan Cost page. If you enter it from the View Workplan Cost page, the Adjust page will display information related to the view that you used for that page.

You enter adjustments in the form of a percentage. You can enter negative values to reduce amounts. You cannot decrease quantity or rates below -100%.

When you adjust resource assignment quantity, the associated raw and burdened costs also change in accordance with the rates that are currently in effect at the time.

If you adjust the raw cost and have previously overridden the burdened cost , the system does not recalculate the burdened cost.

Versioning a Workplan

You can use workplan versioning to create multiple versions of a workplan. Versioning enables you to create successive workplan versions for historical purposes and "what if" analysis. Versioning also enables workplan approval routing, publication, and baselining functionality.

> **Note:** You must enable workplan versioning before you can take advantage of the versioning functionality. For more information, see: Setting Up Basic Workplan Information, page 2-2.

When versioning is enabled for a workplan, you use the Maintain Versions page to manage both published and unpublished workplan versions. You can use Maintain Versions to:

- create new working workplan versions from existing published and unpublished workplans
- access and update workplan and task information for working workplan versions
- rework the structures of workplan versions that are submitted, approved, or rejected
- access workplan cost information for both published and unpublished workplan versions
- designate the current working version of a workplan
- designate baseline versions of workplans
- delete working workplan versions

For more information about managing workplan effort and cost, see Managing Workplan Effort and Cost, page 2-18.

Designating a Baseline Workplan Version

You can use the Maintain Versions page to designate a published workplan version as the baseline workplan version for your project. When you designate a workplan version as the baseline version, the system updates the baseline start and finish dates for tasks in all versions of the workplan with the scheduled start and finish dates of the baseline workplan's tasks.

> **Note:** The first workplan version you publish for a project is automatically designated as the baseline version by the system.

Workplan Statuses

The workplan status indicates the status of the workplan as it goes from being an in-progress "working" workplan to a published workplan. The four statuses for unpublished workplans are:

- Working
- Submitted
- Approved
- Rejected

Approving and Publishing Workplans

If you have set up workplan approval functionality for your workplan on the Workplan Information page, your workplan must be approved before you can publish it. You can also set up your workplan to be published automatically once it is approved.

If you have not set up workplan approval functionality for your workplan, you can manually publish your workplan.

For more information about setting up workplan approval functionality, see: Setting Up Workplans, page 2-2.

Routing Workplans for Approval

You can submit a workplan through the Update Work Breakdown Structure, Update Tasks, and Maintain Versions pages. When you do this the Workplan Status changes from Working to Submitted.

When you submit a workplan for approval, Oracle Projects calls the Workplan Workflow Extension, which enables you to customize workflow processes for submitting, approving, and publishing the workplan. For more information, see: Workplan Workflow Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*.

The system then sends a notification to the approver that you have specified for the project on the Workplan Information page. This notification enables the approver to immediately approve or reject the workplan after they complete their review.

When the approver approves the workplan, the workplan's Workplan Status changes to Approved. Approved workplans can be published.

If the approver rejects the workplan, the workplan status changes to Rejected. You can rework the workplan (through the Maintain Versions page) and submit it again for approval. You must rework and resubmit the workplan until it is approved before you can publish it.

> **Note:** When a workplan is in Submitted, Approved, or Rejected status, you can only make changes to it using the rework functionality.

The system sends the project manager notifications via email when workplans are either approved or rejected.

Publishing Workplans

You publish workplans to notify team members of workplan changes.

> **Note:** If you have enabled workplan versioning, the publication process also facilitates the collection of progress information for a project. The system enables you to submit progress records only for the latest published workplan version. For more information about project collection see: Managing Progress, page 2-27.

If you have not required approval for your workplan on the Workplan Information page, you can publish the workplan at any time through the Update Work Breakdown Structure, Update Tasks, and Maintain Versions pages.

If the workplan requires approval but is not set up to be automatically published upon approval, you can manually publish it when it is approved. When the workplan is approved, you can go to the Update Work Breakdown Structure, Task Update, and Maintain Version pages to publish it.

You can arrange for the system to automatically publish the workplan after it is approved. For more information, see: Setting Up Workplans, page 2-2.

Notifying Team Members of Workplan Publication

When a workplan is published, the system sends notifications to task managers and others with security access equivalent to that role. The system can deliver notifications through the Oracle Projects user interface or send them as email.

For more information on this functionality, see: Setting Up Workplans, page 2-2.

Viewing Workplans

You can choose how you want to view your work breakdown structure. Oracle Projects provides three different types of workplan views:

- Hierarchy view

- List view

- Gantt display view

You can change your workplan view at any time on the Tasks and Update Work Breakdown Structure pages. You can also change views on the Update Tasks page, but it does not have the Gantt display view option.

The hierarchy view is initially the default workplan view. Your implementation team can set the list or Gantt display view to be the default view for workplan information if you wish. For more information, see:

Profile Options: PA: Workplan Tasks Default View, *Oracle Projects Implementation Guide*.

Using the Hierarchy View

When you choose the hierarchy view for your workplan, the system displays your tasks as a hierarchy, enabling you to quickly determine which tasks are subordinate to others and identify groups of tasks that relate to similar activities.

When you use the hierarchy view, you can collapse and expand outline levels or change the display to show only one summary task and each of its subtasks.

Using the List View

The list view displays the tasks in your workplan as a simple list. By default, the system orders the list according to outline level. You can reorder the list according to values such as scheduled start date, scheduled finish date, and task manager name by selecting the column headings for those values.

The list view also enables you to perform searches on workplan information.

Using the Gantt Display View

The Gantt view provides a graphic display of task information. It enables you to:

- Quickly determine the relative duration of your tasks

- View and understand task dependency relationships

- Identify critical tasks and review their completed progress

- See resource assignments

- Compare task durations for different versions of the same workplan, such as the current and baseline workplan versions

For more information about task dependencies, see Defining Task Dependencies, page 2-14.

For more information about task progress collection, see Managing Progress, page 2-27.

For more information about task resource assignments, see Creating Task Resource Assignments, page 2-9.

Defining the Gantt Display View

You can use a set of filters to define your Gantt display view. These filters enable you to:

- Display a specific type of task, such as tasks at risk, tasks estimated to finish late, or completed tasks.

  If you set the Tasks filter to display all tasks, the system displays the tasks in the hierarchical view format.

  If you set the Tasks filter to display a specific category of tasks, the system displays the tasks in the list view format.

- Graphically compare the scheduled task start and end dates of the current workplan version with those of an earlier workplan version, such as the baseline workplan version or the last published workplan version.

- Select the overall time scale of the Gantt display.

  If you choose a time scale other than *Entire Project*, you can also include a start date. If you do not include a start date the system defines a start date based on the current date.

Using the Gantt Display View In Configurable Page Layouts

Your implementation team can set up configurable page layouts that display task information using the Gantt display view. For more information, see:

Page Layouts, *Oracle Projects Implementation Guide*.

Managing Progress

Progress is the collection, processing, and reporting of actual quantities and costs, estimate to complete quantities and costs, dates, and physical percent complete for a project. You can collect progress for deliverables, task resource assignments, tasks, and projects.

You use progress to report on whether workplan execution is on track. This allows you to make adjustments to work planing if progress is ahead of or behind schedule. You can also use progress to forecast the effort and costs at project completion, generate revenue and invoice customers, and perform financial reporting.

Overview of Progress Management

When you collect and submit progress, Oracle Projects rolls up progress from resources to a task, from deliverables to a task, from lower level tasks to a summary task, and from summary tasks to a project.

Oracle Projects calculates physical percent complete based on the submitted progress and it rolls up the physical percent complete to higher levels of the task hierarchy. Physical percent complete enables you assess the amount of work achieved at each level of

a project. Oracle Projects uses physical percent complete to calculate earned value measures for each task. You can review information such as physical percent complete and earned value measures to monitor the health and performance of a project.

Understanding Progress

This section describes terminology related to progress in Oracle Projects:

- **Actual Cost:** The amount of cost spent to date. Oracle Projects calculates actual costs based on actual quantities. You enter an actual quantity in terms of hours, currency, or any other unit of measure. Oracle Projects uses an actual cost rate to calculate the actual cost.

- **Actual Dates:** The dates when work actually starts and finishes.

- **Actual Effort:** The amount of effort spent to date.

- **As of Date:** The date for which you are collecting progress. The progress cycle for a workplan determines the potential dates that you can use. Oracle Projects populates the list in the As of Date field with five dates, starting with a default As of Date.

  If no submitted progress records exist, then the default As of Date is the first future date from the system date as determined by the progress cycle. Oracle Projects populates the list with five dates, beginning with the default date and continuing with future progress cycle dates.

  If a submitted progress record exists, Oracle Projects populates the list with five progress cycle dates, beginning with first date following the most recent As of Date that is associated with submitted progress. These dates can all be in the past.

- **Deliverable Status:** The completion status of a deliverable. You can specify a status such as Not Started, In Progress, or Completed.

- **Estimate at Completion (EAC):** Oracle Projects calculates estimate at completion using the following formula:

  Estimate at Completion = Actual to Date + ETC

- **Estimate to Complete (ETC):** The amount of work remaining. You enter an ETC quantity in terms of hours, currency, or any other unit of measure. Oracle Projects uses the rate associated with the resource assignment to calculate the ETC cost.

- **Estimated Dates:** An estimated schedule of when work starts and finishes.

- **Percent Complete:** Oracle Projects calculates percent complete using the following formula:

  Percent Complete = Actual to Date / (Actual to Date + ETC) * 100

- **Percent Spent:** Oracle Projects calculates percent spent using the following formula:

  Percent Spent = (Actual to Date / Planned) * 100

  > **Note:** Percent spent can be greater than 100.

- **Physical Percent Complete:** The amount of physical work achieved. Oracle Projects calculates physical percent complete for a task based on its physical percent complete derivation method.

- **Planned Effort and Cost:** The projected total cost and effort required to complete the work. Oracle Projects uses planned quantity values to calculate the planned

cost for resource assignments. You can define planned quantity for each resource assignment in a project workplan structure. This enables you to track progress against planned assignment cost and effort as actual effort and cost is spent over the duration of the project. For information on planned effort and cost, see: Managing Workplan Effort and Cost, page 2-18.

- **Progress Status:** A qualitative evaluation overall task progress. You can specify a status such as On Track, At Risk, or In Trouble.

- **Task Status:** The completion status of a task. You can specify a status such as Not Started, In Progress, or Completed.

- **Work Quantity:** Any user-defined quantitative measure of work, such as number of tiles laid or number of contracts completed. You can plan for an amount of work quantity for a task and measure progress against the planned work quantity.

  For additional information on work quantity, see: Project and Task Attributes, *Oracle Projects Fundamentals*.

Related Topics

Overview of Rates, *Oracle Projects Fundamentals*

Understanding Earned Value Measures

Oracle Projects calculates earned value measures using the progress that you collect. Earned value management is a methodology used to measure and report project performance from initiation to completion.

Oracle Projects automatically calculates the following earned value measures based on the progress collected:

- **Planned Value:** The total budgeted cost up to the analysis date.

- **Earned Value:** For completed work, this value is the cost or effort originally budgeted to accomplish that work.

- **Schedule Performance Index (SPI):** The ratio of work performed to work scheduled.

- **Cost Performance Index (CPI):** The cost efficiency factor representing the relationship between the actual costs expended and the value of physical work performed.

- **To Complete Performance Index (TCPI):** The level of efficiency required to complete the remaining work using the remaining budgeted effort or cost.

Related Topics

Deriving Physical Percent Complete, page 2-41

Earned Value Measures, page 10-36

Selecting Progress Options

You select progress options for the workplan structure and tasks to determine how you collect and manage progress. In addition, you select a physical percent complete rollup method for the financial structure.

Selecting Progress Options for a Workplan Structure

You can select the following progress options for a workplan structure:

- **Progress Cycle:** Select a cycle for collecting progress. For example, you can select a weekly cycle with Monday set as the progress reporting day.

> **Note:** If you do not specify a progress cycle, Oracle Projects uses a daily progress cycle for the workplan structure.

- **Physical % Complete Rollup Method:** Specify how Oracle Projects calculates and rolls up progress for the workplan structure. You can select Cost, Effort, Duration, or Manual as the physical percent complete rollup method. *Duration* is the default value.

- **Allow Collaborative Progress Entry:** Select this option to enable team members to enter progress.

- **Allow Actual Effort and Cost Collection:** You must select this option for projects with partially shared structures or non-shared structures to enable the collection of actual quantities and costs and estimate to complete (ETC) quantities and costs. If you do not enable this option, you cannot collect actual or ETC quantities and costs for resource assignments or workplan tasks.

> **Note:** This option is named *Allow ETC Effort and Cost Collection* for projects with shared structures. Select this option to enable the collection of ETC quantities and costs. You can always collect actual quantities and costs.

- **Allow Physical % Complete Collection:** Select this option to enable the collection of physical percent complete for tasks and deliverables.

> **Note:** If you do not enable this option, you cannot collect physical percent complete for tasks and deliverables. In this case, Oracle Projects calculates percent complete and percent spent based on planned and actual quantities and costs for a task, but it does not calculate earned value measures.

- **Allow Physical % Complete Overrides:** Select this option to enable the override of physical percent complete if you also select the *Allow Physical % Complete Collection* option. For example, the project manager can override physical percent complete values that a task manager has entered.

If you do not select this option, then physical percent complete for a task cannot be overridden.

Related Topics

Selecting Progress Options for Tasks

The progress options for the task type control how you collect and manage progress for a task. Different tasks within a workplan can have different task types. This provides you with the flexibility to define workplan tasks for which you do not need to track progress. For information on defining progress options for task types, see Task Types, *Oracle Projects Implementation Guide*.

You can change the default values for the following task progress options:

- **Additional Information Page Layout:** Select a page layout to display progress information. You can associate a different page layout with each unpublished task in a project. For information on defining page layouts, see: Page Layouts, *Oracle Projects Implementation Guide*.

- **Physical Percent Complete Derivation Method:** Select the derivation method that Oracle Projects uses to derive physical percent complete for the task. You can select Deliverable, Work Quantity, Cost, or Effort.

  > **Note:** If you change the task type for a task, Oracle Projects does not reapply the physical percent complete derivation method from the new task type as the new default value for the task.

- **Actual Work Quantity Entry Method:** Select *Actual to Date* if you want to enter the total quantity of work completed to date when you collect progress. Select *Actual Since Last Progress* if you want to enter only the quantity of work completed since that last time you collected progress.

  You can update the actual work quantity entry method only if the task type enables work quantity for the task.

  The following two tables show examples of how you can enter work quantity for a task that requires the installation of 100 square feet of floor tiles. In both cases, the same amount of work quantity is entered for the provided dates.

  The table below shows entry of actual work quantity to date:

Progress Collection Date	Actual To Date
January 20	10
January 21	20
January 22	50
January 23	100

  The table below shows entry of actual work quantity completed since the last time progress was recorded:

Progress Collection Date	Actual Since Last Progress
January 20	10
January 21	10
January 22	30
January 23	50

Related Topics

Deriving Physical Percent Complete, page 2-41

Selecting Progress Options for a Financial Structure

You specify a physical percent complete rollup method for the financial structure. You can select either Effort or Cost. *Cost* is the default value.

Oracle Projects determines the effort or cost from the current baseline version of the approved cost budget. If a current baseline version does not exist, then Oracle Projects uses the current working version to roll up financial physical percent complete.

Related Topics

Deriving Physical Percent Complete for Financial Structures, page 2-54

Collecting and Managing Progress

Oracle Projects enables you to collect and manage progress for deliverables, task resource assignments, tasks, and projects. You can choose to collect, review, and adjust progress using either a centralized or a collaborative approach. The relationship between the workplan and financial structure determines how you collect and manage progress.

Oracle Projects uses the progress that you collect to calculate physical percent complete. You can also enter an estimate of physical percent complete for tasks. Oracle Projects rolls up physical percent complete to higher levels in the task hierarchy and it uses physical percent complete to calculate earned value measures. You can use these measures to monitor the overall health of you project.

You can apply progress to a working version of a workplan to update the planned cost and quantity. This enables you to use the collected progress to replan the workplan.

You can use progress information collected for the workplan structure to update physical percent complete for the financial structure.

Choosing an Approach for Collecting Progress

You can collect progress either centrally or in a collaborative manner. You can utilize both methods during the life of a project. You must enable the *Allow Collaborative Progress Entry* option for a workplan structure to enable task managers, deliverable owners, and task resources to enter progress.

A user must have the appropriate security privileges to enter, submit, and adjust progress. For information on the security mechanisms that you can use to control function and data access within Oracle Projects, see: Security in Oracle Projects, *Oracle Projects Fundamentals*.

Centralized Progress Entry

When progress entry is centralized for a project, a single user with the appropriate security privileges to update project progress, such as a project manager, performs all progress collection activities. This person can enter and submit progress for the entire workplan or for individual deliverables, resource assignments, and tasks.

A centralized approach to progress entry is applicable to smaller projects with few team members or resources assigned to tasks. This approach enables a single person to control all aspects of progress entry.

For example, the project manager can enter progress within the context of the latest published workplan version. For each task, the project manager can view the effort, cost, earned value metrics, and date information. The project manager can enter progress for the task and for the resources and deliverables associated with it. The

project manager can also enter progress report details for the task. For example, progress report details include the task status, progress status, and comments. Alternatively, the project manager can enter and submit progress for multiple tasks at the same time, rather than entering and submitting progress for each task, one at time.

The project manager can also use the centralized approach to view and correct progress that team members enter in a collaborative manner. For information on correcting progress, see: Correcting and Backdating Progress, page 2-51.

Collaborative Progress Entry

When project progress entry is collaborative, task managers, deliverable owners, and task resources can enter and submit their own progress. Task managers or the project manager can review and adjust the progress as needed.

A centralized approach applies to larger projects, such as a global project, that have many resources working on the tasks. Team members can use the Team Member Home page to enter and submit their own progress. Task managers can view a list of tasks that they own and enter progress for each task. Team members can view and enter progress for assignments where they are listed as the named resource. Assignments without a named resource belong to the task manager. Deliverable owners can view and enter progress for their deliverables.

The project manager can use the centralized approach to review and correct progress entered in a collaborative manner.

Choosing a Centralized or a Collaborative Approach

The following table lists three approaches to planning, progress collection, and progress review and adjustment:

Approach	Planning	Progress Entry	Progress Review and Adjustment
1	Centralized	Centralized	Centralized
2	Centralized	Collaborative	Centralized
3	Centralized	Collaborative	Collaborative

The first approach is for one person, usually the project manager or another project planner, to perform planning and progress entry, review, and adjustment. The project manager, or other central person, enters and submits progress for all task assignments, deliverables, and tasks. The project manager can review and adjust the progress as necessary. This fully centralized approach enables the project manager to control all aspects of workplan management. You can choose to use this approach for a project where a small number of resources are executing the work in a centralized location.

The second approach is to plan the workplan centrally, while enabling the team members (task managers, task resources, and deliverable owners) to record their own progress. For example, task resources can enter progress for their assignments. The project manager reviews the progress that the team members enter and performs adjustment centrally. For example, the project manager can override the physical percent complete that a task manager has reported. You can choose to use this approach for a project where a large number of resources are executing the work and the project manager needs to retain centralized control over progress execution.

The third approach is similar to the second approach, because the project manager can plan the workplan centrally, while team members record progress. The difference in this approach is that task managers can review and adjust the progress that the resources enter. For example, a task manager can adjust the ETC that a resource has entered for an assignment. This approach minimizes the data entry for the project manager. You can choose to use this approach for a project where a large number of resources are executing the work globally.

Related Topics

Selecting Progress Options for a Workplan Structure, page 2-29

Collecting Actual Quantities and Costs

Oracle Projects is the central repository of actual quantities and costs. How you can collect actual quantities and costs depends on the integration between the project structures. For information on integrating workplan structures, see: Integrating Workplan and Financial Structures, *Oracle Projects Fundamentals*.

Collecting Quantities and Costs for Shared Structures

If a project has shared structures, you collect one set of actual quantities and costs for the project. You use these values for both workplan management and financial management.

You use the financial transaction system to enter actual quantities for resources that are assigned to a particular task. For example, you can collect transactions from timecards, expense reports, purchase orders, and manufacturing costs. You must review and approve the financial transactions and run the appropriate cost distribution program to calculate the actual costs before you can summarize these amounts for the project.

For the workplan structure, summarization picks up the actual amounts through the period end date of the period to which the progress *As of Date* maps. Oracle Projects summarizes the actual amounts and brings the amounts into the workplan. Each actual value retains its date and Oracle Projects uses this date to associate actual amounts with periods when it displays the amounts in the task assignment periodic view.

> **Note:** You must run project performance summarization processes to summarize financial actuals. For additional information on the summarization processes, see: Performance and Exceptions Reporting Processes, *Oracle Projects Fundamentals*.

After summarization, Oracle Projects associates actual values with resources in the resource breakdown structure for the workplan. For information on how Oracle Projects associates actual values with resources, see: Collecting Resource Assignment Progress for Shared Structures, page 2-38.

If you enable workplan versioning, and a published version exists, you can view the actual quantities and costs for the latest published version after summarization. If a published version does not exist, you can view the actual quantities and costs only after you publish a workplan version.

You can view the actual quantities and costs for the workplan after summarization if you do not enable workplan versioning.

> **Note:** You cannot override actual quantities or costs for projects with shared structures.

The workplan progress flow helps you to capture further information related to work execution. This information includes estimated and actual dates, progress status, and comments. You must submit progress for it to be effective and roll up the task hierarchy.

ETC and Shared Structures

After you publish a workplan version and summarize the actual data, Oracle Projects calculates a default ETC value for a task and its assignments using the following formula:

ETC = Planned - Actual

If the result of this calculation is a negative number, then the default value for ETC is 0. The ETC automatically rolls up the task hierarchy.

If you update the ETC value when you collect progress, from this point forward Oracle Projects populates ETC from the latest submitted progress.

If you later replan the workplan and publish a new workplan version, Oracle Projects once again calculates the default value for ETC. It does this until you update ETC when you collect progress for the published workplan version.

> **Note:** Oracle Projects always calculates ETC costs from ETC quantities.

Collecting Progress for Partially Shared and Non-Shared Structures

You can collect actual quantities and costs for the workplan structure separate from the financial structure if a project has partially shared or non-shared structures. You use this set of actual quantities and costs for workplan management.

If you want to collect actual quantities and costs for a workplan structure, you must enable the *Allow Actual Effort and Cost Collection* progress option. For information on this option, see: Selecting Progress Options for a Workplan Structure, page 2-29.

Oracle Projects rolls up the progress information that you submit at every workplan structure level, including actual and ETC values. The progress information that you capture for each level in the workplan varies. For example, you can collect progress for deliverables, resources, work quantity, or the task itself. You can use either a centralized or a collaborative approach to collect the progress.

You collect a separate set of actual quantities and costs for the financial structure using the financial transaction system. You can use the actual quantities and costs for the financial structure for activities such as revenue accrual, invoicing, and financial reporting.

Collecting Progress for Deliverables

Deliverables are the output for a project and can include documents, such as reports and plans, as well as physical products. You can associate deliverables with workplan tasks for informational and progress collection purposes.

Deliverable progress includes:

- Physical percent complete

- Deliverable status

- Completion date

- Progress status

- As of Date

- Progress overview

> **Note:** Progress status associated with a deliverable does not roll up to the task.

You can complete deliverable actions as a part of deliverable progress entry if the deliverable is associated with a progress-enabled deliverable type. Oracle Projects automatically uses the system date as the default Completion Date when you mark a deliverable as complete. You can override this date. If the deliverable has shipping or procurement actions associated with it, you must initiate these actions to complete the deliverable action. For information on deliverable actions, see: Managing Project Deliverable Actions, page 4-5.

The project manager can enter and submit deliverable progress centrally or the deliverable owner can submit the progress in a collaborative manner.

Rolling Up Deliverable Progress to a Workplan Task

You must manually enter physical percent complete for deliverables. Oracle Projects can roll up deliverable physical percent complete to the task level. You must set the physical percent complete derivation method for the task to *Deliverable* to roll up physical percent complete.

Oracle Projects uses the deliverable progress weight to roll up the physical percent complete for each deliverable. For information on how Oracle Projects rolls up physical percent complete from deliverables, including an example of how it calculates physical percent complete for the task, see: Deriving Physical Percent Complete, page 2-41.

If you choose *Deliverable* as the physical percent complete derivation method for a task, then you cannot choose the same derivation method for its child tasks, or for its parent task. Subtasks do not contribute progress to a parent task if the parent has a physical percent complete derivation method of *Deliverable*.

For example, consider the workplan structure as shown in the following table:

Level 1 Tasks	Level 2 Tasks	Level 3 Tasks
1.0	1.1	1.1.1
		1.1.2

In this example, if you want to collect deliverable-based progress for task 1.1, then you cannot collect deliverable progress for its child tasks (tasks 1.1.1 and 1.1.2) or its hierarchical parent task (task 1.0). Task 1.1 is the only task in that task hierarchy branch that can have a physical percent complete derivation method of *Deliverable*. In this context, task 1.1.1 and task 1.1.2 do not contribute progress to parent task 1.1.

You can associate a deliverable with only one task that has a physical percent complete rollup method of *Deliverable*. You can associate the same deliverable with multiple tasks that have a physical percent complete derivation method of *Effort*, *Cost*, or *Work Quantity*. Progress from the deliverable rolls up to only the deliverable-based task.

For example, consider the workplan structure as shown in the following table:

Tasks	Physical Percent Complete Derivation Method	Deliverables
1.0	Deliverable	Deliverable A
2.0	Deliverable	None
3.0	Effort	Deliverable A

In this example, because task 1.0 and task 2.0 are deliverable-based, you cannot associate deliverable A with both tasks. You can associate deliverable A with both task 1.0 and task 3.0, because the physical percent complete derivation method for task 3.0 is not *Deliverable*.

> **Note:** A deliverable can contribute to task progress only if the physical percent complete derivation method for the task is *Deliverable*.

Related Topics

Overview of Project Deliverables Management, page 4-1

Collecting Progress for Resource Assignments

You can assign multiple types of resources to tasks and collect progress for these resource assignments. For information on resources, see: Resources, *Oracle Projects Fundamentals*.

Resource assignment progress includes:

- Actual quantity

  Oracle Projects calculates actual cost from the actual quantity.

- ETC quantity

  Oracle Projects calculates ETC cost from the ETC quantity.

- As of Date

- Estimated and actual dates

Oracle Projects automatically calculates percent spent and percent complete based on the planned, actual, and ETC values for the resource assignment. For information on percent spent and percent complete, see: Understanding Progress, page 2-28.

Oracle Projects costs the ETC using the rate associated with the resource assignment. It uses the appropriate rates, depending on the workplan rate schedules setup. For information on how Oracle Projects determines rates, see: Rates for Workplan and Financial Planing, *Oracle Projects Fundamentals*.

> **Note:** If you plan a workplan using periodic amounts, Oracle Projects finds a mapped period for each progress cycle As of Date. It uses the resource assignment rate for that period line to cost the ETC. If it does not find a rate or a corresponding period line, then Oracle Projects determines the rate using the rate derivation logic for resource assignments.
>
> If you do not plan a workplan using periodic amounts, Oracle Projects uses the resource assignment rates to cost the ETC during the submission of progress records.

After you submit progress for a resource assignment, Oracle Projects rolls up actual quantities and costs, ETC quantities and costs, estimated dates, and actual dates to the task level. It uses the planned, actual, and estimate at completion values from the resource assignments to calculate the percent complete cost and effort. Then, depending on the physical percent complete derivation method, Oracle Project uses either cost or effort to derive the physical percent complete for the task.

The project manager can enter and submit progress for resources centrally. Alternatively, individual resources or task managers can enter resource progress in a collaborative manner.

Collecting Resource Assignment Progress for Shared Structures

For projects with shared structures, you enter actual quantities for resources using the financial transaction system. You run cost distribution processes to determine the actual cost for each transaction after you approve the transactions. Next, you run the cost summarization process for the project and, after summarization, you can view the actual quantities and costs on the latest published workplan version. You cannot override these actual values. For information on workplan versioning and viewing actual quantities and costs on the workplan, see: Collecting Costs and Quantities for Shared Structures, page 2-34.

> **Note:** You must run project performance summarization processes to summarize financial actuals. For additional information on the summarization processes, see: Performance and Exceptions Reporting Processes, *Oracle Projects Fundamentals*.

After summarization, Oracle Projects associates the actual values with resource assignments in the resource breakdown structure for the workplan. If Oracle Projects finds an existing resource, it associates the actual quantities and costs with that resource. If it cannot find an existing resource assignment, it creates an unplanned assignment for the expected resource. For information on associating resources with amounts, see Resource Breakdown Structure Mapping, *Oracle Projects Implementation Guide*.

An unplanned resource assignment is a new resource assignment that Oracle Projects creates to accommodate the actual quantities and costs that an unplanned resource has incurred for a task. You cannot enter progress for unplanned resource assignments. The ETC and planned values are always zero. For additional information on ETC, see: ETC and Shared Structures, page 2-35.

An unplanned resource assignment becomes a planned assignment when you apply progress to a working workplan version to update the planned quantities and costs.

Collecting Resource Assignment Progress for Partially Shared and Non-Shared Structures

You can use the progress entry flow to enter ETC and actual quantities, as well as estimated and actual dates, for resource assignments for projects with partially shared or non-shared structures. You must enable the *Allow Actual Effort and Cost Collection* option for the workplan to enter actual and ETC quantities. Oracle Projects automatically calculates the actual costs from the entered quantities using actual cost rates. The default value for ETC quantity is the planned ETC quantity. You can override the default value when you enter progress.

The unit of measure for the quantity varies, depending on the type of resource assignment. For example, the unit of measure can be hours, each, or another

measure. For People and Equipment class resource assignments, quantity is equivalent to effort and the unit of measure is always hours.

Related Topics

Using Progress to Replan Workplans, page 2-51

Collecting Progress for Tasks

You can collect progress for lowest tasks and summary tasks. The task type and task progress options determine how you collect progress.

Task progress includes:

- Actual work quantity

  You can enter work quantity only for lowest level tasks. You must enable the entry of work quantity for the task and for the workplan. Work quantity does not roll up the task hierarchy.

- Actual effort

  Oracle Projects calculates actual cost from the entered effort. You can enter actual effort as part of progress collection only for projects with partially shared and non-shared structures.

- ETC effort

  Oracle Projects calculates ETC effort from the entered effort.

- Estimated and actual dates

  You can enter estimated and actual dates only for lowest level tasks.

- As of Date

- Task status

- Progress status

- Progress overview

If a summary task is directly associated with a resource assignment, you can enter actual and ETC effort for the resource assignment and this effort rolls up to the summary task.

For projects with partially shared or non-shared structures, you can enter ETC and actual effort directly at the task level as long as the task does not have any resource assignments that were explicitly created by a user.

For projects with shared structures, you enter actual effort using the financial transaction system. You can update ETC effort directly at the task level when you collect progress for the task, as long as the task does not have any resource assignments that were explicitly created by a user. Otherwise, you enter ETC quantities for the resource assignments. For information on ETC effort, see: ETC and Shared Structures, page 2-35.

> **Note:** When you enter planned effort for a task that does not already have a resource assignment, the Oracle Projects generates a People class resource assignment to store that effort. For information on planned effort at the task level, see: Defining Planned Effort at the Task Level, page 2-18.

Oracle Projects automatically calculates percent spent and percent complete based on the planned values for the task and the actual and ETC values.

The physical percent complete derivation method for the task determines how Oracle Projects derives physical percent complete for the task. You can override the derived physical percent complete value at the task level.

Oracle Projects calculates earned value measures for each task using the physical percent complete. For information on earned value, see: Understanding Earned Value Measures, page 2-29.

Examples of Rolling Up Progress from Resource Assignments

Oracle Projects rolls up planned effort and costs, ETC effort and costs, actual effort and costs, estimated dates, actual dates, and progress status from resource assignments to the task. In turn, Oracle Projects rolls up these values from a task to the parent task.

Example of Rolling Up Dates from Resource Assignments

This example shows how Oracle Projects rolls up the estimated and actual dates from resource assignments to a task.

Task 1.1 has two resource assignments. You enter estimated and actual dates during progress collection as shown in the following table.

Resource	Estimated Start Date	Estimated Finish Date	Actual Start Date
Amy Marlin	10-SEP-2004	20-OCT-2004	12-SEP-2004
Pat Stock	20-SEP-2004	31-DEC-2004	15-SEP-2004

The following table shows how Oracle Projects rolls up the dates to task 1.1.

Task	Estimated Start Date	Estimated Finish Date	Actual Start Date
1.1	10-SEP-2004	31-DEC-2004	12-SEP-2004

Oracle Projects rolls up the actual finish date to the task if all resource assignments have an actual finish date.

Example of Rolling Up Quantities and Costs from Subtasks and Resource Assignments

This example shows how Oracle Projects rolls up quantities and costs from subtasks and resource assignments to a summary task. For this example, all quantities are in hours and the currency is U.S. Dollars.

Summary task 2.0 has two subtasks, task 2.1 and task 2.2. The following table shows the actual and ETC values for the two subtasks.

Task	Actual Quantity	Actual Cost	ETC Quantity	ETC Cost
2.1	100	1000	150	1500
2.2	250	2500	200	2000

Summary task 2.0 has one resource assignment that is directly associated with it. The following table shows the actual and ETC values for the resource assignment.

Resource Assignment	Actual Quantity	Actual Cost	ETC Quantity	ETC Cost
Amy Marlin	50	500	70	700

The following table shows how Oracle Projects rolls up the actual and ETC values from the subtasks and the resource assignment to summary task 2.0.

Task	Actual Quantity	Actual Cost	ETC Quantity	ETC Cost
2.0	400	4000	420	4200

Deriving Physical Percent Complete

Oracle Projects calculates physical percent complete for tasks based on one of four physical percent complete derivation methods: Cost, Effort, Deliverable, or Work Quantity. The task type provides the default physical percent complete derivation method for the task. You can optionally override the default physical percent complete derivation method. Different tasks for the same workplan structure can use different methods to derive physical percent complete.

Using Cost to Derive Physical Percent Complete

When the physical percent complete derivation method for a task is *Cost*, Oracle Projects calculates physical percent complete using planned and actual costs.

The physical percent complete rollup method determines how Oracle Projects calculates physical percent complete for summary tasks. For information on physical percent complete rollup methods, see: Rolling Up Physical Percent Complete, page 2-45.

For lowest-level tasks, Oracle Projects first calculates the estimate at completion for the task using the following formula:

Estimate at Completion = Actual Cost + ETC Cost

It then uses the result of this calculation to calculate percent complete cost using the following formula:

Percent Complete Cost = (Actual Cost / Estimate at Completion) * 100

The default physical percent complete for lowest-level tasks is equal to percent complete cost.

Example of Using a Physical Percent Complete Derivation Method of Cost

This example shows how Oracle Projects calculates physical percent complete using a derivation method of *Cost*. For this example, the currency is U.S. Dollars.

Task 1.1, a lowest-level task, has resource assignments of Amy Marlin and Donald Gray. The following table shows the actual cost and the ETC cost for each resource assignment.

Resource Assignment	Actual Cost	ETC Cost
Amy Marlin	800	1100
Donald Gray	480	820

Oracle Projects calculates the estimate at completion as 3200. This value is calculated as follows:

(800 + 480) + (1100 + 820) = 3200

Oracle Projects calculates the percent complete cost for the task as 40%. This value is calculated as follows:

[(800 + 480) / 3200] * 100 = 40%

The percent complete cost of 40% is the default physical percent complete for this lowest-level task.

Using Effort to Derive Physical Percent Complete

When the physical percent complete derivation method for a task is *Effort*, Oracle Projects calculates physical percent complete using planned and actual quantities.

The physical percent complete rollup method determines how Oracle Projects calculates physical percent complete for summary tasks. For information on physical percent complete rollup methods, see: Rolling Up Physical Percent Complete, page 2-45.

For lowest-level tasks, Oracle Projects first calculates the estimate at completion for the task using the following formula:

Estimate at Completion = Actual Effort + ETC Effort

It then uses the result of this calculation to calculate percent complete effort using the following formula:

Percent Complete Effort = (Actual Effort / Estimate at Completion) * 100

The default physical percent complete for lowest-level tasks is equal to percent complete effort.

Example of Using a Physical Percent Complete Derivation Method of Effort

This example shows how Oracle Projects calculates physical percent complete using a derivation method of *Effort*. For this example, all quantities are in hours.

Task 1.2, a lowest-level task, has resource assignments of Amy Marlin and Donald Gray. The following table shows the actual quantity and the ETC quantity for each resource assignment.

Resource Assignment	Actual Quantity	ETC Quantity
Amy Marlin	78	105
Donald Gray	47	20

Oracle Projects calculates the estimate at completion as 250. This value is calculated as follows:

(78 + 47) + (105 + 20) = 250

Oracle Projects calculates the percent complete effort for the task as 50%. This value is calculated as follows:

[(78 + 47) / 250] * 100 = 50%

The percent complete effort of 50% is the default physical percent complete for this lowest-level task.

Using Deliverables to Derive Physical Percent Complete

When the physical percent complete derivation method for a task is *Deliverable*, you manually enter the physical percent complete for the deliverables associated with the task. Oracle Projects calculates the physical percent complete for the task based on the relative deliverable weighting.

Oracle Projects first calculates the weighting for each deliverable using the following formula:

Deliverable Weighting = [Deliverable Progress Weight / Sum (Progress Weight for All Deliverables Associated with the Task)] * 100

Oracle Projects then calculates the physical percent complete for the task using the following formula:

Physical Percent Complete = Sum (Deliverable Weighting for Each Deliverable * Physical Percent Complete for Each Deliverable)

> **Note:** If you choose *Deliverable* as the physical percent complete derivation method, then you cannot choose the same derivation method for its child tasks, or for its parent task. For information on collecting progress for deliverables, including an example that demonstrates this restriction, see: Collecting Progress for Deliverables, page 2-35.

Example of Using a Physical Percent Complete Derivation Method of Deliverable

This example shows how Oracle Projects calculates physical percent complete using a derivation method of *Deliverable*.

Task 1.3 has *Deliverable* as the physical percent complete derivation method and it is associated with two deliverables. The following table shows the progress weight and the physical percent complete for each deliverable.

Deliverable	Progress Weight	Physical Percent Complete
Functional Design	75	20%
Technical Design	50	10%

The following table shows the weighting calculation for each deliverable.

Deliverable	Weighting Calculation
Functional Design	[75 / (75 + 50)] * 100 = 60
Technical Design	[50 / (75 + 50)] * 100 = 40

Oracle Projects calculates the deliverable physical percent complete for the task as 16%. This value is calculated as follows:

(60 x 20%) + (40 x 10%) = 16%

Using Work Quantity to Derive Physical Percent Complete

When the physical percent complete derivation method for a task is *Work Quantity*, Oracle Projects compares the actual work quantity you enter to the planned work quantity to calculate physical percent complete. This derivation method only applies to lowest-level tasks.

Oracle Projects calculates physical percent complete for the task using the following formula:

Physical Percent Complete = [Actual Work Quantity to Date / Planned Work Quantity] * 100

> **Note:** If a summary task has *Work Quantity* as its physical percent complete derivation method, then progress from deliverables and resource assignments that are directly associated with the summary task does not contribute to progress roll up. All progress data from subtasks is rolled up the hierarchy.

Example of Using a Physical Percent Complete Derivation Method of Work Quantity

This example shows how Oracle Projects calculates physical percent complete using a derivation method of *Work Quantity*.

Task 1.4, a lowest-level task, has *Work Quantity* as its physical percent complete derivation method. The task uses work quantity to track the number of windows installed. The following table shows the actual and planned work quantities for a work item.

Work Quantity Work Item	Planned Work Quantity	Actual Work Quantity to Date
Windows Installed	400	80

Oracle Projects calculates the physical percent complete for the task as 20%. This value is calculated as follows:

(80 / 400) * 100 = 20%

Collecting Progress for Workplans

Workplan progress includes:

- As of Date
- Progress status
- Progress overview
- Physical percent complete
- Percent spent
- Percent complete
- Earned value metrics

Progress rolls up the task hierarchy. You can submit progress at each level of the work breakdown structure. Oracle Projects automatically rolls up progress status, estimated and actual dates, actual quantities and costs, ETC effort and costs, and physical percent complete. Task status automatically rolls up from lower tasks to summary tasks.

Oracle Projects rolls up physical percent complete for the workplan according to the physical percent complete rollup method that you select for the workplan. You can optionally override the rolled up physical percent complete value at any level, depending on the workplan settings.

> **Note:** You must submit progress to enable rollup and display of progress.
>
> For projects with shared structures, Oracle Projects automatically rolls up actual and ETC values. You must explicitly submit progress for tasks to roll up other progress attributes such as dates, progress status, and any user-entered ETC values.
>
> For projects with partially shared or non-shared structures, you must explicitly submit progress for tasks to roll up actual values, ETC values, and all progress attributes.

Oracle Projects automatically calculates percent spent and percent complete based on the planned values and the rolled up actual and ETC values for each level in the workplan. For information on percent spent and percent complete, see: Understanding Progress, page 2-28.

Oracle Projects calculates earned value measures for the workplan based on the rolled up progress. For information on earned value, see: Understanding Earned Value Measures, page 2-29.

Example of Rolling Up Progress Status and Actual Dates for Workplans
This example shows how Oracle Projects rolls up progress status and actual dates.

The workplan has two subtasks, task 1.0 and task 2.0. The following table shows the progress status and date values for the two subtasks.

Level	Progress Status	Actual Start Date	Actual Finish Date
Task 1.0	In Trouble	01-JAN-2005	Null
Task 2.0	On Track	05-JAN-2005	10-JAN-2005

Oracle Projects rolls up the progress status and date values to the workplan. The following table shows the rolled up values.

Level	Progress Status	Actual Start Date	Actual Finish Date
Workplan	In Trouble	01-JAN-2005	Null

Oracle Projects rolls up the actual finish date to the workplan if all top tasks have an actual finish date.

Rolling Up Physical Percent Complete

The rollup method determines how Oracle Projects calculates physical percent complete for higher level workplan tasks. The physical percent complete rollup methods for workplan structures are: Duration, Manual, Cost, and Effort.

Summary Tasks with Deliverable as the Physical Percent Complete Derivation Method

If a summary task has *Deliverable* as its percent complete derivation method, Oracle Projects derives percent complete for the summary task based on the deliverables that are associated with the task. Oracle Projects ignores the rolled up physical percent complete value. In this situation, Oracle Projects derives the earned value for the summary task using the deliverable-based physical percent complete and the baseline planned cost for the summary task.

Using Duration or Manual Option to Roll Up Physical Percent Complete

If the rollup method is *Duration*, Oracle Projects calculates the weighting for each task in the hierarchy based on its scheduled duration. Tasks with a greater duration receive a higher weighting. Oracle Projects automatically changes the task weighting whenever the duration changes.

If the rollup method is *Manual*, you can update the default progress weighting based on duration for each task. Oracle Projects calculates the default task weighting value based on task duration, but it does not update the weighing if you change the duration.

When Oracle Projects rolls up physical percent complete using either the *Duration* or *Manual* rollup method, it first calculates the weighting for each subtask using the following formula:

Weighting for Each Subtask = [Duration for the Subtask / Sum (Duration for All Subtasks)] *100

Next, Oracle Projects calculates physical percent complete for the summary task using the following formula:

Physical Percent Complete = Sum (Physical Percent Complete for Each Subtask * Weighting for Each Subtask)

Example of Rollup Using a Physical Percent Complete Rollup Method of Duration or Manual

This example shows how Oracle Projects rolls up physical percent complete using a rollup method of *Duration* or *Manual*.

Initially, Oracle Projects calculates the default weighting for each task based on duration. If the physical percent complete derivation method is *Manual*, you can optionally choose to manually update the weighting for each task.

In this example summary task 1.0 has two subtasks, task 1.1 and task 1.2. The following table shows the task weighting and physical percent complete for each subtask.

Tasks	Task Weighting	Physical Percent Complete
1.1	60%	20
1.2	40%	10

Oracle Projects rolls up the physical percent complete to the summary task as 16%. This value is calculated as follows:

(60% x 20) + (40% x 10) = 16%

> **Note:** When you use *Duration* or *Manual* as the physical percent complete rollup method, resource assignments directly associated with summary tasks do not contribute to physical percent complete. Physical percent compete for summary tasks is solely dependant on the rolled

up value. Oracle Projects calculates the earned value for all tasks in terms of planned cost.

Using Cost or Effort to Roll Up Physical Percent Complete

When the rollup method is either *Cost* or *Effort*, the earned value for all tasks is in the same unit of measure, depending on the rollup method. If the rollup method is *Cost*, earned value is in terms of cost. If the rollup method is *Effort*, earned value is in terms of effort.

When Oracle Projects rolls up physical percent complete, it calculates the rolled up physical percent complete for a summary task using the following formula:

Physical Percent Complete = [Sum (Earned Value for Subtasks) / Sum (Baseline Planned Value for Subtasks)] * 100

If no resource assignments exist at the summary task level, Oracle Projects then calculates the earned value for the summary tasks using the following formula:

Earned Value = Physical Percent Complete * Baseline Planned Value

In addition, Oracle Projects checks for the presence of resource assignments at the summary task level. The resource assignments contribute to the physical percent complete for the summary task. If resource assignments exist, Oracle Projects uses the actual and ETC values for the resource assignments to calculate physical percent complete based on the physical percent complete derivation method for the summary task. For example, if the physical percent complete derivation method is *Effort*, Oracle Projects uses the following formula:

Physical Percent Complete from Resource Assignments = [Actual Effort for Resource Assignments / (Actual Effort for Resource Assignments + ETC Effort for Resource Assignments)] * 100

Oracle Projects then uses this physical percent complete value to calculate the earned value for the summary task based on the physical percent complete rollup method using the following formula:

Earned Value from Resource Assignments = Physical Percent Complete from Resource Assignments * Baseline Planned Value from Resource Assignments

Oracle Projects calculates the total earned value for the summary task using the following formula:

Total Earned Value = Sum (Earned Value for Subtasks) + Earned Value from Direct Resource Assignments on the Summary Task

Oracle Projects calculates the total baseline planned value for the summary task using the following formula:

Total Baseline Planned Value = Sum (Baseline Planned Value for Subtasks) + Sum (Baseline Planned Value for Direct Resource Assignments on the Summary Task)

Next, Oracle Projects calculates physical percent complete for the summary task using the following formula:

Physical Percent Complete = [Total Earned Value / Total Baseline Planned Value] * 100

Finally, Oracle Projects re-derives and displays the earned value for the task using the following formula:

Earned Value = Physical Percent Complete * Total Baseline Planned Value

Note: Oracle Projects displays the final earned value. It does not store the results of the series of calculations it performs to derive the final earned value.

Example of Rollup Using a Physical Percent Complete Rollup Method of Cost

This example shows how Oracle Projects rolls up physical percent complete using a rollup method of *Cost*. For this example, the currency is U.S. Dollars.

The physical percent complete rollup method for the workplan is *Cost*. The physical percent complete derivation method for the tasks is *Cost*. The workplan has one subtask, task 1.0. Task 1.0 has two subtasks, task 1.1 and 1.2. The following table shows the progress values for task 1.1 and task 1.2.

Task	Baseline Planned Cost	Actual Cost	ETC Cost	Physical Percent Complete	Earned Value (USD)
1.1	1000	200	1050	[200 / (200 + 1050)] * 100 = 16%	16% * 1000 = 160
1.2	800	300	900	[300 / (300 + 900)] * 100 = 25%	25% * 800 = 200

Scenario 1: Summary Task with No Direct Resource Assignments

If the summary task has no direct resource assignments, then the progress values from task 1.1 and task 1.2 roll up to task 1.0. The following table shows the rolled up progress values for task 1.0.

Task	Baseline Planned Cost	Actual Cost	ETC Cost	Earned Value (USD)	Physical Percent Complete	Final Earned Value (USD)
1.0	1800	500	1950	160 + 200 = 360	(360 / 1800) * 100= 20%	20% * 1800 = 360

Note: In this step, Oracle Projects first derives the earned value and uses the earned value to calculate physical percent complete for the summary task. It uses the physical percent complete and baseline planned cost to re-derive the earned value that it then displays for the task.

If no direct resource assignments exist for task 1.0, then 360 USD is the earned value for the task.

Scenario 2: Summary Task with Direct Resource Assignments

In this example, task 1.0 is directly associated with resource assignments. The following table shows the progress values based on the resource assignments that are directly associated with task 1.0.

Task	Baseline Planned Cost	Actual Cost	ETC Cost	Physical Percent Complete	Earned Value (USD)
1.0	500	100	900	[100 / (100 + 900)] * 100 = 10%	10% * 500 = 50

The following table shows the total progress values, from both subtasks and resource assignments, for task 1.0.

Task	Baseline Planned Cost	Actual Cost	ETC Cost	Earned Value (USD)	Physical Percent Complete	Final Earned Value (USD)
1.0	2300	600	2850	360 + 50 = 410	(410 / 2300) * 100 = 17.83%	17.83% * 2300 = 410.09

> **Note:** In this step, Oracle Projects first derives the earned value and uses the earned value to calculate physical percent complete for the summary task. It uses the physical percent complete and baseline planned cost to re-derive the earned value that it then displays for the task.

If direct resource assignments exist for task 1.0, then 410.09 USD is the earned value for the task.

Example of Rollup Using a Physical Percent Complete Rollup Method of Effort
This example shows how Oracle Projects rolls up physical percent complete using a rollup method of *Effort*. For this example, the currency is U.S. Dollars.

The physical percent complete rollup method for the workplan is *Effort*. The physical percent complete derivation method for the tasks is *Cost*. The workplan has one subtask, task 1.0. Task 1.0 has two subtasks, task 1.1 and 1.2. The following table shows the progress values for task 1.1 and task 1.2.

Task	Baseline Planned Cost	Baseline Planned Effort (Hours)	Actual Cost	ETC Cost	Physical Percent Complete	Earned Value (Hours)
1.1	1000	500	200	1050	[200 / (200 + 1050)] * 100 = 16%	16.00% * 500 = 80
1.2	800	200	300	900	[300 / (300 + 900)] * 100 = 25%	25% * 200 = 50

Scenario 1: Summary Task with No Direct Resource Assignments

If the summary task has no direct resource assignments, then the progress values from task 1.1 and task 1.2 roll up to task 1.0. The following table shows the rolled up progress values for task 1.0.

Task	Baseline Planned Cost	Baseline Planned Effort (Hours)	Actual Cost	ETC Cost	Earned Value (Hours)	Physical Percent Complete	Final Earned Value (Hours)
1.0	1800	700	500	1950	80 + 50 = 130	(130 / 700) * 100 = 18.57%	18.57% * 700 = 129.99

> **Note:** In this step, Oracle Projects first derives the earned value and uses the earned value to calculate physical percent complete for the summary task. It uses the physical percent complete and baseline planned cost to re-derive the earned value that it then displays for the task.

If no resource assignments exist for task 1.0, then 129.99 hours is the earned value for the task.

Scenario 2: Summary Task with Direct Resource Assignments

In this example, task 1.0 is directly associated with resource assignments. The following table shows the progress values based on the resource assignments that are directly associated with task 1.0.

Task	Baseline Planned Cost	Baseline Planned Effort (Hours)	Actual Cost	ETC Cost	Physical Percent Complete	Earned Value (Hours)
1.0	500	100	100	900	[100 / (100 + 900)] * 100 = 10%	10% * 100 = 10

The following table shows the total progress values, from both subtasks and resource assignments, for task 1.0.

Task	Baseline Planned Cost	Baseline Planned Effort (Hours)	Actual Cost	ETC Cost	Earned Value (Hours)	Physical Percent Complete	Final Earned Value (Hours)
1.0	2300	800	600	2850	130 + 10 = 140	(140 / 800]) * 100 = 17.5%	17.5% * 800 = 140

> **Note:** In this step, Oracle Projects first derives the earned value and uses the earned value to calculate physical percent complete for the summary task. It uses the physical percent complete and baseline planned cost to re-derive the earned value that it then displays for the task.

If direct resource assignments exist for task 1.0, then 140 hours is the earned value for the task.

Even though this example has the same planned, ETC, and actual values as the previous example, the physical percent complete for the summary task is different because *Effort*, as opposed to *Cost*, is the physical percent complete rollup method. This demonstrates how the choice of the physical percent complete rollup method affects the outcome of the rollup calculations.

> **Note:** Tasks without baseline planned cost or effort do not contribute to progress rollup if the physical percent complete rollup method is either *cost* or *effort*.

Correcting and Backdating Progress

Oracle Projects archives all submitted task and workplan progress. You can correct submitted progress records and create backdated progress records. You can also view historical progress information.

Correcting Progress

Oracle Projects creates a new progress record for the same As of Date when you correct previously submitted progress. It also retains the previously published progress record.

When you correct progress, you can enter a progress status, a brief overview, comments, physical percent complete, and actual quantity (non-shared structures only) as long as no progress records exits with an As of Date after the As of Date for which you want to correct progress. Otherwise, you can correct only the progress status and physical percent complete. You cannot change the As of Date.

For example, if you previously submitted progress for 08-DEC-2004, you can choose to correct the progress record at a later time. You can correct the progress status, physical percent complete, and actual quantity (non-shared structures only) as long as no progress records exist with an As of Date after 08-DEC-2004. You can correct only the progress status and physical percent complete if progress records exist with an As of Date after 08-DEC-2004.

Backdating Progress

You can create backdated progress records to fill gaps in the progress history of a task or project. You can select any non-cycle progress date prior to the system date and enter progress for this past date.

For example, you can enter backdated progress for a Friday in the past even if a project has a progress cycle with Monday as the reporting day.

You enter an As of Date, progress status, a brief overview, comments, and physical percent complete when you enter backdated progress.

Backdated progress transactions are for informational purposes only. Backdated progress never rolls up to higher task hierarchy levels.

Using Progress to Replan Workplans

Oracle Projects enables you to replan a workplan based on the progress collected for the tasks.

For example, during the execution of a workplan, resources and task managers report progress. After reviewing the progress, as a project manager, you observe that the

estimate at completion and the schedule based on the actual dates has deviated from the planned values. Estimate at completion is the actual cost and quantity of work completed to date plus the predicted costs and quantities likely to be used in the future. You can choose to replan the workplan so that the plan reflects the latest estimates.

You can apply the submitted progress to a working workplan version. Oracle Projects calculates the new plan amounts using the following formula:

Plan = Actual + ETC

After you apply the progress, you can further modify the ETC on the tasks or resources. If no resource assignments exist for a task, you can directly modify ETC at the task level. Otherwise, you must modify ETC at the resource assignment level. You can modify ETC by period if periodic data is available for the resource assignment.

You can modify the physical percent complete for a task for the working workplan version. Oracle Projects rolls up the revised physical percent complete to higher task levels.

Optionally, you can send the workplan to an external scheduling tool to adjust the schedule based on actual dates.

The progress values are available for the latest published version when you publish the working workplan version.

> **Note:** When you publish the working workplan version, Oracle Projects provides an option to publish the version with or without progress data if someone submits additional progress records for the latest published workplan version while replanning is in progress.
>
> Otherwise, Oracle Projects publishes the workplan with the existing progress data for the working version and creates a new progress record for the next progress cycle As of Date. Oracle Projects deletes all future and previous working progress records with As of Dates that correspond to the new progress record that it created during workplan publishing.

Example of Using Progress to Replan a Workplan
This example shows how you can apply progress to a working workplan version. In this example, all effort is in hours and the currency is U.S. Dollars.

Initially, you plan the original workplan version. The following table shows the planned values for task 1.1 for the latest published workplan version.

Planned Effort	Planned Cost
100	1000

Next, you collect progress for task 1.1. The following table shows progress values for the latest published workplan version for task 1.1, as of 01-JAN-2005.

Planned Effort	Planned Cost	Actual Effort	Actual Cost	ETC Effort	ETC Cost	As of Date
100	1000	25	250	120	1200	01-JAN-2005

When you review the progress, you observe that the estimate at completion effort is 145 hours (25 hours plus 120 hours), while the planned effort is 100 hours. You also see that the estimate at completion cost is 1450 USD (250 USD plus 1200 USD), while the planned cost is 1000 USD. As a result, you decided to replan the workplan.

Once you submit the progress for the latest published workplan version, you can apply the progress to a selected working workplan version. After you apply the progress, Oracle Projects updates the planned values for task 1.1. The following table shows the updated planned values for the working workplan version for task 1.1.

Planned Effort	Planned Cost	Actual Effort	Actual Cost	ETC Effort	ETC Cost
25 + 120 = 145	250 + 1200 = 1450	25	250	120	1200

You can choose to publish this workplan version to make all stakeholders aware of the revised planned values. You can make further changes to the ETC before you publish.

While you are replanning the workplan, a team member submits additional progress records *before* you publish the working workplan version. The following table shows the new progress values for the latest published workplan version for task 1.1, as of 08-JAN-2005.

Planned Effort	Planned Cost	Actual Effort	Actual Cost	ETC Effort	ETC Cost	As of Date
100	1000	35	350	90	900	08-JAN-2004

Oracle Projects gives you an option to publish the working workplan version with or without progress when you attempt to publish the replanned version.

If you decide to publish the working workplan version *without progress*, Oracle Projects updates the planned values using the values from the working workplan version, but the ETC values do not change for the latest published workplan version. The following table shows the progress values for the new published workplan version without including progress.

Planned Effort	Planned Cost	Actual Effort	Actual Cost	ETC Effort	ETC Cost	As of Date
145	1415	35	350	90	900	08-JAN-2004

If you decide to publish the working workplan version *with progress*, Oracle Projects submits a new progress record with the replanned values from the working version. It then calculates the ETC using the updated planned values and the actual values from the latest progress record. Oracle Projects assigns the new progress record the next As of Date according to the progress cycle for the workplan. The following table shows the progress values for the new published workplan version if you choose to include progress.

Planned Effort	Planned Cost	Actual Effort	Actual Cost	ETC Effort	ETC Cost	As of Date
145	1450	35	350	145 - 35 = 110	1450 - 350 = 1100	15-JAN-2005

> **Note:** In this example, the As of Date for the new progress record that Oracle Projects submits is *15-JAN-2005*. This date is the next As of Date according to the progress cycle.

Integrating with Scheduling Tools

Oracle Projects provides integration with third party scheduling tools. You can send project data to a third party scheduling tool for scheduling a project, and receive the scheduled project back into Oracle Projects.

During the project execution stage, you can collect progress information such as actual effort, actual cost, and estimate to complete at the resource assignment level in Oracle Projects and send these values to a third party scheduling tool for rescheduling the project. You can receive the scheduled project back in Oracle Projects. You can repeat this cycle at each progress collection period.

For more information on using Microsoft Project as a third party scheduling tool, see: Overview of Microsoft Project Integration, page 5-2.

Deriving Physical Percent Complete for Financial Structures

A project can have two sets of physical percent complete values, financial physical percent complete and workplan physical percent complete. While you can enter financial percent complete manually for the financial structure, you also have the option to update financial physical percent complete using workplan physical percent complete.

You use financial physical percent complete to accommodate the needs of financial management. You can base revenue accrual, invoicing, and financial reporting on financial physical percent complete. This financial functionality is distinct from the work management functionality that is related to the workplan structure.

For example, Oracle Projects uses financial physical percent complete values to perform revenue and invoicing calculations using the following predefined billing extensions:

- Percent Complete Revenue
- Percent Complete Invoicing

Updating Financial Physical Percent Complete

You can always manually enter financial physical percent complete for financial tasks. Oracle Projects can update physical percent complete for the financial structure using workplan physical percent complete depending on the integration between the workplan and financial structures for a project. The relationship between the workplan

and financial structures for a project affects the ability to update financial physical percent complete as follows:

- **Shared and Partially Shared:** Oracle Projects can directly transfer workplan physical percent complete to financial physical percent complete for all lowest level financial tasks that are shared with workplan tasks.

- **Non-Shared: Task Based Mapping:** Oracle Projects can transfer workplan physical percent complete from workplan tasks to a mapped financial task. Oracle Projects calculates the financial percent complete for a financial task using the following formula:

  Financial Physical Percent Complete = [Sum (Physical Percent Complete for Each Mapped Workplan Task * Baseline Planned Cost for Each Mapped Workplan Task) / Sum (Baseline Planned Cost for All Mapped Workplan Tasks)] * 100

- **Non-Shared: No Mapping:** Oracle Projects cannot update physical percent complete for the financial structure.

For information on integrating project structures, see: Integrating Workplan and Financial Structures, *Oracle Projects Fundamentals*.

Example of Updating Financial Physical Percent Complete
This example shows how Oracle Projects updates financial physical percent complete when a project has non-shared structures with task based mapping. For this example, the currency is U.S. Dollars.

The task hierarchy for the workplan structure has three levels. Task 1.0 has a single subtask, task 1.1. In turn, task 1.1 has two subtasks, task 1.1.1 and task 1.1.2. The following table shows the planned cost and workplan physical percent complete values for workplan task 1.1.1 and workplan task 1.1.2.

Workplan Tasks	Baseline Planned Cost	Workplan Physical Percent Complete
1.1.1	100	14%
1.1.2	80	50%

The task hierarchy for the financial structure has only two levels. Financial task 1.0 has a single subtask, financial task 1.1. Workplan task 1.1.1 and workplan task 1.1.2 both map to financial task 1.1.

Oracle Projects updates the financial percent complete for financial task 1.1 as 30%. This value is calculated as follows:

$\{[(100 * 14\%) + (80 * 50\%)] / (100 + 80)\} * 100 = 30\%$

Rolling Up Financial Physical Percent Complete
You can use a financial physical percent complete rollup method of *Cost* or *Effort* to rollup financial physical percent complete. You specify the financial physical percent complete rollup method when you define the financial structure setup information.

Oracle Projects calculates the financial percent complete for a summary task in terms of either cost or effort using the following formula:

Financial Physical Percent Complete = [Sum (Financial Physical Percent Complete for Each Subtask * Budgeted Cost or Effort for Each Subtask) / Sum (Budgeted Cost or Effort for All Subtasks)] * 100

Oracle Projects takes the budgeted cost or effort from the current baseline version of the approved cost budget. If a current baseline version does not exist, then Oracle Projects uses the current working version to roll up financial physical percent complete.

Oracle Projects rolls up financial physical percent complete each time you update physical percent complete values for the lowest task.

Oracle Projects can derive different physical percent complete values for the financial structure as it rolls up physical percent complete using the budget as the basis for weighting. This can happen even with shared structures. Other financial elements that are not included in the workplan, such as contingency amounts and change orders, can cause the budget for the financial structure to differ from the planned amounts for the workplan structure. This difference causes the workplan and financial structures to have different physical percent complete values.

Related Topics

Accruing Revenue and Generating Invoices Based on Percent Complete, *Oracle Project Billing User Guide*

Selecting Progress Options for a Financial Structure, page 2-32

3

Program Management

This chapter explains how to use Oracle Projects to setup and manage programs.

This chapter covers the following topics:

- Overview of Program Management
- Enabling Program Management
- Viewing Program Information

Overview of Program Management

A program is a collection of related projects linked in a hierarchical fashion. Scheduled dates roll up to the program across the hierarchy of linked projects. The program management functionality in Oracle Projects helps you to create project hierarchies by linking multiple related projects to a program.

Programs enable you to view and manage workplan schedule information across different related projects, and obtain benefits not available from managing each project individually.

> **Note:** Exception reporting for financial amounts is not available for programs. If a project is designated as a program, financial exceptions are only calculated for the project amounts and not for the rolled up amounts of the linked projects.
>
> Exceptions based on dates (scheduled versus baseline) are reported only against rolled up dates of the linked projects at the program level if a project is also a program. If a project is not a program, the exceptions are reported against the project dates.

The program can have unlimited hierarchies in which linking is created between multiple projects or programs to form a hierarchy. A program hierarchy consists of the following characteristics:

- **Projects are linked to tasks of the program:** Projects are linked as sub-tasks to the program's task. The linking of projects to a program follows a top-down approach. If you have appropriate security privileges, you can view and drill down into an individual linked project.

    > **Caution:** If you delete a linked project, Oracle Projects recalculates the rolled up program information.

- **A project can link to more than one program:** A project can be linked to more than one program. For example, Project B can link to programs A and D. For more information, see: Program Management, *Oracle Projects Fundamentals*.

- **Unlimited hierarchy of programs:** A project within a program can itself be a program. For example, Project B, a project linked to Program A, can itself be a program and have other projects linked to it.

- **Links from a project to a program cannot be circular:** Projects cannot link to a program which is already associated with itself. For example, a linked project cannot link to a program through two different hierarchies.

- **Program Copying:** When you copy a program, only the project designated as a program and its attributes are copied. No linked projects are copied.

- **Program Baseline:** You can create a baseline for each workplan version of the project in the program hierarchy individually and independently. The baseline workplan structure of the program does not impact the workplan versions of the projects in the program.

  It is possible to have the baseline workplan structure of a program linked to a non-baseline workplan structure of a linked project. In this situation, rolled up scheduled information at the program level may not reconcile with the information shown at the linked project level.

  The discrepancy occurs because the information for the linked project is from the baseline workplan structure version, whereas the information at the program level is from a non-baseline workplan structure of the linked project.

- **Program Publishing:** Publishing the program's and project's workplan is independent of each other. You can publish the program workplan without the linked project having a published workplan version.

  When you publish a new work breakdown structure version of a program, the published work breakdown structure version of the program is linked to latest published work breakdown structure version of the linked projects. However, the link from the previous published work breakdown structure version of the program to the corresponding work breakdown structure version of the linked project is still maintained and stored.

  When you publish the linked project's workplan work breakdown structure, the link from the published workplan version of a program to the linked project remains the same. However, the working work breakdown structure version of the program always point to the latest published work breakdown structure version of the project.

  > **Note:** Scheduled information rolls up from a linked project's published workplan version to the program's published workplan version. Planned dates rolls up from published and working workplan versions of the linked project to the program.

The Project List page lists the program as a project, with an indicator designating it as a program. Financial and cost information is displayed for a project only, and not for a program. If the project is designated as a program, scheduled dates from all the linked projects are rolled up across the hierarchy of projects and displayed for the program.

> **Note:** The Subprojects Associations feature, previously available as part of Project Contracts integration is upgraded into the Financial

Program. The Financial Program for the contract can now be viewed and modified using Oracle Projects.

Enabling Program Management

To enable program management and to designate a project as a program, you must enable program tracking from the Structures page. By enabling program tracking, you can link projects to a program and can view rolled up scheduled information from the linked projects. For instructions on how to enable program management for a project, see: Program Management, *Oracle Projects Fundamentals*.

Linking Projects to a Program Task

After you enable program management, you can link projects to a task of the program. The linked projects must share the same project currency and the same workplan time phase setting. For more information, see: Selecting Planning Resource Lists and Time Phasing Methods, page 2-5. You link a program's workplan or financial structure version to the project's corresponding workplan or financial structure version. If the workplan and financial structures are the same, you can create only one link between the program and project.

> **Note:** You must manually create separate hierarchies for the workplan and financial structures if the workplan and financial structures are separate.

A program is always linked to the latest published version of the linked project. If no latest published version is available, a link is created to the current working version of the project. After the project is published, the link is automatically created to the latest published version.

Projects are linked to the task of the program from the Task Details page.

To link projects to a task:

1. Select a task to link the project

2. Navigate to the Task Details page for the workplan and financial structures

3. Click on the Link Projects button

4. Select the project you want to link

5. Save your work

Viewing Program Information

You can view rolled up scheduled dates when workplan structures of projects are linked to a program.

When you view the work breakdown structure, tasks as well as projects linked to the program are displayed. With appropriate security privileges, you can drill down to see the status of each project and within each project can drill down further to see the individual task details.

> **Note:** When you view the work breakdown structure in List view, tasks of the linked projects are not displayed.

Cost and Effort information displayed on the Update Work Breakdown Structure, and Task pages is only for tasks of the program project. Rolled up amounts from linked projects are not displayed. When you view the cost and effort information for the linked projects, the information will not be displayed. Only dates are rolled up from the linked projects and shown at the program level.

> **Note:** Working workplan versions are not displayed in the program hierarchy on the Update Work Breakdown Structure page.

4

Project Deliverables Management

This chapter describes how you can use Oracle Projects to track and manage deliverables for projects.

This chapter covers the following topics:

- Overview of Project Deliverables Management
- Creating and Managing Project Deliverables
- Tracking Deliverable Progress

Overview of Project Deliverables Management

A project deliverable is the output that must be produced to complete a project or task. A deliverable can result from the need to satisfy an external contractual obligation, or the need to fulfill an internally planned activity. Many project-oriented organizations require the concept of deliverables to effectively track the tangible outputs from a project and to provide a mechanism to measure project performance.

Examples of a deliverables are:

- a product
- a detailed design document
- a prototype

In Oracle Project Management, you can create project deliverables, associate them with workplan tasks, and track them. You can also integrate with supply chain management and billing applications to streamline your business process. This chapter describes how to track and manage the deliverables of a project.

You can define deliverables at the project or task level. Each deliverable is identified by its *type class*. There are three type classes for deliverables: *item*, *document*, and *other*. A project or task can have multiple deliverables.

In some cases, the project deliverables are known in advance of planning the work breakdown structure. You can define deliverables independently. You can define all the deliverables that need to be produced to complete the project. Later, after the work breakdown structure is defined, you can associate deliverables to workplan tasks.

In other cases, the work breakdown structure is deliverable-oriented. You can define a deliverable-oriented work breakdown structure and deliverables together. You can also associate one or more workplan tasks with a deliverable or vice versa.

You can optionally define deliverable actions, which are actions required to complete the deliverable. A deliverable can have multiple deliverable actions.

You perform the following steps to create and process project deliverables:

• Define Deliverables: Identify the deliverables of a project and create a list of deliverables.

• Define Deliverable Actions: Identify the deliverable actions and define them.

• Associate Deliverables with Workplan Tasks: Associate the deliverables with workplan tasks for informational or progress rollup purposes.

• Execute deliverable actions

• Create Deliverable Attachments: You can create attachments for deliverables. (A document deliverable is distinct from attachments to deliverables.)

• Collect and Roll Up Deliverable Progress: You can collect progress for deliverables if progress entry is enabled on the deliverable type. You can optionally roll up deliverable progress to the associated workplan task.

• Manage Deliverables Collaboratively: You can manage deliverables from the Team Member Home page. You can drill down to deliverable details and deliverable actions. The cross project deliverables-related sections are available as configurable regions on the Team Member Home page.

   You can also track deliverables in the Project Home, Project Overview, Status Report, and Task Overview configurable pages.

   > **Note:** On the Task Overview page you can only track deliverables associated with the task.

• Integrate with Other Applications: You can integrate deliverables with Oracle supply chain management applications and Oracle Project Billing.

If the physical percent complete derivation method is not *deliverable*, the progress on a task is collected from its task assignments and child tasks, even if the task has deliverables.

Creating and Managing Project Deliverables

This section describes the following steps for creating and managing project deliverables:

• Defining deliverables

• Assigning project deliverables to workplan tasks: You can assign project deliverables to workplan tasks for progress collection, and to gather information.

• Copying project deliverables: You can copy deliverables from the current project or from an external project or project template.

• Viewing project deliverables

• Managing project deliverable actions: You can associate Shipping, Billing, and Procurement functions to a deliverable action and execute those deliverable actions.

• Deleting project deliverables: You can delete a deliverable if certain conditions do not apply.

Defining Deliverables

To define a deliverable, you query the project, select the Workplan tab, then select the Deliverables subtab.

For each deliverable, you enter:

- A unique name

- Short name

- Status

- Deliverable type. Each deliverable type is classified as item, document, or other.

- Owner

- Due Date

- Progress Weight. You can specify the progress weight if the deliverable type has progress entry enabled.

- Description

You can optionally define deliverable actions as part of a deliverable definition. You can also attach files to a deliverable.

Associating Project Deliverables with Workplan Tasks

You can associate a deliverable with a task at any level of the workplan hierarchy. The association can be many deliverables to many workplan tasks for either informational or progress rollup purposes.

There are two types of associations of project deliverables to workplan tasks:

- Information Collection

  You can associate multiple workplan tasks with one or more deliverables for informational purposes.

- Progress Rollup

  You can associate a deliverable with a task to track progress, so that the Physical Percent Complete for deliverables rolls up to the associated workplan task.

For each task that has *Deliverable* as the physical percent complete derivation method, you can associate only deliverables that have not already been associated with another deliverables-based task.

You can assign multiple deliverables to deliverable-based tasks. However, these deliverables must not be assigned to other deliverable-based tasks.

If a task has the non-deliverable-based derivation method assigned, you can associate it with any deliverable, even if the deliverable been assigned to another task.

Deliverables are associated with workplan tasks (not task versions). If the working version of a published task is changed with respect to deliverable association, the changes are automatically reflected in the published versions as well.

Copying Project Deliverables

There are four scenarios for copying deliverables:

- Copy a deliverable that has already been defined for the current project

- Copy a deliverable that has been defined for another project or project template (external deliverable). If you copy external deliverables, you must select the source project or project template.

- Copy deliverables when you create a project by copying a project or project template. When you create a project from the project template, the list of deliverables from the project template is copied to the new project.

- Copy deliverables from the source task when you create a new task

The Deliverables page displays the list of the deliverables for the project. You can drill down to the details of each of the deliverables. From this page, you can copy deliverables from the same project and copy deliverables from an external project or project template. You can select multiple deliverables and make a copy in the deliverables list. The attributes in the copied deliverable can be modified later using the Update Deliverables page. You can copy deliverables from an external source (from another project or a project template) by selecting the Copy External option from the Action shortcut list.

You can optionally copy the following information:

- item details (for item deliverables)

- deliverable actions

- deliverable attachments

- associated tasks (available only when you copy a deliverable from the current project)

The following table shows the attributes of deliverables that are copied when a deliverable is copied:

Attribute	Description
Name, Short Name, Type, Owner, and Progress Weight	Copied
Deliverable Due Date	If the deliverable action has a procurement function, the deliverable is associated with a workplan task, and the Early Start Date for the workplan task is available, then the default value of the deliverable action due date is the task's Early Start Date. If the deliverable action has a shipping function, the deliverable is associated with a workplan task, and the Early Finish Date for the workplan task is available, then the default value of the deliverable action due date is the task's Early Finish Date. For all other cases, the default value of the deliverable action due date is the deliverable due date.
Progress Records	Not copied
Deliverable Status	Default value is copied from the deliverable type

The following table shows the attributes of deliverable actions that are copied when deliverables are copied:

Attribute	Description
Name, Owner, Function, and Description	Copied
Deliverable Action Due Date	Adjusted by the number of days between the start date in the project or project template you are copying and the start date that you enter for the new project
Completion Date and Completed flag	Not copied
Financial Tasks	Not copied
Planning, Shipping, Procurement	Copied. The date attributes on the function (such as Expected Shipment Date and PO Need by Date) get their default values from the new action Due Date.
Billing attributes	Not copied

You can modify the copied deliverable attribute and deliverable action attributes. You can change the deliverable type only within the same type class. You cannot change the function for a deliverable action.

When you copy a workplan task, you can copy deliverable associations to the task.

When you copy an external task, the deliverable associations are not copied.

When you create a project, you can optionally copy the deliverables from the source project or template.

Viewing Project Deliverables

You can view deliverables for a project on the Deliverables subtab under the Workplan tab. From this page, you can view deliverable details. You can also delete, copy, create, or update deliverables, and copy external deliverables.

From the Task Details page, you can click on the Deliverables tab to get the list of deliverables associated with the task. From this page, you can also update details of the deliverables, create new deliverables, update deliverables, and associate new deliverables with the workplan task.

Managing Project Deliverable Actions

Deliverable actions are checklist items that must be completed to complete the deliverable. Deliverable actions can be defined using the shipping, billing, or procurement integration. A project can have multiple deliverables and a deliverable can have multiple deliverable actions.

The deliverable owner or project manager can define the deliverable further by assigning deliverable actions to owners.

You can associate shipping, billing, or procurement functions to deliverable actions. When a deliverable is item based, the Shipping region also includes the manufacturing planning attribute.

This integration enables you to:

- Feed material demand into the planning system and generate demand schedules

    > **Note:** The demand schedule is not visible from the deliverable. You can view the demand schedule from the Oracle Master Scheduling/MRP and Oracle Supply Chain Planning applications.

- Create procurement documents, such as purchase requisitions, for a project. When you initiate a procurement action from the deliverable, a purchase requisition is initiated in Oracle Procurement.
- Create shipment requests for deliverables and track shipping and delivery statuses
- Generate billing events to generate invoices and recognize revenue

When you define deliverable actions, a default financial task may be displayed in the Shipping, Billing, and Procurement regions. You can override the default financial task. The valid financial tasks for deliverable actions are shown in the following table:

Deliverable Action Financial Task Business Rules for Shipping, Billing, and Procurement Regions

Structures Setup	Deliverable/Task Associations	Financial Task for Shipping and Procurement Regions	Financial Task for Billing Region
Fully shared structure	Deliverable associated with one or more workplan tasks	You can select from a list of all the chargeable lowest financial tasks. If a chargeable lowest financial workplan task is the only task associated with the deliverable, then that task is the default financial task.	You can select from a list of all the top financial tasks. If the associated workplan tasks derive the same financial top task, then that task is the default financial task.
Fully shared structure	No task associations	You can select from a list of all the chargeable lowest financial tasks.	You can select from a list of all the top financial tasks.
Partly shared structure	Deliverable associated with one or more workplan tasks	You can select from a list of all the chargeable lowest financial tasks. If a chargeable lowest financial workplan task is the only task associated with the deliverable, then that task is the default financial task.	You can select from a list of all the top financial tasks. If the associated workplan tasks derive the same financial top task, then that task is the default financial task.

Structures Setup	Deliverable/Task Associations	Financial Task for Shipping and Procurement Regions	Financial Task for Billing Region
Partly shared structure	No task associations	You can select from a list of all the chargeable lowest financial tasks.	You can select from a list of all the top financial tasks.
Mapped structure	Deliverable associated with one or more workplan tasks	You can select from a list of all the chargeable lowest financial tasks. If the associated workplan tasks are mapped to the same chargeable lowest financial task, then that task is the default financial task.	You can select from a list of all the top financial tasks. If the associated workplan tasks derive the same financial top task, then that task is the default financial task.
Mapped structure	No task associations	You can select from all the chargeable lowest financial tasks.	You can select from all the top financial tasks.
Split structure		You can select from all the chargeable lowest financial tasks.	You can select from all the top financial tasks.
Only financial structure enabled		You can select from all the lowest chargeable financial tasks defined for the project.	You can select from all the top financial tasks defined for the project.

Integration with Manufacturing Planning and Shipping

Using Manufacturing Planning integration, you can initiate manufacturing demand for a project item deliverable. For project item deliverables, you initiate manufacturing planning by clicking Initiate Demand to generate a demand schedule

You can also initiate demand for multiple projects and multiple deliverables within a project by running the Initiate Project Deliverable Actions process. .

Using Shipping integration, you can create shipment requests for all deliverables. You can also enter data for the shipping action and track shipping and delivery statuses. When a deliverable is ready to be shipped, you can initiate shipping by marking the deliverable action as Ready to Ship.

To send a shipping request to the Shipping application, you choose Initiate Shipping. You can initiate shipping action for only one deliverable at a time. You must save the action before you can initiate demand and shipping.

After you initiate shipping, you perform the shipping transactions and deliveries in Oracle Shipping Execution. The project manager, task manager, or deliverable owner can view the shipping detail information, such as shipping status, delivery number, tracking number, and quantity.

> **Note:** When you create the shipping transactions in Oracle Shipping Execution, you must use Project Contracts as the source and the project number as the order number. .

You do not need to implement Oracle Project Contracts (OKE) to integrate project deliverables with Manufacturing Planning and Shipping.

Integration with Billing

Using Billing event integration, you can process billing when the relevant deliverable actions have been completed. For example, you can bill the customer after you have completed a milestone document. An advantage of billing integration is that you can track the unbilled revenue before the milestone document has been completed.

You can create a billing action only if the project belongs to the Contract project type class. When you create an action with a billing function a billing event is created. When you complete the Billing Action, the completion date of the action is the Billing Event Date. Until the billing event is processed, the billing information can be changed only from the deliverable action. The changes are automatically reflected in the Billing Event window.

After the billing event is processed by either the revenue generation or invoice generation process, the results are shown in a table in the Billing region. After the billing event is fully processed, you cannot update the Billing information for the deliverable action. When the billing event is partly processed or the invoice is canceled, you can update the billing event details from the Billing Events window. The changes are reflected in the Billing region of the corresponding deliverable action.

Integration with Procurement

Using procurement integration, you can create procurement documents, such as purchase requisitions, for a project. You can enter procurement-related attributes for the deliverable action.

The procurement can be item-based or amount-based.

The procurement can go to inventory, or can be directly charged against the project as an expense. For item-based procurement, the destination type can be Inventory or Expense. Typically, you use item-based procurement with Inventory destination to track a high-cost item for which you want to track the cost, or a long lead item, which takes long time to order and receive for a project. For amount-based procurement, the destination type is Expense. You can use amount-based procurement to track the costs of any non-inventory item, such as consulting time, against your project.

When the procurement information is complete, you can declare the action as Ready to Procure. To initiate a procurement action for a deliverable, choose Initiate Procurement. You can also initiate procurement of all ready-to-procure deliverable actions by running the Initiate Project Deliverable Actions process.

You can define only one procurement action for each deliverable. You can initiate procurement for a deliverable action only once. After the procurement action is successfully initiated, you cannot change the procurement action information and you cannot re-initiate the procurement action.

After the procurement action is initiated, your purchasing department personnel need to run the Requisition Import process in Oracle Purchasing to import the requisition to Oracle Purchasing. Your purchasing and receiving department can further create

the purchase order and receipt. As a project manager, task manager, or deliverable owner you can track the requisition, purchase order, and receiving information from the deliverable.

> **Note:** When you run the Requisition Import process, be sure that you select OKE as the Source. (However, you do not need to implement Oracle Project Contracts (OKE) to use integration with Procurement..)

Deleting Project Deliverables

You can delete a deliverable as long as none of the following conditions exist:

- Progress records exist.

- A Shipping action has been initiated or has *Ready to Ship* selected.

- A Billing action has been processed

- A Procurement action has been initiated or has *Ready to Procure* selected.

When you delete a deliverable with associated task assignments, the associations to the task assignments are also deleted.

Related Topics

Defining a Deliverable Status, *Oracle Projects Implementation Guide*

Project Deliverable Processes, *Oracle Projects Fundamentals*

Copying Tasks, page 2-16

Creating Projects, *Oracle Projects Fundamentals*

Defining a Deliverable Type, *Oracle Projects Implementation Guide*

Managing Project Deliverable Actions, page 4-5

Oracle Shipping Execution User's Guide

Accruing Revenue for a Project, *Oracle Project Billing User Guide*

Invoicing a Project, *Oracle Project Billing User Guide*

Tracking Deliverable Progress

As a project manager or task manager, you can track deliverable progress and deliverable progress history for the project or task. Deliverable progress includes

- physical percent complete

- progress status

- deliverable status

- progress overview

- as of date

- all the actions to be completed for the deliverable

- attachments

You use the Update Deliverable page to view deliverable progress history.

Entering and Submitting Deliverable Progress

Deliverable progress can be entered and submitted centrally by the project manager or collaboratively by team members. You use the Update Deliverable page to enter and submit deliverable progress.

As a team member, you can enter and submit progress for all the deliverables you own from the Team Member Home page. You can drill down to each deliverable to view detailed information, including deliverable actions.

As a task manager, you can enter and submit the physical percent complete for all the deliverables for a task. The physical percent complete is rolled up to the task.

While you can associate a deliverable with many workplan tasks, you can only roll up physical percent complete from one or more deliverables to a single workplan task. You can associate a deliverable with a deliverable-based task and associate the same deliverable with a non-deliverable-based task such as an effort-based task. In such a case, progress rolls up to the deliverable-based task.

Completing Deliverable Actions

You can complete deliverable actions as a part of the deliverable progress entry. When you check the Complete check box, the system date is automatically entered as the Completion Date (you can override this date). If the deliverable has shipping or procurement actions, you must initiate these actions to complete the deliverable action.

If deliverable progress entry is disabled for the deliverable type, you enter the deliverable status and complete the deliverable actions on the Update Deliverable page.

Rolling Up Deliverable Progress to a Workplan Task

Physical percent complete for deliverables can be rolled up from one or many deliverables to the associated workplan task.

While you can associate a deliverable with many workplan tasks, you can only roll up physical percent complete from one or more deliverables to a single workplan task. You can associate a deliverable with a deliverable-based task and associate the same deliverable with a non-deliverable-based task such as an effort-based task. In such a case, progress rolls up to the deliverable-based task

The physical percent complete derivation method for the associated workplan task determines the progress collection source for this task. If the derivation method is Deliverable, then the physical percent complete is collected from the deliverables associated with the task. Deliverable weight is used to calculate the weighting against the workplan task when the physical percent complete is rolled up to the task.

> **Note:** Progress rollup does not occur if the deliverable is associated with a task that has a physical percent complete derivation method other than Deliverable. In such a case, the physical percent complete for the task comes from resource assignments or subtasks, even if the task is associated with deliverables.

Related Topics

Setting Up Workplans, page 2-2

Collecting and Managing Progress, page 2-32

Collecting Progress for Deliverables, page 2-35

Deriving Physical Percent Complete, page 2-41

5

Microsoft Project Integration

This chapter is an overview of the integration with Microsoft Project. The chapter describes features and control issues that you should consider before using the application.

This chapter covers the following topics:

- Overview of Microsoft Project Integration
- Protecting Data Integrity
- Sending Information to Oracle Projects
- Sending New Project Data to Oracle Projects
- Attaching a Microsoft Project File
- Sending Revised Project Data to Oracle Projects
- Sending Cost Information to Microsoft Project
- Sending New or Revised Budget Data to Oracle Projects
- Receiving Information from Oracle Projects
- Receiving Project Information from Oracle Projects
- Receiving Resource Lists from Oracle Projects
- Receiving List of Values from Oracle Projects
- Receiving Actuals from Oracle Projects
- Deleting a Task
- Clearing the Link to Oracle Projects
- Clearing the Resource List
- Clearing the Project Link
- Oracle Projects Views
- Tools
- Setting Preferences
- Send Work Breakdown Structure
- Task Numbering Options
- Calculate Costs
- Send Time Phased Data

- Examples: The WBS Level and Transferred Tasks and Budgets
- Attributes Transferred

Overview of Microsoft Project Integration

Microsoft Project Integration links Microsoft Project and Oracle Projects, so that you can work with a project in both Oracle Projects and Microsoft Project.

> **Note:** A project is considered linked when you send project information from Microsoft Project to Oracle Projects. You can also link a project by receiving a project from Oracle Projects and enabling the Retain Link to Oracle Projects option in the Receive Project: Enter Options page. For more information, see: Receiving Project Information from Oracle Projects, page 5-12.

You can use Oracle Projects for Enterprise Project Management and Microsoft Project for scheduling. The two applications share project information while maintaining the security setup for projects, functions, and roles in Oracle Projects as follows:

> **Note:** Before you can receive and send information between Microsoft Project and Oracle Projects you must be logged in to Oracle Projects.

1. A project manager creates a project in Oracle Projects from a project template containing information for deliverables, work breakdown structures, and resource assignments.

   The unscheduled resource and workplan data is downloaded to Microsoft Project for scheduling.

2. The project is scheduled in Microsoft Project based on task assignments, task dependencies, task constraints, and other attributes.

   The scheduled workplan data is uploaded to Oracle Projects for publishing.

3. The project workplan is published in Oracle Projects.

   After the workplan is published, the project is accessible to all team members working on the project. Team members work on their assignments and report their progress in Oracle Projects.

4. The team members' progress on the tasks is collected for updating the project plan.

5. The project plan is updated with the team members' progress.

   The project is now unscheduled. The unscheduled project plan is downloaded to Microsoft Project for rescheduling.

6. The project plan is rescheduled in Microsoft Project and the task information is updated.

   The rescheduled workplan is uploaded to Oracle Projects for publication.

The following illustration shows the process flow described above on how the two applications work together:

Information Flow Between Microsoft Project and Oracle Projects
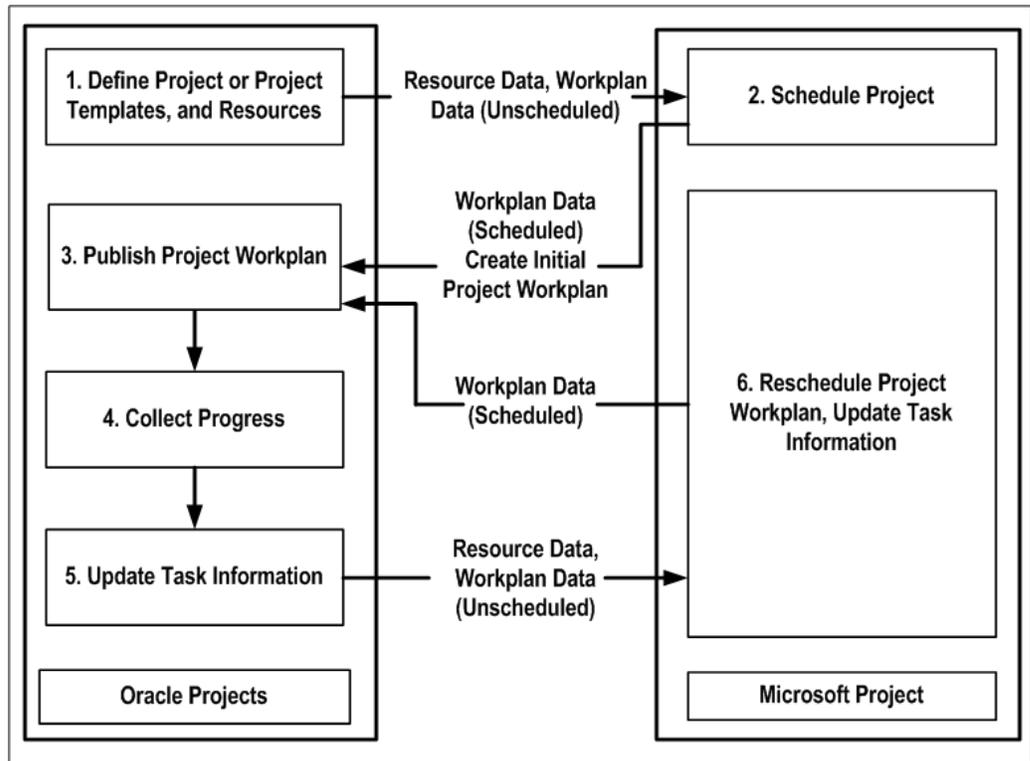
You can send the following information for the shared structure, the workplan structure and the financial structure from Microsoft Project to Oracle Projects. For more information on structures, see: Project Structures, *Oracle Project Fundamentals*.

- **Shared Structures:**

  Project Data

  - Work breakdown structures (WBS) for a project that includes task data, such as task hierarchy, task dates, durations, efforts and constraints.

  - Certain task attributes such as:

    - service types

    - dependency data

    - assignment data (assignment dates and efforts, for example)

  - Progress information data at the task and assignment level, including as of date, comments, progress overview, percent complete, estimate to complete efforts, estimated and actual dates.

    > **Note:** Actual efforts and costs are not sent for shared structure. For version enabled structure, you must have at least one published version to send progress.

- **Workplan Structures:**

  Project Data

- Work breakdown structures (WBS) for a project that includes task data, such as task hierarchy, task dates, durations, efforts and constraints.

- Certain task attributes such as:

  - service types

  - dependency data

  - assignment data (assignment dates and efforts, for example)

- Task and assignment level cost, based on the Calculate Cost Using option in the preference settings. See also: Setting Preferences, page 5-19.

- Progress information data at the task and assignment level, including as of date, comments, progress overview, actual effort, percent complete, estimate to complete efforts, estimated and actual dates.

  > **Note:** For version enabled structure, you must have at least one published version to send progress.

- **Financial Structures:**

  Project Data

  - Work breakdown structures (WBS) for a project that include task information such as task hierarchy and task dates.

  - Certain task attributes such as:

    - billable and chargeable statuses

    - service types

  - Percent complete

  Budget Data: The cost at the task level, and work (with or without costs) at the resource assignment level. The costs can be sent as raw cost, burdened cost, or revenue.

You can receive into Microsoft Project the following information from a project or template in Oracle Projects:

- **Shared Structures:**

  Project Data

  - Work breakdown structures (WBS) for a project that includes task data, such as task hierarchy, task dates, durations, efforts and constraints.

  - Certain task attributes such as:

    - service types

    - dependency data

    - assignment data (assignment dates and efforts, for example)

  - Progress information data at the task and assignment level, including as of date, comments, progress overview, percent complete, actual efforts, estimate to complete efforts, estimated and actual dates.

  - Resources as part of the project data

  Resource list without the project data

List of values

- **Workplan Structures:**

  Project Data

  - Work breakdown structures (WBS) for a project that include task information such as task hierarchy, task dates, durations, efforts and constraints.

  - Certain task attributes such as:

    - service types

    - dependency data

    - assignment data (assignment dates and efforts, for example)

  - Progress information data at the task and assignment level, including as of date, comments, progress overview, actual effort, percent complete, estimate to complete efforts, estimated and actual dates.

  - Resources as part of the project data

  Resource list without the project data

  List of values

- **Financial Structures:**

  Project Data

  - Work breakdown structures (WBS) for a project that include task information such as task hierarchy and task dates.

  - Certain task attributes such as:

    - billable and chargeable statuses

    - service type

  - Resources as part of the project data

  Resource list without the project data

  List of values

  Actual Data:

  - Raw, burdened, and revenue costs at the task level

  - Raw, burdened, or revenue cost as the actual assignment cost, at the assignment level

  - Assignment hours as actual assignment work

    Note: Actual data can be received only from a linked project

Prerequisites for Using Microsoft Project Integration

Complete the following steps before you use Microsoft Project Integration:

1. Install Microsoft Project.

2. Install Microsoft Project Integration.

The Microsoft Project Integration installation creates a new menu, *Oracle Projects*, which is displayed on the Microsoft Project menu bar. The new menu contains the commands used in this guide.

3. Set up security for projects, functions, and roles. For more information, see: Protecting Data Integrity, page 5-6

Related Topics

Microsoft Project Integration, *Oracle Projects Implementation Guide*

Protecting Data Integrity

You can protect data integrity by limiting access to features and using the proper procedures for keeping your linked projects synchronized.

Ensuring Synchronization

Although you can enter project information in both Oracle Projects and Microsoft Project, certain types of project information must originate in one application or the other. Entering project information in the correct application maintains the integrity of your data. If you do not adhere to the following rules, the project data in Oracle Projects and Microsoft Project may not be synchronized properly.

Functions Performed in Microsoft Project

For linked projects, use Microsoft Project to do the following tasks:

Deleting Tasks

Delete tasks in linked projects only in Microsoft Project. Microsoft Project Integration verifies that deleting the task does not violate Oracle Projects business rules and then deletes the task in both Microsoft Project and Oracle Projects. For more information, see: Deleting a Task, page 5-16.

> **Tip:** You can also use the Delete key to delete a task in Microsoft Project.

Maintaining Budgets Created in Microsoft Project

You cannot receive budget data from Oracle Projects into a project in Microsoft Project. If you create a budget for a linked project in Microsoft Project, you must maintain the budget data in Microsoft Project and send the revised information to Oracle Projects.

Sending budget data from Microsoft Project to Oracle Projects for a budget type that already exists for a project creates a new version for that budget type.

Entering Progress

You can use either Microsoft Project or Oracle Projects to enter progress. If you choose Oracle Projects to enter progress, you can receive the progress updates in Microsoft Project.

If you use Microsoft Project to enter progress, do not enter progress information in Oracle Projects. The progress records will be overwritten when you send progress information from Microsoft Project.

Functions Performed in Oracle Projects

For linked projects, use Oracle Projects to do the following tasks:

Creating and Maintaining Resource Lists and Service Types

Create and maintain resource lists and service types in Oracle Projects and receive this resource information in Microsoft Project. You cannot create resource list members or cost rates in Microsoft Project.

For more information, see: Service Types, *Oracle Projects Implementation Guide* , and

Resources and Resource Lists, *Oracle Projects Implementation Guide*.

Creating and Maintaining Budgets Created in Oracle Projects

If you create a budget for a project in Oracle Projects that is linked to a project in Microsoft Project, you must maintain the budget data in Oracle Projects. You cannot receive budget data from Oracle Projects to Microsoft Project.

If you send budget data from Microsoft Project and revise it in Oracle Projects, you must then maintain the budget in Oracle Projects or duplicate your revisions manually in Microsoft Project.

Collecting Transactions

Oracle Projects is the central repository for all project information such as expenditure items, whether you enter them directly in Oracle Projects or import transactions from another cost collection system. For more information, see: Overview of Expenditures, *Oracle Project Costing User Guide*.

Summarizing Actuals

Run the PRC: Update Project Summary Amounts process in Oracle Projects before you receive actuals from Oracle Projects into Microsoft Project. Updating project, task, and resource summary amounts in Oracle Projects enables you to track the status of your projects. For more information, see: Update Project Summary Amounts, *Oracle Projects Fundamentals*.

Sending Information to Oracle Projects

You can create and maintain projects and budgets in Microsoft Project and periodically transfer the data to Oracle Projects. You can transfer information for the shared structure, workplan structure, or financial structure. For information on data you can transfer see, Overview of Microsoft Project Integration, page 5-2.

See also: Sending New Project Data to Oracle Projects, page 5-8.

You cannot send project and budget data (either new or revised) that violates business rules defined in Oracle Projects. For example, once you have created a project WBS, you cannot move a task to a new top task.

For a list of attributes that you can transfer between Oracle Projects and Microsoft Project, see: Attributes Transferred, page 5-23.

Dates and Durations

Oracle Projects stores project and task dates only to the nearest day. When you use Microsoft Project for planning, use days for duration, and use only integers. This will ensure data consistency between the two applications.

Recurring Tasks

When you send a recurring task from Microsoft Project, the task is received in Oracle Projects as a normal task, and received back in the same project in Microsoft Project as a recurring task. If you receive the task in a new project in Microsoft Project, the task is received as a normal task.

Modifying the Scheduling Fields

The following scheduling parameters can be specified for the tasks in Oracle Projects:

• Task Type

• Efforts Driven Flag

• Scheduled Duration

• Constraint Type

• Constraint Date

• Dependencies With Lag

• Resource Assignment Effort

When you create a new project in Oracle Projects by sending data from Microsoft Project, the above fields are populated with the values set in Microsoft Project. You can update the values in these fields in Oracle Projects and receive those updates back in Microsoft Project using the following guidelines:

• Constraint Type, Constraint Date, Effort Driven Flag, and Dependencies fields can be updated for all tasks in Oracle Projects.

• Scheduled Duration and Resource Assignment Effort fields:

  • For fixed work and fixed units tasks you can update only the Resource Assignment Effort field.

  • For fixed duration task, you can update both the Scheduled Duration and Resource Assignment Effort fields.

Numbering Tasks

You can set preferences for numbering tasks. For more information, see: Task Numbering Options, page 5-19.

Sending New Project Data to Oracle Projects

When you send project information from Microsoft Project to Oracle Projects, Oracle Projects checks to see if the project already exists in Oracle Projects. If the project does not already exist, Oracle Projects prompts you to select a project template to serve as the basis for the new project and to enter Quick Entry fields defined in the template. The only information the new project receives from the template are the Quick Entry fields; all other information is based on the project in Microsoft Project.

To send new project data to Oracle Projects

1. In Microsoft Project, open the project that you want to use to create a new project in Oracle Projects.

2. In Microsoft Project, choose Oracle Projects > Send to Oracle Projects > Project data.

The Send Project: Select Project Template in page opens.

3. Select a project template.

4. For Project Number fields (not all templates have them), enter a project number to identify the project in Oracle Projects. You can enter different values for the project number and name. Both the project name and number must be unique in Oracle Projects.

5. On the Send Project: Enter Project Details page, enter quick entry information for the project. The types of quick entry fields that appear for a project are dictated by its project template.

6. On the Send Project: Select Structure choose which structure to send the project plan to. Note that this page only appears if the project template has a separate workplan and financial structures.

7. On the Send Project: Options page select the information to send to Oracle Projects. Note that progress information will only be sent if the project has a published workplan.

Related Topics

Overview of Workplan and Progress Management, page 2-1

Quick Entry, *Oracle Projects Fundamentals*

Using Project Templates and Quick Entry, *Oracle Projects Fundamentals*

Project Entry, *Oracle Projects Fundamentals*

Attaching a Microsoft Project File

When you send information to Oracle Projects, you can attach an mpp file to the workplan structure or the financial structure of the project.

> **Note:** You can only attach a Microsoft Project file (.mpp) to a linked project.

To attach a Microsoft Project file to a workplan

1. In Microsoft Project, open the project that you want to use to create a new project in Oracle Projects

2. In Microsoft Project, choose Oracle Projects > Send to Oracle Projects > MSP File

3. Select the Microsoft Project file (.mpp) you want to send

Sending Revised Project Data to Oracle Projects

You can revise a linked project in Microsoft Project and then send the project data to Oracle Projects. Oracle Projects business rules affect the changes that you can send.

> **Note:** For information about entering dates and task durations in Microsoft Project, see: Dates and Durations, page 5-7.

You can link to a project in Oracle Projects by either:

- Creating the project in Microsoft Project and sending the information to Oracle Projects (see: Sending New Project Data to Oracle Projects, page 5-8), or

- Receiving a project from Oracle Projects and retaining the link to Oracle Projects (see: Receiving Information from Oracle Projects, page 5-12)

You can change and send to Oracle Projects any combination of project WBS, task-level percent complete values for financial structures, and progress information for workplan structures.

You can also change and attach a Microsoft Project file (.MPP) to the workplan version and send it to Oracle Projects.

> **Warning:** If you do not send revised project data for linked projects to Oracle Projects, you may encounter problems when you receive actuals or send budget information.

> Use either the Delete Task command (in the Oracle Projects menu in Microsoft Project) or the Delete key to delete a task from a linked project. If you use the Edit > Clear > Entire Task command, you cannot update the information in to reflect the change. See: Deleting a Task, page 5-16.

To send revised project data to Oracle Projects

1. In Microsoft Project, open the linked project.

2. In Microsoft Project, choose Oracle Projects > Send to Oracle Projects > Project data.

> **Note:** If you see the Send Project: Select Project Template page instead, the project you are looking for may not yet exist in Oracle Projects. This can happen if the project was:

> - Created in Microsoft Project but not sent to Oracle Projects

> - Received in Microsoft Project from Oracle Projects without retaining the link

> - The link was cleared

3. Send Project: Select Version appears if you are linked to the workplan structure and versioning is enabled. You may choose to update an existing version or create a new version.

4. On the Send Projects: Options page select the information to send to Oracle Projects. Note that progress information will only be sent if the project has a published workplan. If sending to a shared or a workplan structure with versioning, you may choose to publish or submit the project plan.

> To delete a task in a linked project, you must use the Delete Task function under the menu option. See: Deleting a Task, page 5-16.

Sending Cost Information to Microsoft Project

You can choose to send costs for either the financial structures or the workplan structures. For financial structures, costs are sent by sending the budget information. For workplan structures, costs are sent along with the project data if you select Microsoft Project for costing when setting your preferences. See: Setting Preferences, page 5-19.

When resources are received in Microsoft Project, the standard rate of the resources are set to the burdened rates. Therefore, the costs computed in Microsoft project are burdened costs. When sending the cost information along with project data, these burdened costs are sent to Oracle Projects. If you are costing in Microsoft Project, do not use the task level fixed costs, or resource level per use costs as these costs are already factored into the burdened rates.

Sending New or Revised Budget Data to Oracle Projects

For financial structures, you can use the Send Budget page to create and revise budgets in Oracle Projects. Sending revised budget information creates a new budget version of the selected budget type.

> **Note:** Budget data can be sent only to a linked Oracle project

To send new or revised budget data to Oracle Projects

1. In Microsoft Project, open the linked project.

2. In Microsoft Project, choose Oracle Projects > Send to Oracle Projects > Budget data.

   The Send Budgets: Create Version window opens.

3. Select the plan type and enter the version name for the budget you want to create in Oracle Projects.

4. On the Send Budget: Select option page , select following options:

   For Microsoft Project options

   - Select where to get the cost and work effort from Microsoft Project when you create your budget. You can select one of the following cost and work effort source options:

     - Task Cost Amounts

     - Resource Assignment Work

     - Resource Assignment Work and Cost Amount

   For Oracle Projects options

   - Depending on the plan type, select one of the following version for this budget:

     - Working and Current Working and Baselined

     - Draft and Current Working and Baselined

   - If you are creating a new budget version, you can enter a Change Reason.

   - Determine how you want to store the costs in Oracle Projects. You can store the costs as Raw Cost, a Burdened Cost, or Revenue.

   - You can also choose Calculate Additional Amounts option if you wish to calculate additional budget amounts in Oracle Project based on the data being sent.

   Where to Create and Revise a Budget

You can create a budget in Microsoft Project and send the budget information to Oracle Projects, or you can create a budget directly in Oracle Projects. However, you cannot create a budget in Oracle Projects and then receive the budget data in Microsoft Project.

After you create a budget in either application, use the same application to maintain the budget.

In Microsoft Project, you can create a budget at the task level, by entering amounts in the Cost field, or at the resource assignment level, by entering resource quantities and having the costs computed from the rates received from Oracle Projects.

Receiving Information from Oracle Projects

You can update your active project in Microsoft Project by receiving data for projects, resource lists, service types, and actuals from Oracle Projects. For a list of attributes that you can transfer between Oracle Projects and Microsoft Project, see Attributes Transferred, page 5-23

Related Topics

Creating and Maintaining Resource Lists and Receiving Service Types, page 5-7

Receiving Project Information from Oracle Projects

You receive into Microsoft Project any valid project or project template that exists in Oracle Projects. Receiving a project or template creates a new project in Microsoft Project. The new project is based on the WBS, project and task dates, and resources (optional) associated with the project or template.

> **Note:** You can receive data from a project in Oracle Projects into an existing project in Microsoft Project, only if the project is linked.

To receive project information from Oracle Projects

1. In Microsoft Project, choose Oracle Projects > Receive from Oracle Projects > Project Data.

   The Receive Project: Select Destination page opens. This page enables you to choose if you want to receive an existing Oracle Projects project or Oracle Projects template as a new project, or update the currently open Microsoft Project file for a linked project.

   > **Note:** To update the progress information in a Microsoft Project file, the file must be linked and open when you choose the Oracle Projects > Receive from Oracle Projects > Project Data menu option.

2. You can optionally choose the Resources, Task Number, and Retain Link to Oracle Projects options from the Receive Project: Enter Options page.

   • Resources: Enables you to receive the resources from the default resource list associated with the project or template in Oracle Projects.

   • Task Numbers: If you select Task Numbers, Oracle Projects tasks numbers are populated in the Text5 column of Microsoft Project. If you have also selected the "Retain Link to Oracle Projects" check box, you must use the Text5 column for numbering tasks, and you cannot change the preference while the projects are linked.

   • Retain Link to Oracle Projects: Enables you to send updated project or budget information to Oracle Projects, or receive actuals collected in Oracle Projects. Do

not select the option if you want to create a new project based on this project in Oracle Projects. This option is disabled if you are receiving a project template.

- Progress Information: Check this box to receive progress information such as progress status, comments, progress overview, effort, percent complete, estimated and actual dates, and work quantity.

Receiving Resource Lists from Oracle Projects

You can copy all or part of a resource list from Oracle Projects to the resource sheet in an active project in Microsoft Project, and associate one resource list at a time with a project in Microsoft Project.

You can also receive and update planning resources in Microsoft Project. The default resource rate received in Microsoft Project is Burdened Rate. See: Setting Preferences , page 5-19. See also, Planning Resources and Planning Resource Lists, *Oracle Projects Implementation Guide.*

After you copy a resource list from Oracle Projects, you can copy additional resources from the same list.

You can receive a different resource list into a project, but you must first clear the existing resource list link. For information on clearing a resource list, see: Clearing the Resource List, page 5-17.

> **Note:** To view resource lists in Microsoft Project, choose View > Resource Sheet.

To receive a resource list from Oracle Projects

1. In Microsoft Project, open the linked or new project.

2. In Microsoft Project, choose Oracle Projects > Receive from Oracle Projects > Resource List.

   The Select Resource List from page opens.

   > **Note:** If a resource list is already associated with the active project, you see the Receive Resources page. Skip to Step 4.

3. Select the Oracle Projects template from which you want to receive resources.

4. If you are receiving resources from a shared structure template, a list of resources from the resource list associated with that template is displayed. Select the desired resources to receive in the project.

5. If you are receiving resources from a split structure template, select the workplan to receive the resources from the list associated with workplan structure. To receive resources from the list associated with financial structure, select financial, the plan type, and the resource list associated with that plan type.

   By default following information from resource list is received in resource sheet in Microsoft Project

   - Resource Name into Resource Name

   - Resource Class into Resource Type

   - Resource UOM into Text2

- Resource Burdened Rate into Resource Standard Rate

Your company can specify the resource information that will be received into Microsoft Project. The information that you can receive depends on how you implement Microsoft Project integration.

This data may include:

- Person ID
- Job ID
- Organization ID
- Organization Name
- Standard Rate
- Overtime Rate
- Cost Per Use Rate

To receive additional resource information, your system administrator or implementation team must customize the view PA_AMG_RESOURCE_INFO_V to specify what data will be received and where the data will be mapped in Microsoft Project. The data appears in the following columns in Microsoft Project:

- Text1 through Text6
- Cost1 through Cost4
- Overtime Rate
- Cost Per Use
- Standard Rate

Related Topics

Receiving Additional Resource Information in Microsoft Project, *Oracle Projects Implementation Guide*

Receiving List of Values from Oracle Projects

You can choose to receive a list of values defined in Oracle Projects. Microsoft Project displays the list of values in the Gantt chart view. To insert a value from a list of values in Microsoft Project, select Oracle Projects > Receive From Oracle > List of Values.

To receive a list of values from Oracle Projects

1. Open the linked or new project in Microsoft Project.

2. Select one or more tasks that you want to associate with the particular value.

3. In Microsoft Project, choose Oracle Projects > Receive from Oracle Projects > List of Values.

   The List of Values page opens.

4. Select an attribute and a value. Choose OK.

   You can receive the following attributes using a List of Values:

   - Service Type

- Task Manager

- Priority

- Progress Status

- Item

- Unit of Measure

- Task Type

- Task Status

- Work Types

Receiving Actuals from Oracle Projects

You can summarize actuals in Oracle Projects and then receive the actual costs into Microsoft Project. Oracle Projects collects actual cost and revenue amounts at the lowest task level.

> **Note:** Actuals are received for financial structures only.

Run the Update Project Summary Amounts process in Oracle Projects before you receive actuals for a project. If you do not, project costs recorded after the last summarization process will not be reflected in the actuals you receive from Oracle Projects. In addition, actuals will reflect only those transactions that were incurred during or before the current PA reporting period. For example, if your current PA reporting period is three PA periods before the current date, the actuals you receive from Oracle Projects will be three PA periods old. For more information, see: Update Project Summary Amounts, *Oracle Projects Fundamentals*.

Task and Resource Assignment Levels

You can receive actuals into a linked project in Microsoft Project by lowest task, by resource assignment, or both. The received actuals will overwrite (replace) any existing actuals.

If you receive actuals at the lowest task level, then actual and revenue amounts from Oracle Projects will populate the raw cost, burdened cost, and revenue columns in Microsoft Project. You can view these columns using the Gantt Chart view in Microsoft Project.

If you receive actuals at the resource assignment level, the active project in Microsoft Project receives the lowest level to-date actuals for each resource assignment from Oracle Projects. In Microsoft Project, actual cost amounts are stored in the Actual Cost column. The actual quantity values (labor resources only) are stored in the Actual Work column.

How Preferences Affect Task and Resource Assignment Levels

If you have set Oracle Projects preferences to use either Column Text5 or "Lowest WBS level to send," the WBS for a linked project is different in Microsoft Project and Oracle Projects. Collecting and summarizing actuals can take place only for the lowest level tasks in Oracle Projects, so projects received in Microsoft Project will contain all of the task details or resource assignment level actuals, as summarized in Oracle Projects. For

more information, see: Setting Preferences, page 5-19 , and Update Project Summary Amounts, *Oracle Projects Fundamentals*.

To receive actuals from Oracle Projects

1. Open the linked project in Microsoft Project.

> **Note:** Make sure that you have selected Retain link to Oracle Projects check box in the Receive Project: Enter Options page to receive actuals. For more information, see: Receiving Project Information from Oracle Projects, page 5-12.

2. In Microsoft Project, choose Oracle Projects > Receive From Oracle Projects >Actuals Data.

   The Receive Actuals: Enter Options page opens.

3. Select one or both of the "Receive" options:

   • Task Level: Select this option to receive task level actuals.

   • Resource Assignment Level: Select this option to receive resource assignment level actuals. If you select this option, you can also select one of the following amount types: raw, burdened cost, or revenue. Also, you can indicate whether to receive cost amounts, labor hour quantities, or both. This information is received into the Actual Cost and Actual Work columns, respectively.

To view actuals at the resource assignment level in Microsoft Project:

1. Select the task for which you want to view actuals.

2. Choose Window > Split.

3. Move the cursor to the lower portion of the Microsoft Project window and click the right mouse button.

4. Select Resource Work to view actual hours or Resource Cost to view actual costs.

> **Note:** Resource assignment level actual costs (raw costs, burdened costs, or revenue amounts) are stored in the Actual Cost column in Microsoft Project.

Deleting a Task

To delete tasks for linked projects in Microsoft Project, you can use either the Delete Task command in the Oracle Projects menu or the Delete key in Microsoft Project.

> **Warning:** Do not use the Edit > Clear > Entire Task function in Microsoft Project to delete tasks from linked projects. If you do, the deletion will not be sent to Oracle Projects when you update, and you will not be able to send revised WBS information to Oracle Projects. If you delete a task using this method, clear the project link and receive the project into a new project.

Oracle Projects uses the business rules defined to verify that you can delete the selected task and then deletes the task in both Microsoft Project and Oracle Projects. See: Deleting Tasks, page 2-18

Deleting a parent task deletes all of its subtasks.

To delete tasks from a linked project in both Microsoft Project and Oracle Projects

1. In Microsoft Project, open the linked project.

2. Select one or more tasks to delete.

3. In Microsoft Project, choose either Oracle Projects > Delete Task, or press the Delete key.

4. The Delete Task confirmation page only enables you to select for deletion those tasks that do not violate any business rules in Oracle Projects and are otherwise eligible to be deleted.

   If a task violates Oracle Projects business rules or is otherwise ineligible for deletion, the page disables its select option and displays an exception reason that explains why the task cannot be deleted.

   The selected tasks are deleted from Microsoft Project and Oracle Projects.

Clearing the Link to Oracle Projects

Before you select a new resource list for a linked project in Microsoft Project or base a new project in Oracle Projects on a project in Microsoft, clear the resource list or project link to Oracle Projects.

You can also enter chargeable and billable statuses or service types in Microsoft Project and then include this information in the project data you send to Oracle Projects.

Clearing the Resource List

You would clear the resource list if you wanted to start over in plan creation. Clearing the resource list in your linked project deletes all of the resources and task-level resource assignments from your active project in Microsoft Project as well as budget amounts. After you clear the resource list, you can associate the project in Microsoft Project with another resource list.

To clear the link to a resource list in Oracle Projects

1. In Microsoft Project, open the linked project that you want to associate with a new resource list.

2. In Microsoft Project, choose Oracle Projects > Clear Link in MSP > Clear Resource List.

Related Topics

Receiving a Resource List from Oracle Projects, page 5-13

Clearing the Project Link

As long as a project in Microsoft Project is linked to a project in Oracle Projects, you can send revised project information to Oracle Projects. The link persists if you use the File> Save As command in Microsoft Project to copy and rename the project.

Clearing the project link enables you to create a new project in Oracle Projects based on your active project in Microsoft Project. Clearing the link also enables you to change the preferences on a project.

To clear the link to a project in Oracle Projects

1. In Microsoft Project, open the linked project.

2. Choose Oracle Projects > Clear Link in MSP > Clear Project Link.

Oracle Projects Views

You can include Oracle Projects attributes (such as chargeable status, billable status, progress status, service type) in the project data from the task that you send to Oracle Projects. These attributes can be entered in the specific custom fields in Microsoft Project. For the list of Oracle Project Attributes that are mapped to a specific custom field in Microsoft Project, see Attributes Transferred, page 5-23. Oracle Projects provides custom Oracle views in Microsoft Project that can be used to enter or view the data for these attributes in Microsoft Project. You can switch to these views in Microsoft Project to enter or the data in these fields.

> **Note:** Oracle Projects will not transfer information that violates Oracle Projects business rules. For example, Oracle Projects will reject the Chargeable option if you enable it for a top task.

To switch to the Oracle Projects view

1. In Microsoft Project, open a new or a linked project.

2. In Microsoft Project, choose Oracle Projects > View. You can then switch to any of the following six custom views:

   - Oracle Review Gantt

   - Oracle Progress Gantt

   - Oracle Financial Gantt

   - Oracle Review Resource Usage

   - Oracle Progress Resource Usage

   - Oracle Financial Resource Usage

   The first three options displays the Gantt Chart view with Oracle Review, Oracle Progress and Oracle Financial tables loaded in table portion of the Gantt Chart. The next three options displays the Resource Usage view with Oracle Review, Oracle Progress and Oracle Financial tables loaded in table portion of the Resource Usage view.

Tools

You use the Tools menu to do the following:

- Copy MSP Fields to Oracle Progress Fields: Copies the progress fields in Microsoft Project to custom Oracle Projects progress fields in Microsoft Project.

- Copy Oracle Progress Fields to MSP Fields: Copies the custom Oracle Projects progress fields in Microsoft Project to progress fields in Microsoft Project.

- Uninstall Microsoft Project Integration

Setting Preferences

You set preferences to indicate how you want to:

- Send Work Breakdown Structure
- Number Task Options
- Calculate Cost
- Send Time Phased Data

when transferring data between Oracle Projects and Microsoft Project.

Send Work Breakdown Structure

Most people use a more detailed WBS for planning in Microsoft Project than is required for collecting costs and quantities in Oracle Projects.

You can send the entire or rolled-up WBS and budget information from Microsoft Project to Oracle Projects. For example, if the WBS for your project plan in Microsoft Project has 10 levels, but you plan to collect costs and bill only to three levels, then you can set an option to send only levels 1, 2, and 3 to Oracle Projects.

When you set the WBS level to send, Oracle Projects uses the Unique ID preference for numbering tasks. For more information, see: Task Numbering Options, page 5-19.

> **Warning:** After you send the project to Oracle Projects or link the project to a project in Oracle Projects, you cannot change project preferences. For more information, see: Clearing the Link to Oracle Projects, page 5-17.

To set WBS level preferences for Oracle Projects

1. Open the project for which you want to WBS level preferences.

2. In Microsoft Project, choose Oracle Projects > Preferences.

   The Preferences window opens.

3. Select the task levels to send. You can send the work breakdown structure for all tasks levels, or up to a specific task level.

   Note that Oracle Projects will use the Unique ID preference for numbering tasks.

   > **Note:** If you send partial work breakdown structures to Oracle Projects, it is recommended you receive back the work breakdown structures in a new project in Microsoft Projects.

Task Numbering Options

When you send tasks to Oracle Projects, the task numbers can be populated with any one of the following Microsoft Project fields:

- Outline Number
- Unique ID
- Text 5

To set task numbering preferences in Microsoft Project

1. In Microsoft Project, open the project for which you want to set preferences.

2. Choose > Preferences.

   The Preferences window opens.

3. Assign Oracle Task Number field to: Outline Number, Unique ID, or Column Text5.

   > **Warning:** After you send a project to Oracle Projects, you cannot change the preferences. For more information, see: Clearing the Project Link, page 5-17.

About the Task Numbering Options

There are advantages and disadvantages for each of the options available for specifying task numbers in Microsoft Project. A complete description of each option and an example follows the procedure.

Outline Number

Use the Outline Number option if you want to use the task numbers generated in the Outline Number field in Microsoft Project to generate task number in Oracle Projects.

Advantages: The outline style of this field (for example, 1.1, 1.1.1, 1.1.2) is an intuitive way to organize a WBS.

Disadvantages: Microsoft Project generates the numbers as you create tasks, and then regenerates (and changes) the numbers as you add, move, and delete tasks. Microsoft Project may even reuse some numbers. You cannot modify the outline numbers yourself. Oracle Projects attempts to reconcile the changed outline numbers when you send a project to Oracle Projects, but it is possible for the outline numbers for linked projects to become unsynchronized.

Unique ID

Use the Unique ID option if you want Oracle Projects to use the task numbers generated in the Unique ID field in Microsoft Project.

Advantages: Microsoft Project generates the numbers as you create tasks, but values are always unique because Microsoft Project does not reuse the numbers as you add, move, and delete tasks. You cannot modify the outline numbers yourself. Because the numbers are always unique, the task numbers for linked projects are unlikely to become unsynchronized.

Disadvantages: Some people may find that the simple integer format of the task number makes it difficult to discern tasks and subtasks.

> **Note:** If you plan to send rolled up WBS and budget data to Oracle Projects, you must use the Unique ID option. For more information, see: Send Work Breakdown Structure, page 5-19.

Column Text5

Use the Column Text5 option if you want to enter your own task numbers. When you select this option, Oracle Projects uses the values in this field as task numbers. You can also control which tasks are sent to Oracle Projects, because only tasks that have entries in the Text5 column are sent to Oracle Projects. However, Oracle Projects does not send numbered subtasks that belong to an unnumbered direct or higher-level parent.

Advantages: You have complete control over both the task numbering format and which tasks are sent to Oracle Projects. After you send a project to Oracle Projects, the font

of the task number in Text5 changes to *bold italic*. If you add a new task, you can see immediately if it has been sent to Oracle Projects or not.

Disadvantages: You are completely responsible for coordinating the task numbers in linked projects. If you overwrite or delete values in the Text5 field, linked projects may become unsynchronized. You must be very careful not to reuse task numbers in Microsoft Project that have already been sent to Oracle Projects. Use of the Column Text5 also affects templates and projects that you receive into (download to) Microsoft Project. For more information, see: Receiving Project Information from Oracle Projects, page 5-12.

Example: In the following example, tasks without an entry in the Text5 column are not sent to Oracle Projects or included in the Oracle Projects WBS. Subtask 3.1 is not sent because its parent task is unnumbered.

Microsoft Project Outline Number	Microsoft Project Text5	Oracle Projects Task Number	Oracle Projects Description
1	A10	A10	Task 1
1.1	A11	A11	Task 1.1
1.1.1	A12	A12	Task 1.1.1
1.1.1.1			
1.1.1.2			
1.1.2	A13	A13	Task 1.1.2
1.1.3	A14	A14	Task 1.1.3
1.2			
2			
3			
3.1	A15		
3.2			
4	A16	A16	Task 4

Calculate Costs

You can choose to calculate workplan costs in Oracle Projects or in Microsoft Project. The costs calculated in Microsoft Project can be sent to a workplan in Oracle Projects. You select the option Calculate Costs using Microsoft Project to send costs calculated in Microsoft Project to Oracle Projects. When you select this option, costs are sent to Oracle Projects with the project data.

> **Note:** Costs are sent only for non-shared workplan structure. For financial structure costs are sent with the budget data.

Send Time Phased Data

You can choose to send time phased data for resource assignments. If you enable this option, cost and effort data for your resources is summarized per PA or GL period and sent to Microsoft Project. If you do not choose this option, Microsoft Project will spread the amounts as per the spread curve assigned to the assignment. See, Spread Curves, *Oracle Projects Implementation Guide*.

Examples: The WBS Level and Transferred Tasks and Budgets

Specifying the lowest WBS level to send

The following table shows the work breakdown structures in Microsoft Project and Oracle Projects if you specify a lowest task level of 3. Tasks 1.1.1.1, 1.1.1.2, and 1.1.1.3 are at level 4 (lower than the specified lower task level of 3), so Oracle Projects did not send those tasks.

Microsoft Project Outline Number	Oracle Projects Task Number
1	1
1.1	1.1
1.1.1	1.1.1
1.1.1.1	
1.1.1.2	
1.1.1.3	
1.1.2	1.1.2
1.1.3	1.1.3
1.2	1.2
2	2
3	3
4	4

Effects on Actuals

Because tasks 1.1.1.1, 1.1.1.2, and 1.1.1.3 do not exist in Oracle Projects, there is no way to collect costs for them. However, you can collect actuals for all the lowest level tasks in Oracle Projects, and then receive summarized actuals into Microsoft Project (choose Receive> Actuals from the Oracle Projects menu). The summarized actuals will be associated with the corresponding tasks in Microsoft Project.

For example, you might collect and summarize task and resource assignment actuals for task 1.1.1 in Oracle Projects, and then receive the actuals into Microsoft Project. Task 1.1.1 in Microsoft Project would show actual costs and quantities, as collected in Oracle

Projects, but the subtasks of 1.1.1 will show the actual cost and quantities as calculated by Microsoft Project.

Including rolled-up budget items

If you use the option for setting the lowest level of the WBS to send (or if you use the Column Text5 option), then the WBS in Microsoft Project is different than the WBS in Oracle Projects. The task-level budgets that you send using Oracle Projects contain either all the detail budget line items from Microsoft Project, or only those for the lowest level tasks actually sent to Oracle Projects.

The tasks at level 4 in Microsoft Project (1.1.1.1, 1.1.1.2, 1.1.1.3) are associated with task level cost budgets, so these items would be included in the newly created budget in Oracle Projects. Included budget items in Oracle Projects would be associated with the appropriate lowest level task, in this case tasks 1.1.1 and 2.

Microsoft Project Outline Number	Microsoft Project Budget	Oracle Projects Task Number	Oracle Projects Budget
1		1	
1.1		1.1	
1.1.1		1.1.1	$300
1.1.1.1	$100		
1.1.1.2	$100		
1.1.1.3	$100		
1.1.2		2	$500
1.1.3		3	
1.2			
2	$500		
3			

Attributes Transferred

The tables below list the workplan and financial attributes transferred between Oracle Projects and Microsoft Project, the direction of data transfer, the Oracle Projects fields, and the corresponding fields in Microsoft Project.

If you change any of the Microsoft Project columns or use them to store different types of information, the integration between Oracle Projects and Microsoft Project may not operate properly.

Workplan Attributes

The following table lists the Oracle Projects fields and Microsoft Project fields for task planning attributes:

Oracle Projects Field	Microsoft Project Field	Direction of Data Transfer
Task Name	Task Name	Both ways
Task Number	Unique ID or Text5 or Outline Number	- Unique ID and Outline Number: Microsoft Project to Oracle Projects - Text5: Both ways
Task Manager	Text16	Both ways
Task Manager ID	Text6	Both ways
Task Description	Notes	Both ways
Task Priority	Text10	Both ways
Task Outline Number and Level	Outline Number and Level	Both ways
Task Type	Text18	Both ways
Task Type ID	Text7	Both ways
Scheduling Tool Task Type	Task Type	Both ways
Work Type	Text17	Both ways
Work Type ID	Text8	Both ways
Service Type	Text4	Both ways
Chargeable Flag	Text2	Both ways
Billable Flag	Text3	Both ways
Scheduled Start Date	Start	Microsoft Project to Oracle Projects
Scheduled Finish Date	Finish	Microsoft Project to Oracle Projects
Scheduled Duration: For task with no assignments	Duration	Both ways
Scheduled Duration: For task with assignments	Duration	- Both ways for fixed duration tasks - Microsoft Project to Oracle Projects for fixed units and fixed work tasks
Actual Duration	Actual Duration	Microsoft Project to Oracle Projects

Oracle Projects Field	Microsoft Project Field	Direction of Data Transfer
Transaction Start Date	- Start1 for shared structures - Start for split structures	Both ways
Transaction Finish Date	- Start1 for shared structures - Start for split structures	Both ways
Milestone Flag	Milestone	Both ways
Critical Flag	Critical	Microsoft Project to Oracle Projects
Constraint Date	Constraint Date	Both ways
Constraint Type	Constraint Type	Both ways
Early Start	Early Start	Microsoft Project to Oracle Projects
Early Finish	Early Finish	Microsoft Project to Oracle Projects
Late Start	Late Start	Microsoft Project to Oracle Projects
Late Finish	Late Finish	Microsoft Project to Oracle Projects
Free Slack (Free Float)	Free Slack	Microsoft Project to Oracle Projects
Total Slack (Total Float)	Total Slack	Microsoft Project to Oracle Projects
Task Effort Driven Flag	Effort Driven	Both ways
Level Assignments	Level Assignments	Both ways
Work Quantity: Item	Text14	Both ways
Work Quantity: UOM	Text15	Both ways
Dependencies: Predecessors	Predecessors	Both ways
Planned Efforts	Works	Both ways
Planned Cost	Cost	Microsoft Project to Oracle Projects when Calculate Cost Using Microsoft Project option is selected.

The following table lists the Oracle Projects fields and Microsoft Project fields for task progress attributes:

Oracle Projects Field	Microsoft Project Field	Direction of Data Transfer
Progress Status Code	Text11	Both ways
Progress Overview	Text12	Both ways
Progress Comments	Text13	Both ways
Planned Work Quantity	Number2	Both ways
Cumulative Work Quantity	Number1	Both ways
Item	Text14	Both ways
UOM	Text15	Both ways
Actual Effort to Date	Actual Work	Both ways
Estimated to Complete Effort	Remaining Work	Microsoft Project to Oracle Projects
Estimate to Complete Cost	Cost6	Oracle Projects to Microsoft Project
Actual Start	Actual Start	Both ways if task has no assignments
Actual Finish	Actual Finish	Both ways if task has no assignments
Estimated Start	Start3	Both ways
Estimated Finish	Finish3	Both ways
Physical % Complete	Number3	Both ways

The following table lists the Oracle Projects fields and Microsoft Project fields for resource assignment planning attributes:

Oracle Projects Field	Microsoft Project Field	Direction of Data Transfer
Planning Resource Name	Resource Name	Both ways
Role Name	Text2	Both ways
Unit of Measure	Text3	Oracle Projects to Microsoft Project
Assignment Delay	Assignment Delay	Both ways
Scheduled Start	Start	Microsoft Project to Oracle Projects
Scheduled Finish	Finish	Microsoft Project to Oracle Projects
Planned Quantity	Work	Both ways
Planned Cost	Cost1	Both ways

The following table lists the Oracle Projects fields and Microsoft Project fields for resource assignment progress attributes:

Oracle Projects Field	Microsoft Project Field	Direction of Data Transfer
Actual Start	Actual Start	Both ways
Actual Finish	Actual Finish	Both ways
Actual Effort	Actual Work	Both ways
Estimate to Complete Effort	Remaining Work	Microsoft Project to Oracle Projects
Actual Cost	Actual Cost	Oracle Projects to Microsoft Project
Estimate to Complete Cost	Cost2	Both ways

The following table lists the Oracle Projects fields and Microsoft Project fields for the resource attributes:

Oracle Projects Field	Microsoft Project Field	Direction of Data Transfer
Planning Resource Alias	Name	Oracle Projects to Microsoft Project
Resource Class	Resource Type	Oracle Projects to Microsoft Project
Resource Unit of Measure	Text2	Oracle Projects to Microsoft Project
Burden Rate	Standard Rate	Oracle Projects to Microsoft Project

Financial Attributes

The following table lists the Oracle Projects fields and Microsoft Project fields for financial attributes:

Oracle Projects Field	Microsoft Project Field	Direction of Data Transfer
Service Type	Text4	Both ways
Chargeable	Text2	Both ways
Billable/Capitalizable	Text3	Both ways
Raw Cost	Cost	Microsoft Project to Oracle Projects
Burdened Cost	Cost	Microsoft Project to Oracle Projects
Revenue	Cost	Microsoft Project to Oracle Projects
Quantity	Work	Microsoft Project to Oracle Projects

> **Note:** Depending on the option you select during Send Budget Data process, the Cost field in Microsoft Project is transferred to either the Raw Cost, Burdened Cost, or Revenue field in Oracle Projects.

The integration process also uses several project-level columns in Microsoft Project. However, you should not access these columns to view or change information for the Project Summary Task using Microsoft Project Integration or any of the related features in Microsoft Project.

Related Topics

Receiving Information from Microsoft Project, page 5-7

Deleting a Task, page 5-16

Clearing the Link to Oracle Projects, page 5-17

6

Budgeting and Forecasting

This chapter describes how to create and manage budgets and forecasts in Oracle Projects.

This chapter covers the following topics:

- Overview of Project Budgeting and Forecasting
- Using Budgeting and Forecasting
- Creating Budgets and Forecasts With Budgetary Controls and Budget Integration
- Using Budgetary Controls
- Integrating Budgets

Overview of Project Budgeting and Forecasting

A budget or forecast is an estimate of the financial performance of a project. You can create budgets and forecasts to plan and manage the financial performance of projects throughout the project life cycle. You can create multiple budgets and forecasts for a project to model the financial impact of different planning alternatives. You can also utilize budgets and forecasts to track ongoing project performance and project status by comparing budget and forecast amounts to actual amounts using reporting tools such as Project Performance Reporting and Project Status Inquiry.

Building Budgets

The following illustration shows the process flow for creating budgets in Oracle Projects.

Budget Flow

Budget Flow
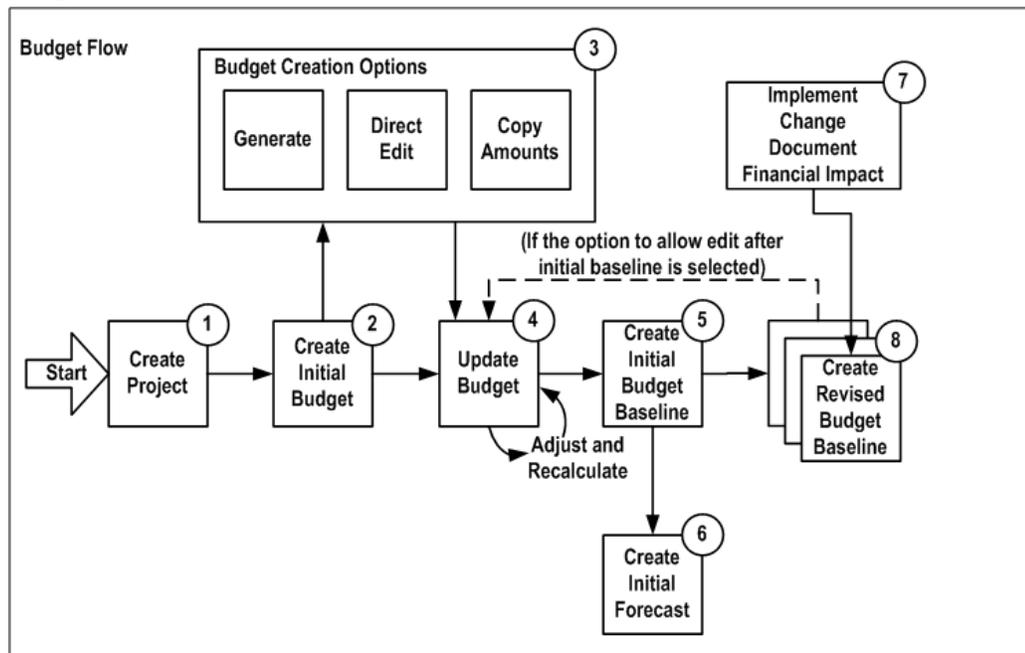
The first step in the process flow for defining budgets is to create a project. If any financial plan versions exist in the source project or project template, then Oracle Projects copies them to the new project. After you create a project, you can create and update a workplan and a staffing plan before you create the initial budget.

Next, you create the initial budget version by entering a name and description for the new budget version. You can choose one of the following three options to create the budget:

- The first option is to generate budget amounts from the workplan, staffing plan, or a financial plan. You can also choose whether additional sources, such as open commitments, billing events, and change documents, can contribute to the budget.

- A second option is that you can directly enter budget amounts. You can choose to calculate cost and revenue amounts from the entered quantity.

- A third option is to copy amounts from an existing plan version for the project.

You have several options for updating a budget version. You can choose an adjustment option that enables you to increase or decrease the quantity, raw cost rate, burden cost rate, and bill rate by a percentage. You can also directly edit the quantity, rate, cost, and revenue amounts. If you are planning by time period, Oracle Projects automatically distributes the edited amounts across periods based on the spread curve associated with each planning resource. When you update the quantity, cost, revenue, or rate, Oracle Projects automatically recalculates all other amounts that are dependant on the edited amounts.

You can use the batch concurrent program *PRC: Generate Financial Plan Amounts* for mass budget generation. When you use the batch concurrent program, Oracle Projects obtains the default values for the budget generation source and methods from the plan settings, task, and resource. The project administrator can schedule the program to run on a regular basis for all projects or for a range of projects.

After you generate a budget version, you can manually enter additional budget amounts, override generated amounts, and adjust quantities or rates by a percentage as described in the preceding paragraph. You can also choose to regenerate your budget at any time to incorporate changes made in the generation source.

> **Note:** When you define generation options, you can choose an option that enables you to retain any manually-added budget lines when you regenerate a budget.

The next step in the process flow is to create a baseline for the initial budget version. Creating a baseline is the process of approving a submitted, current working budget version. Budget approval can be either automatic or via workflow.

> **Note:** Oracle Projects automatically creates an initial forecast version from the initial baseline of an *approved budget* if certain criteria are met. For more information, see: Building Forecasts, page 6-3.

If the financial plan type for a budget is designated as an *approved budget* plan type, then your implementation team can enable an option for the financial plan type that allows you to edit and submit a working version after the creation of an initial budget baseline. If this option is not enabled, then you can update an approved budget only by creating a change order that records the financial impact of the change and by implementing the financial impact of the change order in the budget.

> **Important:** If you want to create budgets and forecasts that use budgetary controls and budget integration features, you cannot use the features that enable you to automatically generate budgets and forecasts from workplans, staffing plans, and other financial plans. You also cannot use the features that enable you to implement the financial impact of change documents.

Related Topics

Implementing and Including Financial Impact in Budgets and Forecasts, page 8-14

Financial Plan Types, *Oracle Projects Implementation Guide*

Period Profiles, *Oracle Projects Implementation Guide*

Spread Curves, *Oracle Projects Implementation Guide*

Using Budgetary Controls and Budget Integration, page 6-10

Building Forecasts

The following illustration shows the process flow for creating forecasts in Oracle Projects.

Forecast Flow
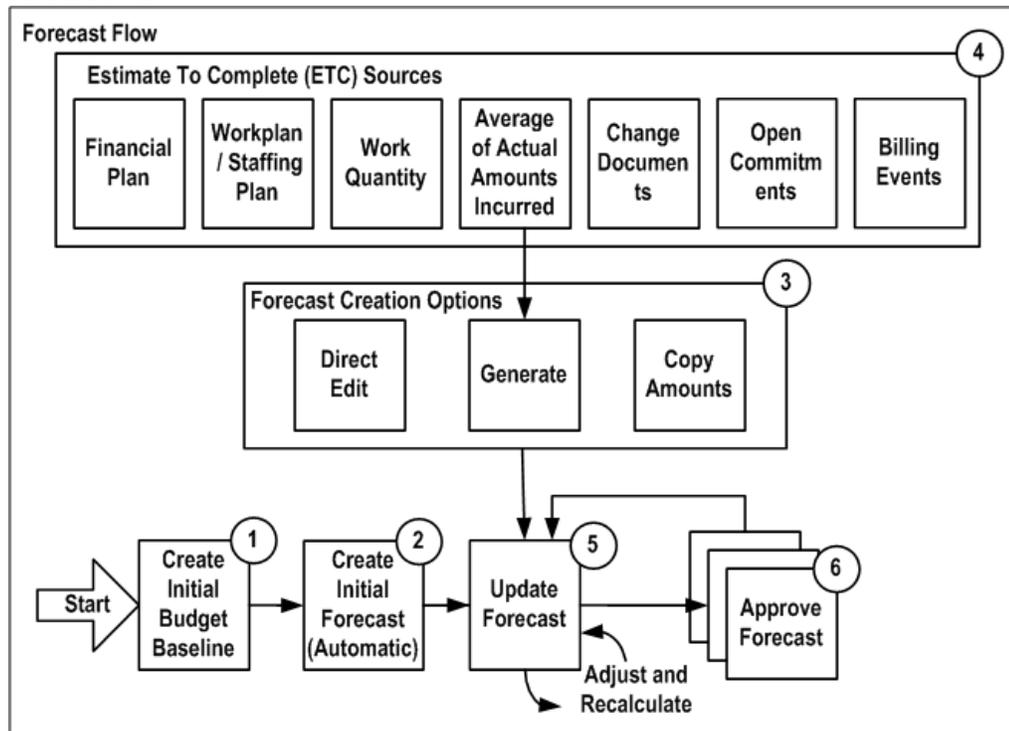
Forecast Flow

The first step in the process flow for defining forecasts in Oracle Projects is to create a baseline for the initial budget version of an *approved budget* plan type. Oracle Projects automatically creates an initial forecast version from the initial baseline of an approved budget plan type if the following criteria are met:

- The forecast plan type is designated as either a *primary cost* or *primary revenue* forecast

- No forecast version exists for the plan type

While Oracle Projects usually creates the initial forecast from the initial baseline of an approved budget, you can choose to manually create the initial forecast or generate it from other sources. These sources include the workplan, staffing plan, work quantity, other financial plans, and actual amounts.

Oracle Projects forecasting features provide project managers with a tool for determining the amount of cost expended and revenue realized to date, as well as the estimated cost required and revenue to be realized for the remainder of a project. A forecast consists of a combination of actual amounts and estimate to complete (ETC) amounts. Actual amounts are the actual effort, quantity, cost, and revenue amounts recorded for the project to date. ETC amounts represent the estimated effort, quantity, cost, and revenue amounts necessary to complete the project. You can periodically regenerate a forecast to include the latest actual amounts and redetermine the ETC amounts. You cannot edit the actual amounts included in a forecast. You can only edit ETC amounts.

When you generate a forecast, you can choose the periods through which to include actual amounts. You can choose to derive the ETC amounts from the following sources:

- Financial plan
- Workplan

- Staffing plan

- Work quantity

- Average of Actual amounts incurred

- Change documents

- Open commitments

- Billing events

- Unspent amounts (calculated as the difference between the actual amounts and the current baseline for the approved cost budget)

Alternatively, you have the option of directly entering ETC amounts.

As a project is executed, people charge actual amounts to the project. As a result, you must periodically prepare updated or new forecasts. You can adjust or regenerate individual forecasts on an ad hoc basis. For example, you can choose to regenerate a forecast when a substantial change in the workplan or staffing plan has occurred. When you regenerate a forecast from the context of a plan version, you have the option of retaining any forecast lines that were added manually for ETC period amounts.

You can use the batch concurrent program *PRC: Generate Financial Plan Amounts* for mass forecast generation. When you use the batch concurrent program, Oracle Projects obtains the default values for the forecast generation source and methods from the plan settings, task, and resource. The project administrator can schedule the program to run on a regular basis for all projects or for a range of projects.

In addition to regenerating forecasts, you have several other options for updating a forecast version. You can choose an adjustment option that enables you to increase or decrease the quantity, raw cost rate, burden cost rate, and bill rate by a percentage. You can also directly edit the quantity, rate, cost, and revenue amounts. If you are planning by time period, Oracle Projects automatically distributes the edited amounts across periods based on the spread curve associated with each planning resource. When you update the quantity, cost, revenue, or rate, Oracle Projects automatically recalculates any other amounts that are dependant on the edited amounts.

The final step of the process is to approve the forecast version.

> **Important:** If you want to create budgets and forecasts that use budgetary controls and budget integration features, you cannot use the features that enable you to automatically generate budgets and forecasts from workplans, staffing plans, and other financial plans.

Related Topics

Financial Plan Types, *Oracle Projects Implementation Guide*

Period Profiles, *Oracle Projects Implementation Guide*

Spread Curves, *Oracle Projects Implementation Guide*

Using Budgetary Controls and Budget Integration, page 6-10

Understanding Plan Types and Plan Versions

To define a budget or a forecast, you add a *plan type* to a project and create a *plan version* for the plan type. A plan type defines a specific type of budget or forecast (for example, an approved cost budget, a revenue forecast, or a bid). You create a plan

version to define a specific planning instance or scenario for a plan type (for example, a cost budget version that is based on a set of proposed contract terms, or a cost forecast version that is based on an engineering estimate).

You can add multiple plan types to a project, and you can create multiple plan versions for a plan type. To identify budget and forecast versions, the system assigns each version a number. In addition, you can give each version a name. The following illustration shows these relationships.

Multiple Plan Types and Plan Versions for a Project
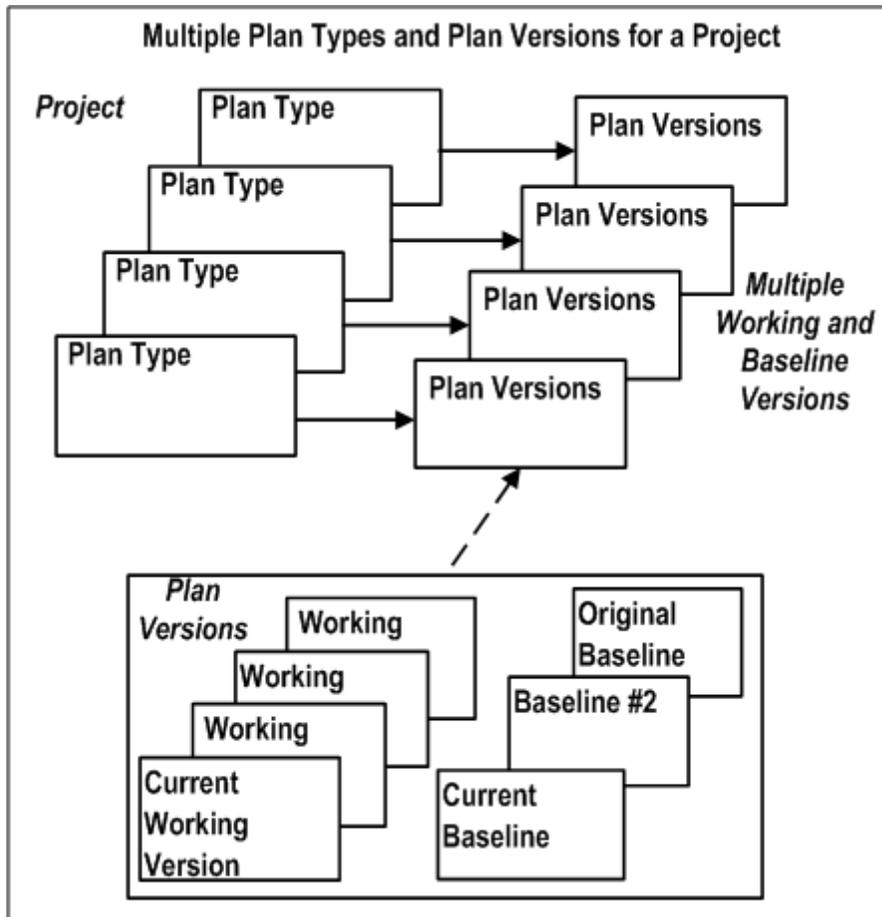
You can define planning options such as plan settings, currency settings, and rate schedules at the project, plan type (in the context of a project), and plan version levels. You can define planning options for budget and forecast generation at the plan type in the context of a project and plan version levels. You can enter amounts (quantities, costs, and revenues) only at the plan version level.

Related Topics

Defining Planning Options, page 6-14

Adding Plan Types to a Project, page 6-18

Creating Plan Versions, page 6-19

Planning for Cost and Revenue

Oracle Projects enables you to create different combinations of cost and revenue budgets and forecasts for a project. When you add a plan type to a project, you can choose whether the plan type is for cost amounts only, revenue amounts only, or both cost and revenue. If the plan type is for cost and revenue, then you can choose whether to plan for cost and revenue amounts together in the same plan version, or separately in different plan versions. For more information, see: Adding Plan Types to a Project, page 6-18.

Determining the Level of Detail for Budgets and Forecasts

The level of detail at which you enter, view, and report budgets and forecasts is determined by the following factors:

- The planning level that you select for entering plan version amounts

- Whether you choose to categorize plan version amounts by resources

- The time phase that you select for entering plan version amounts, if any

Selecting Planning Levels for Budgets and Forecasts

A planning level represents the level of the project financial structure at which you enter budget and forecast amounts. Planning level options enable you to create different plan versions that capture budget and forecast amounts at different levels of detail. For example, you can create one budget version to capture detail cost amounts at the lowest task level, another to capture summary cost amounts at the top task level, and a third to capture total revenue amounts at the project level.

Unless you are creating budgets and forecasts that use budgetary controls and budget integration features, you can choose to enter budget and forecast amounts at any level of the financial structure by selecting one of the following *lowest level* planning level options:

- Project

- Top Task

- Lowest Task

  When you choose the *Lowest Task* option, you can enter amounts at all levels of the financial structure including top tasks, middle-level tasks, and lowest tasks. You can also enter amounts at multiple task levels within the same branch of the financial structure. Oracle Projects treats the amounts that you enter at each task level as incremental amounts that roll up into the total amounts for the project.

When you create budgets and forecasts that use budgetary controls and budget integration features, you can choose to enter budget and forecast amounts at one of the following planning levels:

- Project

- Top Task

- Lowest Task

- Top and Lowest Task

  When you choose the *Top and Lowest Task* option, you can enter amounts in a combination of top tasks and lowest tasks. For example, you can set up some branches of the financial structure to enter amounts at the top task level and other

branches to enter amounts at the lowest task level. You cannot enter amounts at both the top task and lowest task levels within the same branch of the financial structure.

Categorizing Budget and Forecast Amounts by Resources

You can enter detail budget and forecast amounts that are categorized according to a planning resource list, or you can enter uncategorized (or summary) amounts.

- **Categorized Amounts**

  Categorized amounts are amounts that you enter by planning resource. Planning resources are combinations of resources (the labor, services, equipment, and other items) that you define to plan and track project work.

  > **Important:** When you create budgets and forecasts that use budgetary controls and budget integration, you cannot use a *planning resource list* to categorize budget and forecast amounts. Instead, you must use a standard, two-level *resource list*.

  You can enter quantities for different planning resources in different units of measure. However, only quantities with a unit of measure of *Hours* are rolled up into the total. Oracle Projects rolls up hours for resources with the resource class *People* separately from hours for resources with the resource class *Equipment*.

  You can choose to enter categorized amounts for any planning level, and you can select different planning resource lists for different kinds of projects. For example, you can enter labor by employee for small research and development projects, and by organization for large design projects.

- **Uncategorized Amounts**

  Uncategorized amounts are amounts that you enter in total at a project or a task level. When you enter uncategorized amounts, you enter one budget or forecast line for the project or for a task. An uncategorized amount may represent an amount for a single planning resource item or a total amount for several planning resource items (for example, labor, expenses, and usages). When you enter uncategorized amounts, Oracle Projects uses a unit of measure of *Currency*.

  > **Note:** When you enter uncategorized amounts for a budget or forecast that uses a standard, two-level resource list, you can enter amounts using a unit of measure of *Hours*. To enter amounts using a unit of measure of Hours for a planning resource, you must choose the *People* resource class.

Related Topics

Resources and Resource Lists, *Oracle Projects Implementation Guide*

Planning Resources and Planning Resource Lists, *Oracle Projects Implementation Guide*

Selecting Time Phases for Budgets and Forecasts

You can enter budget and forecast amounts in total for the duration of a project or task (also known as *budget or forecast at completion*), or you can enter amounts by time period. You can enter amounts by time period for categorized and uncategorized budgets and forecasts.

You can delineate a budget or forecast by one of the following time phases:

- **PA Periods:** Established Oracle Projects periods
- **GL Periods:** Established Oracle General Ledger periods
- **None (budget or forecast at completion)**

> **Note:** When you create budgets and forecasts that use budgetary controls and budget integration features, you can also create budgets and forecasts that are time-phased by *date range*.

You can select a different time phase for each plan type in the context of a project and plan version. For example, you can create a detailed cost budget version by PA Period, a summary cost budget version by GL Period, and a revenue budget for the duration of the project.

Related Topics

Date Processing in Oracle Projects, *Oracle Projects Fundamentals*

Using Period Profiles

You use period profiles to specify how Oracle Projects groups and displays time periods when you edit budgets and forecasts. Period profiles do not affect the time periods for which you can enter amounts. The periods for which you can enter amounts are determined by the start and end dates of the budget or forecast line.

Your implementation team creates a period profile by specifying whether the period profile is based on PA or GL periods, and by defining a range of periods. The period profile specifies the number of PA or GL periods to include in one or more period groupings. A period profile can consist of up to 1,000 period groupings of varying duration.

> **Note:** Oracle Projects provides two predefined period profiles. One is based on PA periods and the other is based on GL periods. Both period profiles contain 52 single period groupings.

You can associate period profiles with projects at the project, plan type (in the context of a project), and plan version levels. The period profile you select for a project is the default period profile for all plan types that you add to a project. The period profile for a plan type is the default period profile for all plan versions that you create for a plan type. You can override the default period profile selections at the plan type and plan version levels.

> **Note:** You cannot use period profiles to specify how Oracle Projects groups and displays time periods when you create budgets and forecasts that use budgetary controls and budget integration features.

For a comprehensive discussion of how Oracle Projects uses period profiles, see: Period Profiles, *Oracle Projects Implementation Guide*.

Related Topics

Defining Planning Options, page 6-14

Using Spread Curves

Your implementation team creates spread curves to derive allocation factors that Oracle Projects uses to automatically distribute quantity, cost, and revenue amounts across a range of PA or GL periods. Oracle Projects uses spread curves to distribute budget and forecast amounts at the following times:

- When you generate amounts for a budget or forecast version that is time-phased by PA or GL periods

- When you enter amounts for a budget or forecast line for which no amounts have been entered previously

  Note: If amounts already exist for a budget or forecast line, Oracle Projects automatically allocates the entered amounts across periods based on the existing period line amounts.

- When you choose to redistribute existing amounts for a plan line on the Edit Budget Line or Edit Forecast Line page

- When you include or implement the financial impact of change documents in a plan version that is time-phased by PA or GL periods

Spread curves are associated with resource classes and planning resources. The spread curve associated with a resource class is the default spread curve for all planning resources for the resource class. You can override the default spread curve assigned to a planning resource when you edit details for a budget or forecast line.

  Note: You cannot use spread curves to distribute budget and forecast amounts when you create budgets and forecasts that use budgetary controls and budget integration features.

For a comprehensive discussion of how Oracle Projects uses spread curves, see: Spread Curves, *Oracle Projects Implementation Guide*.

Related Topics

Generating Budgets, page 6-22

Generating Forecasts, page 6-29

Entering Amounts and Editing Plan Versions, page 6-40

Resource Classes, *Oracle Projects Implementation Guide*

Using Budgetary Controls and Budget Integration

You can set up budgets and forecasts that use Oracle Projects budgetary controls and budget integration features. Budgetary controls enable you to monitor and control expense commitment transactions entered for a project based on a project cost budget. Budget integration features enable you to integrate your project budgets and forecasts with budgets in Oracle General Ledger and Oracle Contract Commitments.

  Important: To create budgets and forecasts that use budgetary controls and budget integration features, you must follow the processes and procedures described in the section in this chapter titled Creating Budgets and Forecasts With Budgetary Controls and Budget Integration, page 6-52.

Calculating and Adjusting Budget and Forecast Amounts

You can define budgets and forecasts in Oracle Projects to calculate raw cost, burdened cost, and revenue for each line in your budget or forecast. Oracle Projects calculates amounts based on the quantities and amounts that you enter, and rates from the rate schedules that you specify for cost and revenue in your budget or forecast rate schedule planning options.

You can choose to use either actual rates or planning rates to determine cost and revenue amounts for budgeting and forecasting. *Actual rates* are the rates that Oracle Projects uses to calculate actual cost and revenue amounts for expenditure items. *Planning rates* are rates that you define specifically for planning purposes. For a comprehensive discussion of how Oracle Projects determines and uses rates for financial planning, see: Using Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals*.

You can override the default rates used to calculate cost and revenue amounts (for example, raw cost rates and bill rates) for a budget or forecast line. You can also override the default calculation logic and define your own calculation rules using budget calculation extensions. For example, you can define calculation rules to calculate raw cost, burdened cost, or revenue when you enter a quantity. You can use function security and the amount entry options that you select in your plan settings to control whether you can manually update a calculated value.

You can use Oracle Projects budget and forecast adjustment features to update a budget or forecast version after you enter or generate amounts for the version. The adjustment features enable you to select a budget or forecast component that you want to adjust (for example, a burden rate), specify an adjustment percentage, and, optionally, create a new plan version to capture the revised amounts.

> **Note:** You cannot use budget or forecast rate schedule planning options, override rates for budget or forecast lines, or apply percentage adjustments to budget or forecast versions when you create budgets and forecasts that use budgetary controls and budget integration features.

Options for Copying Budgets and Forecasts

Oracle Projects provides the following capabilities for copying budget and forecasts:

- When you create a new project by copying a project template or existing project, Oracle Projects automatically copies the budgets and forecasts of the project template or existing project to the new project.

- When you create or modify a plan version, you can copy amounts from another plan version on the same project.

Related Topics

Copying Budgets and Forecasts, page 6-43

Entering Budgets and Forecasts in Multiple Currencies

You can create budgets and forecasts that enable you to enter plan amounts in multiple transaction currencies. When you enter amounts in multiple transaction currencies, Oracle Projects automatically converts the transaction amounts to project currency and project functional currency based on conversion attributes that you define.

You can define rate schedules in a multiple currencies. If you enable your budget or forecast version for planning in multiple currencies, Oracle Projects calculates the amounts using the rate schedule currency as the transaction currency.

> **Note:** You cannot enable entry of plan amounts in multiple transaction currencies when you create budgets and forecasts that use budgetary controls and budget integration features.

Related Topics

Defining Currency Settings, page 6-17

Rate Schedule Definition, *Oracle Projects Implementation Guide*

Generating Budgets and Forecasts in Multiple Reporting Currencies

You can implement Oracle Projects to generate budget and forecast amounts in multiple reporting currencies. Based on the option that you select, Oracle Projects generates plan lines in multiple reporting currencies either for all plan versions, or for baselines only.

To enable multiple reporting currencies for budgeting and forecasting, you must select the *Maintain Budgets in Reporting Currency* option in your currency implementation options.

When you enable multiple reporting currencies for budgeting and forecasting, the system automatically generates plan lines in each reporting currency for all plan lines that you enter or create, regardless of the source. For example, the system generates plan lines in reporting currencies for plan lines that you enter directly in Oracle Projects, and for plan lines that the system creates when you create a baseline or copy a project from a project template or project.

The system selects conversion attributes for multiple reporting currencies based on the following hierarchy:

- If entry of plan amounts in multiple currencies is enabled, then the system searches for corresponding conversion attributes defined for project currency and project functional currency. The system first checks at the plan version level, then at the plan type (in the context of a project) level, and finally, at the financial plan type.

- If conversion attributes are not available for a plan version, plan type (in the context of a project), or financial plan type, or if entry of plan amounts in multiple currencies is not enabled, then the system selects from the conversion attributes defined for the set of books.

  > **Note:** Because you cannot enable entry of plan amounts in multiple currencies for budgets and forecasts that use Oracle Projects budgetary controls and budget integration features, Oracle Projects selects conversion attributes from the conversion attributes defined for the set of books.

In addition to the above sources, Oracle Projects provides a client extension for budgeting and forecasting **(pa_fp_rc_client_extn)**, which you can optionally use to enter conversion attributes for multiple reporting currencies. The conversion attributes that you specify in this client extension override conversion attributes from all other sources.

Related Topics

Defining Currency Settings, page 6-17

Currency Implementation Options, *Oracle Projects Implementation Guide*

Implementing Client Extensions, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*

Multiple Reporting Currencies in Oracle Applications

Creating Baselines for Budgets and Approving Forecasts

Creating a budget baseline or an approved forecast version is the process of approving a budget or forecast for use in reporting or accounting. Before you can use a budget for project status reporting, project performance reporting, or project billing, you must submit a working budget version and create a baseline. Before you can use a forecast for project status reporting or project performance reporting, you must submit and approve a working forecast version. Oracle Projects maintains each baseline or approved forecast as a separate plan version.

Related Topics

Submitting Budgets and Forecasts, page 6-49

Understanding the Submit Process, page 6-49

Understanding Budget and Forecast Security

Oracle Projects uses role-based security and function security to control access to budget and forecast features. To access budgeting and forecasting features, you must be assigned a responsibility and have an Oracle Projects role to which the appropriate budgeting and forecasting functions are assigned.

You can perform functions such as editing budget and forecast versions, creating baselines, and approving forecasts based on whether the plan class of the plan type associated with a plan version is Budget or Forecast, and whether the plan type is designated as an approved budget or primary cost forecast. You can also control the update of budget and forecast amounts that are imported from external systems.

Edit and maintain security functions enable you to update and view budget and forecast information. If you do not have edit or maintain access, then you must be granted view access to view budgets and forecasts.

To control updates to approved budgets, you can also choose an option to either allow or disallow manual edits after an initial baseline is created. If the *Allow Edit After Initial Baseline* option is enabled for an *approved budget* financial plan type, then you can edit and submit a working version after the creation of an initial budget baseline. However, if this option is not enabled, then you can update an approved budget only by creating a change order that records the financial impact of the change and by implementing the financial impact of the change order in the budget.

Related Topics

Adding Plan Types to a Project, page 6-18

Financial Plan Types, *Oracle Projects Implementation Guide*

Activity Management Gateway Controls, *Oracle Projects Implementation Guide*

Function Security in Oracle Projects, *Oracle Projects Implementation Guide*

Using Budgeting and Forecasting

This section describes the processes for creating budgets and forecasts that do not use Oracle Projects budgetary controls and budget integration features. For information on creating budgets and forecasts that use these features, see: Creating Budgets and Forecasts with Budgetary Controls and Budget Integration, page 6-52.

Defining Planning Options

Planning options provide a template for the creation of budget and forecast versions. Planning options enable you to create budget and forecast versions quickly and without having to select plan settings, currency settings, rate schedules, and generation options each time that you create a new version.

To facilitate the definition of planning options for plan versions, Oracle Projects enables you to define planning options at the following levels:

- **Project Template and Project:** Planning options that you define for a project template or project are the default planning options for plan types that you add to a project.

- **Plan Type:** Planning options that you define for a plan type added to a project override the default planning options from a project template or project, and are the default planning options for plan versions that you create for the plan type.

- **Plan Version:** Planning options that you define for a budget or forecast version override the default planning options from the plan type added to a project.

You can define planning options when you set up a project template or project. You can define and edit planning options when you add a plan type to a project, and when you create a plan version for a plan type.

> **Note:** You can define budget and forecast generation options for a plan type within the context of a project, and for a plan version. You cannot define generation options for a project template or project.

Changes that you make to planning options for a plan type affect only new plan versions that you create after the change. After you enter amounts for a plan version, you cannot change the resource breakdown structure associated with the plan type.

> **Important:** If you intend to create budgets and forecasts that are time-phased by PA or GL periods, you must define period profiles for your project before you define planning options. See: Using Period Profiles, page 6-9.

Defining Plan Settings

Define plan settings to specify how to enter and view amounts for budget and forecast versions. Plan settings also determine whether you must define currency settings and select planning elements (tasks and planning resources). The options available when you define plan settings vary based on whether you are defining planning options for a project template, project, plan type, or plan version.

Approved Budget / Primary Forecast Designations

When your implementation team creates a financial plan type, they can optionally designate a budget plan type as an approved cost budget, an approved revenue budget, or as both. A forecast plan type can be designated as a primary cost forecast, a primary revenue forecast, or as both.

> **Important:** You can update the approved budget and primary forecast designations only at the financial plan type level. You cannot change these designations when you add a plan type to a project template or project, or when you create a plan version for a plan type.
>
> Also note, after you add a financial plan type to a project, you can update only the following information for the financial plan type:
>
> • Effective dates
>
> • Whether to use workflow for status changes
>
> • Conversion attributes
>
> • Change document types and statuses that can be included and implemented in the plan type
>
> You cannot delete a financial plan type after you add it to a project.

For information about approved budget and primary forecast designations, see: Financial Plan Types, *Oracle Projects Implementation Guide*, and Adding Plan Types to a Project, page 6-18.

Amount Entry Options

When you add a plan type to a project or create a budget or forecast, you can select the fields for which you want to enter plan amounts. The fields available for selection depend on whether the plan type allows entry of cost amounts, revenue amounts, or both cost and revenue amounts.

> **Note:** Even if you do not select a field for entry of plan amounts, you can calculate amounts for the field using rates you define using rate schedule planning options, and budget calculation extensions.

Display and Amount Reporting Options

Define how you want to display and report your plan settings

Plan Amounts in Multiple Currencies

If the project currency and the project functional currency for a project are different, then the system automatically selects the *Plan Amounts in Multiple Currencies* check box. Otherwise, you can select this option at the project, plan type (in the context of a project), and plan version levels to enable the entry of budget and forecast amounts in multiple transaction currencies. For more information on selecting currencies, see: Defining Currency Settings, page 6-17.

Rounding Factor

The *Rounding Factor* setting controls how whole numbers are displayed when you view budget and forecast quantities and amounts. For example, if you select a rounding factor of 100, Oracle Projects will display a value of 25,000 as 250.

Report Cost Using

When you add a plan type to a project that allows entry of both cost and revenue amounts, you can use this option to choose whether to calculate margins based on either raw cost or burdened cost amounts.

Report Quantity Using

If you plan for cost and revenue amounts in separate versions, then you can choose whether to report quantity amounts based on either the cost quantity or the revenue quantity.

Resource Breakdown Structure

You can select a resource breakdown structure to control how Oracle Projects rolls up and summarizes budget and forecast amounts for planning resources.

Plan Options

Cost and revenue plan options enable you to define the level of detail at which you enter plan amounts. You can select cost and revenue plan options at the project, plan type (in the context of a project), and plan version levels. You can select different options for cost and revenue plans, or you can use the same options for both cost and revenue plans.

To use the same plan options for cost and revenue, specify only cost plan options and select the *Use Cost Plan Options for Revenue* option on the Plan Settings page. When you select this option, Oracle Projects automatically selects revenue plan options based on the cost plan options.

Lowest Level

Select a *lowest level* planning level to specify the lowest level of the financial structure at which you want enter budget and forecast amounts. You can select one of the following levels:

- Project
- Top Task
- Lowest Task

If you select *Lowest Task*, then you can plan at any level of the financial structure including lowest tasks, mid-level tasks, and top tasks. In addition, you can plan at multiple levels within the same financial structure branch. Oracle Projects treats the amounts that you enter at each task level as incremental amounts that roll up into the total amounts for the project.

For more information, see: Selecting Planning Levels for Budgets and Forecasts, page 6-7.

Resource Information

You can optionally select a *planning resource list* to enable the entry of plan amounts for planning resources. For more information, see: Categorizing Budget and Forecast Amounts by Resources, page 6-8, and Planning Resources and Planning Resource Lists, *Oracle Projects Implementation Guide*.

Time Phase

You can optionally select a *time phase* that enables you to enter plan amounts by PA period or GL period. When you select a time phase, you can also select a period profile (for the project template, project, plan type in the context of a project, and plan version) and the current planning period (for a plan type in the context of a project and plan version) to control how Oracle Projects displays amounts by time period. For more information about period profiles and selecting a current planning period, see: Using Period Profiles, page 6-9, and Period Profiles, *Oracle Projects Implementation Guide*.

If you do not select a time phase, then you must enter amounts for the duration of a project or task. For more information, see: Selecting Time Phases for Budgets and Forecasts, page 6-8, and Date Processing in Oracle Projects, *Oracle Projects Fundamentals*.

Defining Currency Settings

You can define conversion attributes and add transaction currencies for budgets and forecasts on the Currency Settings page.

Conversion Attributes

Define conversion attributes for use in converting plan amounts in transaction currencies to project currency and project functional currency. When you plan for cost and revenue, you must define separate attributes for converting cost and revenue amounts.

The conversion attributes that you define for a financial plan type become the default conversion attributes for a plan type that you add to a project template or project. You can update conversion attributes within a project only at the plan type or plan version level. You cannot define conversion attributes for a project template or project.

Add Transaction Currencies

When entry of plan amounts in multiple currencies is enabled, you can enter amounts only for the currencies listed in the Add Transaction Currencies table on the Currency Settings page. Oracle Projects automatically lists the project currency and project functional currency. You can add additional transaction currencies at any time. You can add transaction currencies at the project, plan type (in the context of a project), and plan version levels.

Related Topics

Multi-Currency, *Oracle General Ledger User Guide*

Selecting Rate Schedules

Rate schedule planning options enable you to select default cost and bill rate schedules to calculate cost and revenue amounts for budgets and forecasts that you either generate automatically or enter manually. You can choose rate schedule options at the project level, for plan types within the context of a project, and for plan versions.

If you select the option to use planning rates, then you can choose the cost and revenue rate schedules to use to generate amounts. If you do not select the option to use planning rates, then Oracle Projects automatically chooses the rate schedules that are used to calculate actual cost and revenue (bill) amounts.

You must specify rate schedules for resource class. When Oracle Projects is unable to determine the actual or planning rates to apply in a calculation, Oracle Projects automatically applies rates from the default rate schedules you specify for resource class.

For a comprehensive discussion of how Oracle Projects determines and uses rates for financial planning, see: Using Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals*.

Related Topics

Selecting Generation Options

You can select budget and forecast generation options to specify the default sources from which to generate quantities and amounts for budget and forecast versions. You can specify generation options for plan types within the context of a project and for plan versions.

You can indicate a primary generation source such as a staffing plan, a workplan version, or another financial plan (budget or forecast) version. You can indicate whether to include quantities and amounts from other sources including change documents, open commitments, and billing events. You can also specify whether Oracle Projects should retain manually-entered plan lines when you generate or regenerate a budget or forecast version.

When you define forecast generation options for forecasts, you can also specify the period through which to include actual amounts in the generated forecast (for example, current period, last closed period, or prior period).

Related Topics

Adding Plan Types to a Project

Plan types enable you to define the types of budgets and forecasts that you want to plan for (for example, an approved budget, a revenue budget, or a bid). You can add multiple plan types to a project by choosing from the list of financial plan types defined during implementation.

When you add a plan type, you must choose whether the plan type allows the entry of cost amounts only, revenue amounts only, or both cost and revenue. When you plan for both cost and revenue, you can choose whether cost and revenue amounts are entered in the same version or in separate versions.

> **Note:** You cannot change the cost or revenue plan setup option after a plan version is created for a plan type.

You must specify planning options for a plan type in the context of a project. The planning options that you define for a plan type are the default planning options for plan versions that you create for the plan type.

> **Note:** If the *Enable Workflow for Status Changes* is enabled for a financial plan type, you cannot change this option when you add a plan type to a project.

A project can have only one budget plan type that is designated as an *approved cost budget* or as an *approved revenue budget*. You can either select a single plan type that includes both designations, or you can select a different plan type for each designation.

A project can have only one forecast plan type that is designated as a *primary cost forecast* or as a *primary revenue forecast*. You can either select a single plan type that includes both designations, or you can select a different plan type for each designation.

An approved budget designation enables you to use a baseline plan version for reporting and for project billing. It also enables you to implement the financial impact of an approved change order in a current working plan version. A primary forecast designation also enables you to use an approved forecast version for reporting. In addition, Oracle Projects automatically generates an initial forecast version for a primary forecast plan type, if none exists, when you create an initial baseline for an approved budget plan type.

> **Important:** You can update the approved budget and primary forecast designations only at the financial plan type level. You cannot change these designations when you add a plan type to a project template or project, or when you create a plan version for a plan type.

Related Topics

Understanding Plan Types and Plan Versions, page 6-5

Financial Plan Types, *Oracle Projects Implementation Guide*

Implementing and Including Financial Impact in Budgets and Forecasts, page 8-14

Generating Forecasts, page 6-29

Creating Plan Versions

A plan version is a budget or forecast version and represents a specific planning instance or scenario for a budget or forecast plan type (for example, a cost budget that is based on a set of proposed contract terms, or a cost forecast that is based on an engineering estimate).

Plan versions enable you to model many different planning scenarios for a plan type. After you add a plan type to a project, you can create a working plan version. You must create a working budget or forecast version to enter amounts.

> **Note:** If the *Baseline Funding Without Budget* feature is enabled for your project, then Oracle Projects automatically creates approved revenue budget baseline plan versions. Therefore, you cannot manually create an approved revenue budget plan version if this feature is enabled. You can create revenue plan versions for any other plan type.

> **Note:** Oracle Projects automatically generates an initial forecast version for a primary forecast plan type, if none exists, when you create an initial baseline for an approved budget plan type.

After you create a plan version, you can optionally override the default planning options assigned from the plan type for all items except approved budget designations and amount reporting options. When you create a working plan version, you can choose to enter plan amounts by one of the following methods:

- Generating the budget or forecast version
- Copying amounts from another budget or forecast version
- Entering amounts in Edit Budget and Edit Forecast pages
- Downloading the version and entering the amounts in a Microsoft Excel spreadsheet

When you are satisfied with your budget, you can submit the *current* working version and create a baseline. When you are satisfied with your forecast, you can submit the *current* working version and create an approved forecast. Oracle Projects creates budget baselines and approved forecasts as new plan versions.

Related Topics

Project Funding Inquiry Window Reference, *Oracle Project Billing User Guide*

Understanding Plan Types and Plan Versions, page 6-5

Defining Plan Settings, page 6-15

Generating Budgets, page 6-22

Generating Forecasts, page 6-29

Entering Amounts and Editing Plan Versions, page 6-40

Editing Budgets and Forecasts in Microsoft Excel, page 6-42

Copying Budget and Forecast Amounts Within a Project, page 6-45

Maintaining Plan Versions

After you create a plan version for a budget or forecast plan type, it is displayed on either the Maintain Budget Versions page or the Maintain Forecast Versions page as a working version. These pages display all plan versions for a budget or forecast plan type, and are the entry points for viewing and working with budget and forecast versions.

> **Note:** If the *Baseline Funding Without Budget* feature is enabled for your project, then Oracle Projects automatically creates approved revenue budget baseline plan versions. No working plan versions are displayed by the system when this feature is enabled.

To submit a working plan version, or to create a budget baseline or approved forecast from a working plan version, you must set the version to *Current Working*. You can set any working plan version to Current Working at any time.

You can rework a working version after it is submitted. However, you cannot rework a working version when a submit or baseline workflow process is in progress.

If the *Allow Edit After Initial Baseline* option is enabled for an *approved budget* financial plan type, then you can edit and submit a working version after the creation of an initial budget baseline. However, if this option is not enabled, then you can update an approved budget only by creating a change order that records the financial impact of the change and by implementing the financial impact of the change order in the budget.

> **Note:** When you create a baseline or an approved forecast, Oracle Projects automatically creates a new Current Working version. To modify a budget or forecast after you create a baseline or an approved forecast, you can optionally update the new Current Working version and create a new baseline or approved forecast.

The system automatically marks the initial baseline plan version as the *Original Baseline*. The system automatically marks the latest baseline version as the *Current Baseline* version. You can set any baseline to be the original baseline at any time.

The system automatically marks the initial approved forecast version as the *Original Approved Forecast*. The system automatically marks the latest approved version as the *Current Approved Forecast* version. You can set any approved forecast to be the original approved forecast at any time.

When you delete a working plan version, the system permanently removes the version.

Maintenance Activities Allowed for Working Versions

You can perform the following activities for a *working* version:

- Copy amounts from another plan version

- Enter and update plan amounts

- Include the financial impact of change documents

- Maintain attachments

- Set the version to *Current Working*

> **Note:** When change documents exist that are not implemented, you cannot set another working plan version that uses a different time phase to be the Current Working version for an approved budget plan type.

- Delete the version

> **Note:** To enter the financial impact of a change document, a current working plan version must exist for an approved budget plan type. Therefore, you cannot delete the *Current Working* plan version for an approved budget plan type if financial impact exists for a change document on a project.

- Submit the version

- Rework the version

- Create a budget baseline or an approved forecast (if workflow is not used)

Maintenance Activities Allowed for Budget Baseline and Approved Forecast Versions

You can perform the following activities for a *budget baseline* or *approved forecast* version:

- Set the version to *Original Baseline* or *Original Approved*

- View attachments

- Delete the version

> **Note:** You can delete any baseline version except the current budget baseline and original budget baseline, or any approved forecast except the current approved forecast version only if the function security associated with your responsibility is defined to allow deletion of these plan class and plan type combinations.

Maintenance Activities Allowed for Any Budget or Forecast Version

You can perform the following activities for any *working, budget baseline, or approved forecast* version:

- Create a working copy of the version

- View the financial impact of change documents included in the version, if any

- View plan version details and amounts

Related Topics

Project Funding Inquiry Window Reference, *Oracle Project Billing User Guide*

Entering Amounts and Editing Plan Versions, page 6-40

Copying Budget and Forecast Amounts Within a Project, page 6-45

Including and Viewing Change Documents, page 6-46

Submitting Budgets and Forecasts, page 6-49

Creating Baselines for Budgets and Approving Forecasts, page 6-51

Implementing and Including Financial Impact in Budgets and Forecasts, page 8-14

Overview of Document Management, page 9-1

Generating Budgets

Oracle Projects enables you to automatically generate project budgets based on quantities and amounts captured in staffing plans, workplans, financial plans (other budgets and forecasts), and from other sources that you specify.

Overview of Budget Generation

To generate a project budget, you must define budget generation planning options to specify the sources from which to generate the budget. In addition, you must define rate schedule planning options to specify the sources of the rates Oracle Projects uses to calculate budget cost and revenue amounts.

The generation source provides the quantity, and, in certain cases, the amounts from which Oracle Projects derives quantities, cost amounts, and revenue amounts for budgets. You can also choose to include quantities and amounts from sources such as open commitments, change documents, and billing events.

When you select rate schedule planning options, you can choose either actual rates or planning rates to determine cost and revenue amounts for budgeting. *Actual rates* are the rates that Oracle Projects uses to calculate actual cost and revenue amounts for expenditure items. *Planning rates* are rates that you define specifically for planning purposes. For a comprehensive discussion of how Oracle Projects determines and uses rates for financial planning, see: Using Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals*.

Oracle Projects can calculate cost budget amounts by applying rates from the rate schedules you specify for cost generation. Oracle Projects can calculate revenue budget amounts based on the derived quantities and cost amounts, and the revenue accrual method selected for the project.

You can generate a budget at the time you create a budget plan version and at any time after you create a budget version. After you generate a budget, you can manually adjust the generated amounts and regenerate the budget. Oracle Projects provides a concurrent program, PRC: Generate Financial Plan Amounts, which you can run on a periodic basis to generate new budget versions.

You can specify rate schedule planning options for projects, plan types within the context of a project, and plan versions. You can specify budget generation options for budget plan types and plan versions only.

Related Topics

Building Budgets, page 6-1

Selecting Rate Schedules, page 6-17

Selecting Generation Options, page 6-18

Billing Information, *Oracle Projects Fundamentals*

Generate Financial Plan Amounts, *Oracle Projects Fundamentals*

Determining Budget Sources

You can generate budgets from the following sources:

- **Staffing Plans:** When you choose staffing plan, Oracle Projects generates budget amounts from the project-level resource assignments and requirements.

- **Workplans:** When you choose a workplan, Oracle Projects generates budget amounts from the resource assignments associated with workplan tasks.

- **Financial Plans:** When you choose an existing budget or forecast version, Oracle Projects generates budget amounts from the quantities, cost amounts, and revenue amounts in the source version.

    Important: If workplan cost is not enabled in the plan settings for a workplan, then the following restrictions apply to the available generation sources:

    - If the revenue accrual method for the project is *Cost*, then you cannot use workplan resources as one of the generation sources for a revenue budget.

    - If the revenue accrual method for the project is *Work* and the source workplan version and the current plan type and version use different resource lists, then you cannot use workplan resources as one of the generation sources for a revenue budget.

Other Budget Generation Sources

In addition to generating budgets from staffing plans, workplans, and financial plans, you can optionally choose to include quantities and amounts from the following sources:

- **Open Commitments:** You can enable this option for cost budget generation. When you use this option, Oracle Projects automatically adds amounts for any open commitments (for example, from purchase orders).

  > **Note:** When you choose to include open commitments, you must manually verify that the impact of open commitments is not included in any other budget source amounts.

- **Change Documents:** If you enable this option, then Oracle Projects automatically includes the cost and revenue financial impact of all eligible change documents that are not included in any other budget source amounts.

  > **Note:** The option to include change documents is not available for approved budget plan types. You can only *implement* the financial impact of approved change orders in an approved budget version. In addition, you must implement the financial impact of a change order directly to an approved budget version from within the change order.

- **Billing Events:** You can enable this option for revenue budget generation. When you use this option, Oracle Projects automatically includes all billing events and all deliverables with billing actions. When no billing event date exists, Oracle projects uses the deliverable action due date to determine the period in which the event occurs.

  > **Note:** This option is disabled if the revenue accrual method for the project is an event-based rule, because in this case the billing events are the primary source for the budget generation.

Related Topics

Implementing and Including Financial Impact in Budgets and Forecasts, page 8-14

Generating Budget Amounts

This section describes how Oracle Projects determines quantities, and calculates cost and revenue amounts for budgets. This section also describes how Oracle Projects maps planning resource amounts across different planning resource lists, and from workplan structures to financial structures. In addition, this section describes options for updating and regenerating budgets.

> **Note:** If the target budget version and the generation source use the same time periods, planning level, and planning resource list, then Oracle Projects generates the budget using the rates and periodic distribution of the budget source.

> **Important:** If you choose to include *Commitments* in your budget, before you generate a budget you must submit the summarization processes for project performance and exception reporting. For more information

see: Performance and Exceptions Reporting Processes, *Oracle Projects Fundamentals*.

Generating Budget Cost

Oracle Projects determines quantity and cost amounts for generated budgets based on whether the planning resources associated with the budget source are rate-based or non rate-based. Oracle Projects considers a planning resource to be rate-based if it has a unit of measure other than *currency*.

- If a planning resource is *non rate-based*, or if cost amounts exist in the source, then Oracle Projects uses the amounts from the source in the budget.

- If the planning resources are *rate-based* and a cost amount is not available from the source, then Oracle Projects calculates budget cost amounts using the quantities derived from the source and the rates from the rate schedules you specify in your rate schedule planning options.

Related Topics

Selecting Rate Schedules, page 6-17

Resource Classes, *Oracle Projects Implementation Guide*

Planning Resources and Planning Resource Lists, *Oracle Projects Implementation Guide*

Using Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals*

Generating Budget Revenue

The method Oracle Projects uses to generate budget revenue depends on whether revenue amounts exist in the budget source and the revenue accrual method defined for the project. If revenue amounts exist in the source, then Oracle Projects uses the revenue amounts from the source in the budget. If revenue amounts do not exist in the source, Oracle Projects calculates budget revenue based on the revenue accrual method associated with the project.

Cost-Based Revenue Accrual

When a project uses a cost-based revenue accrual method, Oracle Projects uses either the total revenue per the approved revenue budget, or the project total value for total budget revenue. Project total value is the pipeline project opportunity value defined for the project during setup.

Whether Oracle Projects uses the approved revenue budget or the project total value depends on whether you are generating a budget version for a plan type that is designated as an approved budget.

- If you are generating revenue for an approved budget version, then Oracle Projects sets total budget revenue to the project total value defined for the project.

- If you are generating revenue for a version that is not an approved budget version, then Oracle Projects sets total budget revenue to the total revenue of the approved revenue budget. If an approved revenue budget does not exist, then Oracle Projects sets total budget revenue to the project total value.

Oracle Projects calculates budget revenue for tasks based on the following formula:

(Budget Cost for the Task / Total Budget Cost) * Total Budget Revenue

> **Important:** If workplan cost is not enabled in the plan settings for a workplan, and the revenue accrual method for the project is *Cost*, then

you cannot use workplan resources as one of the generation sources for a revenue budget.

Event-Based Revenue Accrual

When a project uses an event-based revenue accrual method, Oracle Projects generates budget revenue from all billing events and all deliverables with billing actions. When no billing event date exists, Oracle Projects uses the deliverable action due date to determine the period in which the event occurs.

Work-Based Revenue Accrual

When a project uses a work-based revenue accrual method, Oracle Projects calculates budget revenue either by applying rates from the bill rate schedule selected for budget generation to the quantities derived from the source, or by applying a markup or discount factor to the cost amounts derived from the source.

> **Note:** If you use actual rates for budget generation, then Oracle Projects applies all of the overrides that you have specified at the project and task level in Oracle Project Billing.

> **Important:** If the revenue accrual method for the project is *Work* and the source workplan version and the current plan type and version use different resource lists, then you cannot use workplan resources as one of the generation sources for a revenue budget.

Related Topics

Selecting Rate Schedules, page 6-17

Using Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals*

Billing Information, *Oracle Projects Fundamentals*

Mapping Budget Amounts Across Different Planning Resource Lists

If the source and the budget use different planning resource lists, then Oracle Projects maps amounts from planning resources in the source to planning resources in the budget using system-defined precedence rules.

To map amounts from source planning resources to budget planning resources, Oracle Projects first identifies all resource formats in the budget planning resource list that correspond to the resource class of the source planning resource. Oracle Projects then searches for the planning resource beginning with the most-detailed resource format. If the planning resource exists in the most-detailed budget resource format, then Oracle Projects maps amounts from the source to that resource format

If a planning resource does not exist in the most detailed budget resource format, then Oracle Projects can automatically add the planning resource if the planning resource list is not centrally controlled. If Oracle Projects cannot automatically add a planning resource to a particular resource format, then Oracle Projects searches for the planning resource with the next most-detailed budget resource format.

Related Topics

Resource Classes, *Oracle Projects Implementation Guide*

Planning Resources and Planning Resource Lists, *Oracle Projects Implementation Guide*

Determining the Planning Level for Generated Budgets

Budget amounts are always recorded in the project financial structure. However, budget source amounts may be recorded in a separate project workplan structure. If the workplan and financial structures are shared (either fully or partially), then the source amounts may be recorded in the same structure and at the same planning level, or at a higher planning level than the budget.

The planning level at which quantities and amounts are generated in a budget is based on the following factors:

- The planning level at which amounts are captured in the source

- The extent to which the project workplan and financial structures are shared (applies only to a workplan source)

- The planning level of the budget

The following topics describe how Oracle Projects determines the level at which amounts are generated in a budget based on the budget source.

Budgets Generated from Staffing Plans

Because staffing plans include only project-level planning resource assignments and requirements, Oracle Projects generates budgets for staffing plans at the project level.

Budgets Generated from Workplans

When you generate a budget from a workplan, Oracle Projects determines the extent to which tasks in the workplan structure and the financial structure are shared. When you create workplan and financial structures for your project, you can choose one of the following options to specify how the structures are shared:

- Shared Structures

- Partially Shared Structures

- Non-Shared: Task-Based Mapping

- Non-Shared: No Mapping

If the workplan structure and financial structure are (fully) *shared*, then the workplan tasks and the financial tasks are the same. In this case, Oracle Projects generates and rolls up budget quantities and amounts from the source workplan tasks based on the planning level of the budget.

If the workplan structure is *partially shared* with the financial structure, or is *non-shared* and uses *task-based mapping*, then Oracle Projects first rolls up the resource assignments associated with workplan tasks to a workplan task that is shared with or is mapped to a financial task. In this case, Oracle Projects determines the planning level of the generated amounts based on the following rules:

- If the planning level of the source is at the same or a more detailed level than the planning level of the budget, then Oracle Projects generates budget amounts at the budget planning level.

  For example, if the planning level of a source workplan version is Lowest Task, and the planning level of the budget is Project, then Oracle Projects generates budget amounts at the project level.

- If the level of the source is at a more summary (or higher) level than the planning level of the budget, then Oracle Projects generates budget amounts at the planning level of the source.

For example, if the planning level of the source workplan version is Top Task, and the planning level of the budget is Lowest Task, then Oracle Projects generates budget amounts at the top task level.

If the relationship between the workplan and financial structure is *non-shared* and *no mapping* is defined for workplan and financial tasks, then Oracle Projects rolls up the generated budget quantities and amounts to the project level.

Budgets Generated from Financial Plans

The quantities and amounts from a budget or forecast source are recorded in the project financial structure. However, the planning level of the source may be different from the planning level of the budget. In this case, Oracle Projects determines the planning level of the generated amounts using the same rules as for partially shared workplan and financial structures.

Related Topics

Integrating Workplan and Financial Structures, *Oracle Projects Fundamentals*

Determining Period Types and Defining Periods for Generated Budgets

If you are generating budgets for PA periods or GL periods, and the period type of the source and the target are the same, then Oracle Projects generates budget amounts for the time periods of the source. However, if the period types of the source and budget are different, then Oracle Projects sums the generated quantities and amounts and distributes the amounts across budget periods based on the period type specified for the budget, the spread curve associated with each planning resource, the start and end dates associated with each planning resource, and the start and end dates associated with each budget line.

If a budget is not time-phased by period, Oracle Projects rolls up the generated quantities and amounts to a single total for each planning resource.

Related Topics

Spread Curves, *Oracle Projects Implementation Guide*

Period Profiles, *Oracle Projects Implementation Guide*

Regenerating and Updating Budgets

After you generate a budget version, you can manually update the budget details. You can also regenerate the budget to take into account changes in the budget source.

You can perform the same edits and adjustments on a generated budget that you perform for a budget that you create by directly entering budget quantities and amounts. For example, you can directly enter different quantities and amounts for budget lines, adjust budget lines by a specified percentage, add tasks and resources, refresh cost and revenue rates, update cost and bill rates for budget lines, and redistribute the updated amounts across periods (if applicable).

> **Important:** If you choose to include *Commitments* in your budget, before you generate a budget you must submit the summarization processes for project performance and exception reporting. For more information see: Performance and Exceptions Reporting Processes, *Oracle Projects Fundamentals*.

Related Topics

Entering Amounts and Editing Plan Versions, page 6-40

Generating Forecasts

Oracle Projects enables you to automatically generate project forecasts based on to-date actual quantities and amounts entered for a project, quantities and amounts captured in staffing plans, workplans, financial plans (other budgets and forecasts), and from other sources that you specify.

Overview of Forecast Generation

Oracle Projects forecast generation features enable you to automatically combine information from project planning tools, such as workplans and staffing plans, with actual amounts to create a working financial plan that you can periodically update and adjust. Forecasting is an iterative process. As you move through the project life cycle, you can periodically regenerate your project forecast to include the latest actual and plan amounts. You can optionally override and adjust the generated amounts to achieve the best possible estimate of costs and revenues required to complete remaining project activities.

Forecast generation consists of the following major activities:

- Retrieving to-date actual quantities and amounts entered for a project

- Generating *estimate to complete* (ETC) quantities and amounts for the remainder of the project

- Determining the *estimate at completion* (EAC), or total forecast quantities and amounts for a project

To generate a project forecast, you must define forecast generation planning options. Forecast generation options enable you to specify the period through which you want to include actual quantities and amounts. In addition, you also specify whether to generate the forecast using the project staffing plan as the ETC source, or to generate the forecast based on the ETC source selection you make at a task level. The ETC source provides the quantity, and, in certain cases, the amounts from which Oracle Projects derives ETC quantities, cost amounts, and revenue amounts. Forecast generation options also enable you to choose whether you want to include quantities and amounts from other sources such as open commitments, change documents, and billing events.

You must define rate schedule planning options to specify the sources of the rates Oracle Projects uses to calculate ETC cost and revenue. When you select rate schedule planning options, you can choose either actual rates or planning rates to determine cost and revenue amounts for forecasting. *Actual rates* are the rates that Oracle Projects uses to calculate actual cost and revenue amounts for expenditure items. *Planning rates* are rates that you define specifically for planning purposes. For a comprehensive discussion of how Oracle Projects determines and uses rates for financial planning, see: Using Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals*.

> **Note:** In addition to defining an ETC source for tasks, you must also specify an ETC calculation method for each planning resource you want to include in your forecast. The ETC calculation method determines how Oracle Projects derives quantities and amounts for a planning resource.

To expedite forecast creation, Oracle Projects automatically generates an initial forecast version for a primary forecast plan type (if one does not already exist) when you create an initial baseline for an approved budget plan type. After you generate a forecast, you can manually adjust the generated ETC amounts and regenerate the forecast at any time. You *cannot* override or adjust the actual amounts included in a forecast. Oracle

Projects provides a concurrent program, PRC: Generate Financial Plan Amounts, which you can run on a periodic basis to generate new forecast versions.

You can specify rate schedule planning options for projects, plan types in the context of a project, and plan versions. You can specify forecast generation options for forecast plan types in the context of a project and plan versions only.

Related Topics

Building Forecasts, page 6-3

Selecting Rate Schedules, page 6-17

Selecting Generation Options, page 6-18

Resource Classes, *Oracle Projects Implementation Guide*

Planning Resources and Planning Resource Lists, *Oracle Projects Implementation Guide*

Billing Information, *Oracle Projects Fundamentals*

Generate Financial Plan Amounts, *Oracle Projects Fundamentals*

Determining Forecast Sources

When you define forecast generation planning options, you can specify the time period through which to include actual quantities and amounts (for example, the current, prior, or last closed period). You can also specify the source for ETC quantities and amounts.

> **Important:** If workplan cost is not enabled in the plan settings for a workplan, then the following restrictions apply to the available generation sources:
>
> • If the revenue accrual method for the project is *Cost*, then you cannot use workplan resources as one of the generation sources for a revenue forecast.
>
> • If the revenue accrual method for the project is *Work* and the source workplan version and the current plan type and version use different resource lists, then you cannot use workplan resources as one of the generation sources for a revenue forecast.

Determining the Source of Actual Amounts for Forecasts

Oracle Projects derives and summarizes actual amounts for forecasting from Oracle Projects costing and billing processes.

> **Important:** Before you generate a forecast, submit the summarization processes for project performance and exception reporting to refresh and summarize the quantities and amounts used for forecasting. For more information see: Performance and Exceptions Reporting Processes, *Oracle Projects Fundamentals*.

Defining ETC Sources

Oracle Projects determines the source of ETC quantities and amounts based on the *ETC source* you select in your forecast generation options, and the *forecast ETC source* you specify for a task.

When you define forecast generation options, you can choose one of the following ETC source options:

- **Staffing Plan:** When you choose *Staffing Plan,* Oracle Projects generates ETC quantities and amounts from the project-level resource assignments and requirements defined in *Oracle Project Resource Management*.

  When you use this option, Oracle Projects creates forecast information based on the defined staffing assignments and requirements. Each day of an assignment or requirement is treated as a potential forecast amount and is considered for forecast calculation based on the defined calculation period, such as GL Period or PA Period.

- **Task Level Selection:** When you specify *Task Level Selection*, Oracle Projects determines the ETC source for each task based on the *forecast ETC source* option specified at the task level. You can specify a different ETC source for each task.

  When you choose this option, Oracle Projects prompts you to also select a workplan version and a financial plan version. Oracle Projects uses the selected workplan or financial plan version to derive ETC quantities and amounts when the ETC source specified for a task is based on a workplan or financial plan.

  Oracle Projects uses the ETC source that you specify for a task only when generating a cost forecast or when generating a forecast with cost and revenue amounts planned together.

Specifying a Forecast Generation Source for a Task

You can specify one of the following forecast ETC sources for a task:

- **Workplan Resources:** When you choose workplan resources, Oracle Projects generates ETC quantities from the resource assignments associated with workplan tasks.

  > **Note:** When the ETC source is a working workplan version, you should apply the latest published progress to the workplan version before you generate a forecast.

  In addition, when the workplan and financial structures are shared, the following restrictions apply:

  - Once you publish the first version of the workplan, Oracle Projects does not mark the new tasks that you add to the workplan as financial tasks until you republish the workplan.

  - You can only specify an ETC source for a financial task. As a result, you cannot specify an ETC source for new tasks that you add to the working workplan version until you republish the workplan.

  - You will not be able to view forecast numbers for newly added tasks until you republish the workplan.

- **Financial Plan:** When you choose an existing budget or forecast version, Oracle Projects generates ETC amounts from the planning resources associated with each task.

- **Average of Actual Transactions:** When you choose this option, Oracle Projects generates ETC quantities and amounts based on an average of actual quantities and amounts for a range of time periods. You select the range of periods from which to calculate the averages, as well as the range of ETC periods over which to apply the average quantity and amount.

- **Work Quantity:** When you choose a source of work quantity, Oracle Projects calculates an ETC quantity from workplan tasks based on the difference between the planned work quantity and the actual to-date delivered work quantity. Oracle Projects generates an ETC cost amount by applying the achieved cost rate to the ETC quantity.

  The *achieved cost rate* is calculated by dividing the to-date actual cost amount by the to-date actual delivered work quantity for each task.

- **None:** When you choose this option, Oracle Projects does not generate ETC amounts from the planning resources associated with each task. Use this option if you want to generate a forecast that is based only on the included actual quantities and amounts, or if you want to directly enter ETC quantities and amounts.

  > **Note:** Oracle Projects does not use the ETC source that you specify at the task level when generating a revenue forecast. You can specify on of the following forecast ETC sources for revenue forecast generation:
  >
  > - Staffing Plan
  >
  > - Financial Plan
  >
  > - Workplan Resources
  >
  > - Average of Actual Transactions
  >
  > - None

Other Forecast Generation Sources

When you define forecast generation options, you can optionally choose to include quantities and amounts from the following additional sources:

- **Open Commitments:** You can enable this option for cost forecast generation. When you use this option, Oracle Projects automatically substitutes the amounts from any open commitments (for example, from purchase orders) for the generated ETC amount.

  > **Note:** If an open commitment exists for a task, and the commitment amount is less than the generated ETC amount for the task, then Oracle Projects substitutes an amount equal to the commitment for the generated ETC amount in the period that is associated with commitment's need by date.
  >
  > If an open commitment exists for a task, and the commitment amount exceeds the generated ETC amount for the task, then Oracle Projects replaces the generated ETC amount with the commitment amount. Commitment amounts are generated in the commitment currency.

- **Change Documents:** If you enable this option, then Oracle Projects automatically includes the cost and revenue financial impact of all eligible change documents that are not included in any other forecast source amounts.

- **Billing Events:** You can enable this option for revenue forecast generation. When you use this option, Oracle Projects automatically includes amounts for unprocessed events, and all deliverables with billing actions. When no billing event date exists, Oracle projects uses the deliverable action due date to determine the period in which the event occurs.

> **Note:** This option is disabled if the revenue accrual method for the project is an event-based rule, because in this case billing events are the primary source for the forecast generation.

- **Unspent Amounts:** When you enable this option, Oracle Projects compares the total of the to-date actual cost amounts in the forecast against amounts for the corresponding time periods in the current baseline of the approved budget plan type (if one exists) during forecast generation. If the to-date actual amounts are less than the corresponding approved budget amounts, then Oracle Projects adds the difference (the unspent amounts) to the ETC amounts in a single forecast period that you specify on the *Forecast Generation* page.

  > **Note:** Oracle Projects does not adjust ETC amounts if actual amounts exceed the approved budget amounts, or if ETC amounts are determined using an average of actual transactions.

Generating Forecast Amounts

This section describes how Oracle Projects determines ETC quantities, and calculates ETC cost and revenue amounts for forecasts. This section also describes how Oracle Projects maps planning resource amounts across different planning resource lists, and from workplan structures to financial structures. In addition, this section describes options for updating and regenerating forecasts.

> **Important:** Before you generate a forecast, submit the summarization processes for project performance and exception reporting to refresh and summarize the quantities and amounts used for forecasting. For more information see: Performance and Exceptions Reporting Processes, *Oracle Projects Fundamentals*.

Verifying and Specifying Forecast Generation Options

When you choose the action to generate a forecast, Oracle Projects first displays the Generate Forecast Amounts page. This page displays all default forecast generation options values. The options displayed vary depending on whether you are generating a forecast for cost amounts only, revenue amounts only, or when cost and revenue amounts are planned together in the same plan version.

You can use this page to verify and optionally update the default forecast generation planning options for the forecast version, and to specify additional options. Additional options that you can specify include the period in which to apply unspent amounts, and the time periods to use when Oracle Projects calculates ETC quantities and amounts based on an ETC source of Average of Actuals.

Generating Forecast Cost

The method that Oracle Projects uses to calculate ETC quantity and cost varies based on the ETC source.

> **Note:** Oracle Projects distributes ETC quantities and amounts across periods based on the spread curve associated with a planning resource. When Oracle Projects derives spread curve allocation factors for ETC amounts, Oracle Projects only uses the spread curve points that correspond to the ETC time period.

- **Staffing Plan:** Oracle Projects calculates ETC cost amounts from staffing plans by applying rates from the cost rate schedules that you specify for forecast generation to the labor hours for the ETC time periods. For requirements, the forecast cost rates are obtained from the job assigned to the role in Oracle Project Resource Management. For assignments, this information is obtained directly from the assigned employee.

- **Workplan Resources and Financial Plan:** The calculation of ETC quantity and cost from workplan resources and financial plans varies depending on whether a planning resource is rate-based on non rate-based.

  - For *rate-based* planning resources, Oracle Projects first calculates the ETC quantity based on the ETC calculation method associated with each planning resource from the source workplan or financial plan. Oracle Projects then computes the ETC cost amount by applying rates from the source. If no rates are available from the source, then Oracle Projects uses actual or planning rates based on the forecast options.

  - If a planning resource is *non rate-based*, then Oracle Projects calculates the ETC cost amount based on the ETC calculation method.

      Note: You can also use the Estimate to Complete Generation Method client extension to calculate ETC amounts for workplans and financial plans. Oracle Projects always calls the client extension at the completion of the generation and calculation process. You can use the client extension to perform additional calculations and to override the calculated amounts.

      Important: When *Workplan Resources* is the ETC source for a cost forecast, you must track costs in your workplan to ensure that you have accurate forecast numbers. In order to track costs, you must enable the *Enable Workplan Cost* option in the plan settings for the workplan.

      If you do not intent to track costs in your workplan, and you need to generate a cost forecast using the effort entered into the workplan, you can first generate a cost budget from your workplan and then generate a cost forecast with the cost budget as the ETC source.

- **Average of Actual Transactions:** Oracle Projects generates ETC quantities and amounts based on an average of actual quantities and amounts for a range of time periods. When you choose the action to generate a forecast, you can use the *Generate Forecast Amounts* page to select the range of periods from which to calculate the averages, as well as the range of ETC periods over which to apply the average quantity and average amount.

- **Work Quantity:** Oracle Projects calculates ETC quantity based on the difference between the total planned work quantity and the actual delivered work quantity per the workplan tasks. Oracle Projects generates an ETC cost amount by applying the achieved cost rate. The achieved cost rate is calculated from the ratio of the to-date actual cost and the to-date actual delivered work quantity for the workplan task.

Related Topics

Selecting Rate Schedules, page 6-17

Using Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals*

Resource Classes, *Oracle Projects Implementation Guide*

Planning Resources and Planning Resource Lists, *Oracle Projects Implementation Guide*

Spread Curves, *Oracle Projects Implementation Guide*

Estimate to Complete Generation Method Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*

ETC Calculation Methods for Planning Resources

If you choose the ETC source option *Task Level Selection* and select either workplan or financial plan as the source, Oracle Projects determines ETC quantities and amounts for planning resources based on the *ETC calculation method* specified for each planning resource in the workplan or financial plan. You can choose one of the following ETC calculation methods for a planning resource:

- Remaining Plan

- Plan to Complete

- Earned Value

Remaining Plan

This method determines ETC amounts by calculating the difference between total planned amounts from the forecast source and to-date actual amounts. This method is typically used to calculate ETC amounts for material.

Oracle Projects uses the following formula to calculate ETC quantity and cost based on the *Remaining Plan* calculation method:

ETC = Budget at Completion - Actual Cost

For forecast generation, Budget at Completion is the total of either planned quantities or planned cost amounts from the ETC source (for example, the total workplan cost). Actual Cost is the total of either actual quantities or actual cost amounts up through the *actual amounts through* date specified in the forecast generation options (for example, current, prior, or last closed period).

Plan to Complete

This method relies on percent complete and the total planned amounts from the forecast source to calculate ETC amounts. This method is typically used to calculate ETC amounts for expenses.

Oracle Projects uses the following formula to calculate ETC quantity and cost based on the *Plan to Complete* calculation method:

ETC = Budget at Completion - Budgeted Cost of Work Performed

For forecast generation, Budget at Completion is the total of either planned quantities or planned cost amounts from the ETC source (for example, the total workplan cost). Budgeted Cost of Work Performed is an estimate of either the planned quantities or planned cost amounts consumed to date based on the ETC source. Budgeted Cost of Work Performed is determined from the following formula:

Budgeted Cost of Work Performed = Budget at Completion * Percent Complete

> **Note:** If the ETC source is *workplan*, then Percent Complete is derived from the physical percent complete for the planning resource per the latest published progress. If the ETC source is *financial plan*, then the

source of Percent Complete is determined from the financial percent
complete for the financial structure.

Earned Value

This method uses percent complete and to-date actual amounts to calculate ETC
amounts. The calculation first derives a total planned amount, or estimate at
completion, based on the percent complete and to-date actual amounts. The calculation
then determines ETC by calculating the difference between the estimate at completion
and to-date actual amounts. This method is typically used to calculate ETC amounts for
labor and equipment classes of resources.

Oracle Projects uses the following formula to calculate ETC quantity and cost based
on the *Earned Value* calculation method:

ETC = Estimate at Completion - Actual Cost

Estimate at Completion is an estimate of either the total planned quantity or total
planned cost that is derived from the Actual Cost and Percent Complete. Estimate at
Completion is determined by the following formula:

Estimate at Completion = (Actual Cost / Percent Complete)

By applying this formula to the formula for Earned Value, the formula to calculate ETC
quantity and cost can be restated as follows:

ETC = (Actual Cost / Percent Complete) - Actual Cost

> **Note:** If the ETC source is *workplan*, then Percent Complete is derived
> from the physical percent complete for the planning resource per the
> latest published progress. If the ETC source is *financial plan*, then the
> source of Percent Complete is determined from the financial percent
> complete for the financial structure.

Related Topics

Earned Value Management, page 10-36

Managing Progress, page 2-27

Resource Classes, *Oracle Projects Implementation Guide*

Planning Resources and Planning Resource Lists, *Oracle Projects Implementation Guide*

Generating Forecast Revenue

Oracle Projects calculates forecast revenue based on the revenue accrual method
associated with the project.

Cost-Based Revenue Accrual

When a project uses a cost-based revenue accrual method, Oracle Projects uses either
the total revenue per the primary revenue forecast, or the project total value for total
forecast revenue. Project total value is the pipeline project opportunity value defined for
the project during setup.

Whether Oracle Projects uses the primary revenue forecast or the project total value
depends on whether you are generating a forecast version for a plan type that is
designated as a primary forecast.

- If you are generating revenue for a primary forecast version, then Oracle Projects
  sets total forecast revenue to the project total value defined for the project.

- If you are generating revenue for a version that is not a primary forecast version, then Oracle Projects sets total forecast revenue to the project total value.

Oracle Projects calculates forecast revenue for tasks based on the following formula:

(ETC Cost for the Task / (Total Forecast Cost - Inception to Date Actual Cost)) * (Total Forecast Revenue - Inception to Date Actual Revenue)

> **Important:** If workplan cost is not enabled in the plan settings for a workplan and the revenue accrual method for the project is *Cost*, then you cannot use workplan resources as one of the generation sources for a revenue forecast.

Event-Based Revenue Accrual

When a project uses an event-based revenue accrual method, Oracle Projects generates forecast revenue from all unprocessed events, and all deliverables with billing actions. When no billing event date exists, Oracle Projects uses the deliverable action due date to determine the period in which the event occurs.

Work-Based Revenue Accrual

When a project uses a work-based revenue accrual method, Oracle Projects calculates forecast revenue either by applying rates from the bill rate schedule selected for forecast generation to the quantities derived from the source, or by applying a markup or discount factor to the cost amounts derived from the source.

> **Important:** If the revenue accrual method for the project is *Work* and the source workplan version and the current plan type and version use different resource lists, then you cannot use workplan resources as one of the generation sources for a revenue forecast.

Related Topics

Selecting Rate Schedules, page 6-17

Using Rates for Workplan and Financial Planning, *Oracle Projects Fundamentals*

Billing Information, *Oracle Projects Fundamentals*

Mapping Forecast Amounts Across Different Planning Resource Lists

If a source and the forecast use different planning resource lists, then Oracle Projects maps amounts from planning resources in the source to planning resources in the forecast using system-defined precedence rules.

To map amounts from source planning resources to forecast planning resources, Oracle Projects first identifies all resource formats in the forecast planning resource list that correspond to the resource class of the source planning resource. Oracle Projects then searches for the planning resource beginning with the most-detailed resource format. If the planning resource exists in the most-detailed forecast resource format, then Oracle Projects maps amounts from the source to that resource format.

If a planning resource does not exist in the most detailed forecast resource format, then Oracle Projects can automatically add the planning resource if the planning resource list is not centrally controlled. If Oracle Projects cannot automatically add a planning resource to a particular resource format, then Oracle Projects searches for the planning resource with the next most-detailed budget resource format.

Related Topics

Resource Classes, *Oracle Projects Implementation Guide*

Planning Resources and Planning Resource Lists, *Oracle Projects Implementation Guide*

Determining the Planning Level for Generated Forecasts

Forecast amounts are always recorded in the project financial structure. However, forecast source amounts may be recorded in a separate project workplan structure. If the workplan and financial structures are shared (either fully or partially), then the source amounts may be recorded in the same structure and at the same planning level, or at a higher or lower planning level than the forecast.

The planning level at which quantities and amounts are generated in a forecast is based on the following factors:

- The planning level at which amounts are captured in the source

- The extent to which the project workplan and financial structures are shared (applies only to a workplan source)

- The planning level of the forecast

Oracle Projects applies the following logic to determine the level at which amounts are generated in a forecast:

Forecasts Generated from Staffing Plans

Because staffing plans include only project-level planning resource assignments and requirements, Oracle Projects generates forecasts for staffing plans at the project level.

Forecasts Generated from Actual Amounts

If the source of the ETC amounts is actual amounts, then Oracle Projects generates forecasts based on the planning level specified for the forecast.

Forecasts Generated from Workplans

When you generate a forecast from a workplan, Oracle Projects determines the extent to which tasks in the workplan structure and the financial structure are shared.

When you create workplan and financial structures for your project, you can choose one of the following options to specify how the structures are shared:

- Shared Structures

- Partially Shared Structures

- Non-Shared: Task-Based Mapping

- Non-Shared: No Mapping

If the workplan structure and financial structure are (fully) *shared*, then the workplan tasks and the financial tasks are the same. In this case, Oracle Projects generates and rolls up forecast quantities and amounts from the source workplan tasks based on the planning level of the forecast.

If the workplan structure is *partially shared* with the financial structure, or is *non-shared* and uses *task-based mapping*, then Oracle Projects first rolls up the resource assignments associated with workplan tasks to a workplan task that is shared with or is mapped to a financial task. In this case, Oracle Projects determines the planning level of the generated amounts based on the following rules:

- If the planning level of the source is at the same or a more detailed level than the planning level of the forecast, then Oracle Projects generates forecast amounts at the forecast planning level.

  For example, if the planning level of a source workplan version is Lowest Task, and the planning level of the forecast is Project, then Oracle Projects generates forecast amounts at the project level.

- If the level of the source is at a more summary (or higher) level than the planning level of the forecast, then Oracle Projects generates forecast amounts at the planning level of the source.

  For example, if the planning level of the source workplan version is Top Task, and the planning level of the forecast is Lowest Task, then Oracle Projects generates forecast amounts at the top task level.

If the relationship between the workplan and financial structure is *non-shared* and *no mapping* is defined for workplan and financial tasks, then Oracle Projects rolls up the generated forecast quantities and amounts to the project level.

Forecasts Generated from Financial Plans

The quantities and amounts from a budget or forecast source are recorded in the project financial structure. However, the planning level of the source may be different from the planning level of the forecast. In this case, Oracle Projects determines the planning level of the generated amounts using the same rules as for *partially shared* workplan and financial structures.

Related Topics

Integrating Workplan and Financial Structures, *Oracle Projects Fundamentals*

Regenerating and Updating Forecasts

After you generate a forecast version, you can manually update and adjust the ETC forecast details. You cannot manually adjust actual amounts. However, you can periodically regenerate the forecast to update the actual quantities and amounts, as well as to update the forecast for any changes pertaining to quantities and amounts from the ETC source.

You can perform the same edits and adjustments for generated ETC quantities and amounts that you perform for ETC amounts that you enter directly. For example, you can directly enter ETC quantities and amounts for forecast lines, adjust ETC quantities and amounts by a specified percentage, add tasks and resources, refresh cost and revenue rates, update cost and bill rates, and redistribute the updated amounts across periods (if applicable).

> **Important:** Before you regenerate a forecast, submit the summarization processes for project performance and exception reporting to refresh and summarize the quantities and amounts used for forecasting. For more information see: Performance and Exceptions Reporting Processes, *Oracle Projects Fundamentals*.

Related Topics

Entering Amounts and Editing Plan Versions, page 6-40

Entering Amounts and Editing Plan Versions

You can enter and adjust amounts, select and update planning elements (tasks and planning resources), and update planning options for budget and forecast versions from the Edit Budget and Edit Forecast pages. These pages enable you to enter and adjust quantities, rates, costs, and revenue amounts in total for planning elements (tasks and planning resources). If your budget or forecast is time-phased by PA or GL periods, then you can drill down to other pages that enable you to directly enter and adjust budget and forecast line details for each planning element by period.

You can optionally enter budget and forecast amounts in multiple transaction currencies for all plan types except an approved revenue budget plan type. You must enter amounts for an *approved revenue budget* version in *project functional currency*. If entry of plan amounts in multiple currencies is enabled for a version, then you can enter amounts in any transaction currency that is defined in currency settings for the version. When you edit a budget or forecast that is entered in multiple transaction currencies, then Oracle Projects displays the total amounts for each transaction currency in a separate line.

> **Note:** You can update currency conversion attributes at the budget and forecast line level.

When you *initially* enter quantities and amounts for planning elements on a budget or forecast version that is time-phased by PA or GL periods, Oracle Projects automatically distributes the entered quantities and amounts for each budget or forecast line to plan periods. Oracle Projects distributes the line amounts based on the spread curve that is associated with each planning resource. If necessary, you can manually adjust the distributed quantities and amounts for each period.

> **Note:** You can update the default spread curve for a planning resource at the plan-line level.

When you update *existing* quantities and amounts for planning elements on a budget or forecast version that is time-phased by PA or GL periods, Oracle Projects automatically distributes the adjustment for each budget or forecast line to plan periods based on the distribution of the existing quantities and amounts across periods. If you want an adjustment to only affect specific periods, then you must enter your adjustment by period. You can optionally choose to redistribute amounts across periods for a budget or forecast line using the spread curve associated with a planning resource, either before or after you enter an adjustment.

When you edit a budget or forecast version, you can perform the following tasks:

- Copy amounts from another plan version

- Edit planning options

- Edit the version in a Microsoft Excel spreadsheet

- Generate or regenerate the version

- Review amounts in View Budget and View Forecast pages

- Selectively adjust amounts by a percentage

- Submit a current working version

Related Topics

Defining Planning Options, page 6-14

Selecting Planning Elements

Planning elements are the tasks and planning resources you select for a budget or forecast version. You select tasks and resources according to the planning level selection and planning resource list, if any, that you specify in plan settings for cost and revenue plan options.

> **Note:** If you select a planning level of project and do not use a planning resource list to categorize plan amounts, then you do not need to select planning elements.

Selecting Tasks

The list of tasks from which you can select planning elements for a budget or forecast version is based on the *Lowest Level* planning level selection you specify in plan settings for cost and revenue plan options. If you specify *Top Task*, then Oracle Projects displays only top-level tasks for selection. If you specify *Lowest Task*, then all tasks are available for selection.

When you choose Lowest Task as the planning level for a plan version, you can plan at all task levels of the project financial structure, and you can plan at multiple task levels within a single branch of the financial structure. You can add a task as a planning element either by selecting it directly, or by selecting planning resources for the task.

> **Note:** You can deselect a task as a planning element only if no amounts have been recorded for the task.

Selecting Planning Resources

You can select planning resources for a budget or forecast version from the planning resource list you specify in plan settings for cost and revenue plan options.

If you are planning at the project level or at a task level, then you must select the project or a task before you can select planning resources. If you want to use the same planning resources for several tasks, you can first select all of the tasks for which you want to add planning resources before you choose the option to select planning resources.

If the planning resource list you are using does not contain a planning resource that you want to plan for, you can optionally add planning resources to the planning resource list if it is not *centrally controlled*. In this case, Oracle Projects adds the resources to the resource list only in the context of the current project.

Related Topics

Defining Planning Options, page 6-14

Planning Resources and Planning Resource Lists, *Oracle Projects Implementation Guide*

Editing Budget and Forecast Amounts

You can manually update budget and forecast versions, including generated quantities and amounts, either by directly updating the quantities and amounts, or by updating the attributes that are used to determine amounts. You can directly update summary quantities and amounts associated with planning elements, and detail quantities and amounts associated with periodic budget and forecast lines.

You can override rates used to calculate cost and revenue amounts (for example, raw cost, burden cost, and bill rates), and update currency conversion attributes for individual budget or forecast lines. For forecasts, you can initiate changes to forecast line amounts by changing the spread curve and the ETC calculation method associated with planning resources at the forecast line level.

> **Note:** When you edit a forecast version, you can only update ETC quantities and amounts. You cannot update actual quantities and amounts included in a forecast.

When you enter an amount for a rate-based planning resource, but do not enter a quantity, Oracle Projects treats the planning resource as non-rate based planning resource. When you enter periodic amounts for a planning resource, you must either enter a quantity for all periods or leave the quantity blank.

When you update a budget or forecast line, you can update a single component or simultaneously update several line-level components. When you update a budget or forecast line component that is used to derive other components, (for example, a quantity or a rate), or a component that is derived from other components (for example, a cost amount or a revenue amount), Oracle Projects recalculates all associated amounts using system-defined precedence rules.

The following table lists the system-defined precedence rules that Oracle Projects follows when you update a component that is used to calculate other budget or forecast components.

Changed Amounts	Precedence Rule
Quantity, rate, or both	Calculate cost and revenue based on the quantity and corresponding rate
Quantity, cost, revenue, or a combination	Calculate rate from quantity, cost, and revenue
Rate, cost, revenue, or a combination	Calculate quantity from rate, cost, and revenue
Quantity, rate, cost, revenue, or a combination	Calculate cost and revenue based on the quantity and corresponding rate

For example, if you update both the quantity and the cost for a budget or forecast line, Oracle Projects recalculates the rate using the updated quantity and cost values.

Editing Budgets and Forecasts in Microsoft Excel

You can export the details of a budget or forecast version to a Microsoft Excel spreadsheet by selecting the *Edit In Excel* option. When you choose this option, Oracle Projects automatically populates an Excel spreadsheet with the planning elements (tasks and planning resources) and plan amounts (quantities, costs, and revenues) for the selected version.

You can perform the following activities in Microsoft Excel:

- **Edit and enter budget or forecast lines**

  You can edit existing budget or forecast lines and add new lines together with all necessary information including descriptions, change reasons, conversion attributes.

- **Enter amounts in multiple currencies**

  To enter amounts in a different transaction currency, first insert a new row into the spreadsheet. Next, copy the appropriate planning elements and attributes from an existing budget or forecast line to the new row. After you copy the planning elements and attributes, select a currency for the new line and enter the budget or forecast amounts.

  > **Note:** Before you can add a line in another transaction currency, you must define the new currency in the Add Transaction Currencies table on the Currency Settings page for the plan version.

- **Delete budget or forecast lines**

When you complete your updates in Microsoft Excel, upload the spreadsheet back into Oracle Projects by choosing the *Oracle > Upload* menu option from the Microsoft Excel menu. The system validates all attributes and amounts during the upload process.

Related Topics

Defining Currency Settings, page 6-17

Budget Change Reasons, *Oracle Projects Implementation Guide*.

Adjusting Version Amounts

When you edit a budget or forecast version, you can use the Adjust feature to apply a percentage adjustment to all quantities and rates that are used to calculate cost and revenue amounts. You can use this feature to adjust cost rates, burden cost rates, and bill rates either for all budget or forecast lines, or selectively for certain planning elements.

You can specify either a positive or negative adjustment factor and enter a percentage of up to three digits with a precision of up to two decimal places (for example, 110.00% or -12.50%). When you apply an adjustment, Oracle Projects multiplies the specified percentage amount times all values that you select.

When you enter adjustment parameters, you can optionally specify whether you want to create a new version. When you choose this option, Oracle Projects creates a new budget or forecast version containing the adjusted amounts. The existing plan version is retained with no changes.

Copying Budgets and Forecasts

Oracle Projects enables you to copy existing budgets and forecasts when you create a project by copying a project template or project. You can also copy amounts to a plan version from another plan version within the same project.

Copying Budgets and Forecasts from a Project Template or Project

When you create a new project from a project template or by copying an existing project, Oracle Projects automatically copies the budgets and forecasts of the project template or existing project (source) to the new project (target). The system also copies

the project planning options, and the planning options for each plan type and plan version.

If one exists, the system copies the *Current Baseline* plan version for each plan type. If a current baseline plan version does not exist, then the system copies the *Current Working* plan version. After the target project is created, you can modify the amounts, as necessary, for each new plan version.

If the status of a source current working plan version is *Submitted*, then the system sets the status of the target current working plan version to *Working*. The system does not copy any other working plan versions from a project template or project.

Related Topics

Creating a New Project from a Project Template or Existing Project, *Oracle Projects Fundamentals*

Copying Baseline Plan Versions from Project Templates and Projects

When you create a project by copying a *project template* that has baseline plan versions, the system creates the versions in the target project as baseline versions. In addition, the system creates a corresponding current working version for each baseline version.

> **Note:** If the project template has a plan type with a revenue baseline plan version but no cost baseline plan version, and the target project has a revenue accrual method that accrues revenue using the ratio of actual cost to budgeted or forecasted cost (*Cost/Cost, Cost/Event, or Cost/Work)*, then the system creates the revenue plan version for the new project as a current working plan version, not a baseline plan version.

When you create a project by copying another *project* that has baseline plan versions, the system creates the new plan versions in the target project as current working versions.

Copying Dates or Periods for Time-Phased Budgets and Forecasts

When you copy time-phased budgets and forecasts from a project template or project, Oracle Projects evaluates and, if necessary, adjusts the dates or periods of the target budget and forecast lines. The system adjusts the dates or periods based on the start date of the source project template or project, and the dates that you specify in Project Quick Entry for the new (or target) project according to the following rules:

1. If the source project template or project has no start date, then Oracle Projects copies the budget or forecast to the target project without any adjustment to the budget or forecast periods, even if a start date is entered in Project Quick Entry for the target project.

2. If the source project template or project has a start date, but no start date was entered in Project Quick Entry for the target project, then Oracle Projects copies the budget or forecast to the target project without any adjustment to the budget or forecast periods.

3. If the source project template or project has a start date and a start date was entered in Project Quick Entry for the target project, and the budget or forecast is time-phased by PA or GL period, then Oracle Projects performs the following actions:

   • calculates the number of periods between:

   (a) the first budget or forecast period entered for the source project template or project, and

(b) the period that contains the start date of the target project

- derives the start period for each budget or forecast line in the target project by adding the number of periods determined in the preceding action to the period of the new start date

If the plan versions in a source project template or project are time-phased by periods, then the plan versions in the target project will be time-phased by periods. The new periods are based on the PA or GL period of the target project and task start dates. For example:

- The source project has a start date of September 1, 2002 and plan amounts entered in P09-2002, P10-2002, and P12-2002.

- The target project has a start date of December 15, 2002.

- The system will create plan amounts for the target project in P12-2002, P01-2003, and P03-2003.

> **Note:** The copy process assumes all time periods are equal in length. If your time periods are not of equal length, then you may get unacceptable results. This may require you to manually update budget or forecast amounts in the target project.

Copying Budget and Forecast Amounts Within a Project

You can use the Copy Amounts page to copy amounts within a project from one plan version to another. In addition, you can adjust the copied amounts by specifying a percentage amount by which to increase or decrease the amounts.

> **Note:** You cannot use the Copy Amounts page to copy amounts between cost and revenue plan versions. Additionally, you cannot copy plan version amounts between different projects, and you cannot copy actual amounts to a plan version. To create a version containing actual amounts, create a new forecast version and use the Generate Forecasts feature to generate a forecast version that only includes actual amounts.

Copying Amounts Between Plan Versions

You can copy amounts from one plan version to another plan version even if the versions are for different plan types. For example, you can copy amounts from a plan version for a cost budget plan type to a plan version for a cost forecast plan type.

> **Warning:** Use caution when you select a source plan version when copying amounts to a plan version where costs and revenues are planned together. If you select a source plan version that contains only cost amounts, then Oracle Projects copies the cost amounts to the target plan version and ignores the revenue amounts. Conversely, if you select a source plan version that contains only revenue amounts, then Oracle Projects copies the revenue amounts to the target plan version and ignores the cost amounts.

When you copy amounts from one plan version to another, Oracle Projects overwrites the plan settings and planning elements of the target plan version with the plan settings and planning elements of the source version. Thus, the target plan version inherits the planning level, resource list, time phase, tasks, and resources of the source plan version.

When you copy amounts from a plan version for which entry of amounts in multiple currencies is enabled to a plan version for which entry of amounts in multiple currencies is not enabled, the target plan version inherits the currency settings of the source plan version.

When you copy amounts from a plan version for which entry of amounts in multiple currencies is not enabled to a plan version for which entry of amounts in multiple currencies is enabled, the system copies the amounts in project currency and the currency settings of the target plan version are not changed.

Including and Viewing Change Documents

Change documents include change requests and change orders.

- A *change request* is initiated when one or more parties to a project encounters an event or condition that they believe may result in a change to any aspect of the project (for example, the project scope, value, or duration). One or more approved change requests may be grouped or included in a change order.

- A *change order* is a formal document that, when approved and implemented, will result in a change to a project.

Change requests and change orders may or may not have a financial impact on a project. A financial impact can affect cost only, revenue only, or both cost and revenue. Cost implementation can occur separately from revenue implementation, based on the status of the change document. In addition, you can implement part of the change document revenue impact into approved revenue budgets. Oracle Projects can automatically update a budget or forecast for the financial impact of a change document based on the following rules:

- You can implement the financial impact of an approved change order in a current working plan version that is designated as an approved cost budget or an approved revenue budget.

- You can implement the financial impact of an approved change order into plan versions of any plan type, including forecasts.

- You can include the financial impact of a change order or change request of any status in any plan version that is not designated as an approved cost budget or an approved revenue budget.

- You can create a baseline for your budgets and forecasts while implementing financial impact.

    Note: You can include the financial impact of a change order or change request in a plan version only once.

The change document types and change document statuses that you can implement and include in a budget or forecast version are determined by the financial plan type. For more information, see: Financial Plan Types, *Oracle Projects Implementation Guide*.

For more information on change documents, see: Overview of Change Management, page 8-1.

Manually Including the Impact of a Change Document

Oracle Projects cannot automatically include the financial impact of a change document in a plan version if the following conditions are true:

- The time phase of the plan version and the change document differ in the following scenarios:

  - The plan version is time phased by GL period and the change document is time phased by PA period.

  - The plan version is time phased by PA period and the change document is time phased by GL period.

When Oracle Projects cannot automatically include the financial impact of a change document in a plan version, the system will display the *View Financial Impact* page for the change document. To include the financial impact of the change document in a plan version in this instance, choose *Printable Page* on the View Financial Impact page to print the document information. Use the printed information to manually update the plan version.

If you manually update a plan version to include the financial impact of a change document, then use the *Mark as Included* option on the View Financial Impact page. This option prevents the change document from being included in a plan version more than once, and enables the change document information to be displayed in the *View Included Change Documents* page for a plan version.

Viewing Budgets and Forecasts

Oracle Projects provides you with flexible options for viewing summary and detail information for budgets and forecasts. You can view total quantity and amount information for current working and current baseline versions at a plan type level. From there, you can drill down and to view budget and forecast information at a plan version level for tasks, resources, and periods.

Viewing Plan Types

You can view a summary of total quantities and amounts by plan type from the Budgets and Forecasts page. This is the first page displayed when you navigate to budgets and forecasts for a project. This page lists all plan types added to a project and displays total amounts for either the Current Working or Current Baseline plan version for each plan type.

In addition to providing information for plan types, this page is the primary start point from which you can navigate to all other budgeting and forecasting pages and features. You can perform the following activities from this page:

- Add plan types to your project.

- Create new plan versions for a plan type.

- Delete a plan type.

- Edit cost and revenue amounts.

- Edit planning options for a plan type.

- Maintain all budget or forecast versions for a plan type.

  > **Note:** The Maintain Plan Versions page lists *all* working and baseline plan versions for a budget or forecast plan type. From this page you can navigate to View Budget and View Forecast pages to view detail amounts for plan versions.

Viewing Budget and Forecast Versions - Task Options

You can use the View Budget (Task Summary) and View Forecast (Task Summary) pages to view amounts in total by task for budget and forecast versions. Depending on the (lowest-level) planning level that you select for a budget or forecast version, you can view amounts at the project level, top task level, or at all levels of the financial structure. When you are viewing the task summary pages, you can select a task that you want to update and navigate directly to either the Edit Budget or Edit Forecast pages, and to the Adjust page.

When you are viewing the task summary pages, you can also select a task and navigate to either the View Budget (Resource Analysis) or View Forecast (Resource Analysis) pages, and the View Budget (Periodic Analysis) or View Forecast (Periodic Analysis) pages. The resource analysis pages enable you to view budget and forecast amounts by resource for a selected task. You can also select a task and navigate directly to either the Edit Budget or Edit Forecast pages, and to the Adjust page.

The periodic analysis pages enable you to view budget and forecast amounts by period for a selected task. This page provides a high-level summary of amounts by period. The periodic analysis pages display total quantities by period for people effort and equipment effort, and amounts for cost, revenue, margin, and margin percent.

These pages enable you to analyze budgets by tasks, resources, or time and to view this information at summary and detail levels. You can also compare one budget or forecast version with another version from the same or a different plan type. You can compute variances and perform trend and comparative analysis using graphs.

Viewing Budget and Forecast Versions - Resource Options

You can use the View Budget (Resource Summary) and View Forecast (Resource Summary) pages to view amounts in total by resource for budget and forecast versions. These pages display resource amounts based on the resource breakdown structure selected for the budget or forecast version. When you are viewing the resource summary pages, you can select a resource that you want to update and navigate directly to either the Edit Budget or Edit Forecast pages, and to the Adjust page.

When you are viewing the resource summary pages, you can also select a resource and navigate to either the View Budget (Task Analysis) or View Forecast (Task Analysis) pages, and the View Budget (Periodic Analysis) or View Forecast (Periodic Analysis) pages. The task analysis pages enable you to view budget and forecast amounts by task for a selected resource. You can also select a task and navigate directly to either the Edit Budget or Edit Forecast pages, and to the Adjust page.

The periodic analysis pages enable you to view budget and forecast amounts by period for a selected resource. This page provides a high-level summary of amounts by period. The periodic analysis pages display total quantities by period for people effort and equipment effort, and amounts for cost, revenue, margin, and margin percent.

These pages enable you to analyze budgets by tasks, resources, or time and to view this information at summary and detail levels. You can also compare one budget or forecast version with another version from the same or a different plan type. You can compute variances and perform trend and comparative analysis using graphs.

Viewing Plan Versions When Cost and Revenue Are Planned Separately

When you view a cost or revenue version for a plan type in which cost and revenue are planned separately, the system uses the following logic to select the corresponding revenue or cost plan version to display:

- If you select a working cost version, then the system selects the current working revenue version, if one exists.

- If you select a working revenue version, then the system selects the current working cost version, if one exists.

- If you select a baseline cost budget version, then the system selects the current baseline revenue budget version. If a current baseline revenue budget version does not exist, the system selects the current working revenue version, if one exists.

- If you select a primary cost forecast version, then the system selects the current primary revenue forecast version. If a current primary revenue forecast version does not exist, the system selects the current working revenue version, if one exists.

- If you select a baseline revenue budget version, then the system selects the current baseline cost budget version. If a current baseline cost budget version does not exist, the system selects the current working cost version, if one exists.

- If you select a primary revenue forecast version, then the system selects the current primary cost forecast version. If a current primary cost forecast version does not exist, the system selects the current working cost version, if one exists.

Submitting Budgets and Forecasts

When you submit a current working plan version, Oracle Projects calls the Budget Verification extension. If the plan version passes the extension rules, then the system changes the budget or forecast status to *Submitted.* If the plan version does not pass the extension rules, then the status remains set to *Working*.

If the *Use Workflow for Status Changes* option is enabled for the plan type at the financial plan type level, then the system changes the plan version status to *Submitted* when the version is submitted. After approval, the system changes the status of a budget to *Baseline* and the status of a forecast to *Approved*.

You can use the plan version status to inform individuals or groups who have different responsibilities with regard to budgets and forecasts. For example, if project managers create plan versions and the accounting department is responsible for creating baselines, the plan version status informs users when a plan version is ready for their use.

You can choose to *Rework* a working plan version after it is submitted if you need to make changes before you create a baseline or approve a forecast (for example, if you accidentally submit the plan version or find errors). However, you cannot enter amounts or make changes to a plan version while Workflow is active.

If the *Allow Edit After Initial Baseline* option is enabled for an *approved budget* financial plan type, then you can edit and submit a working version after the creation of an initial budget baseline. However, if this option is not enabled, then you can update an approved budget only by creating a change order that records the financial impact of the change and by implementing the financial impact of the change order in the budget.

You can submit a current working version from either the Maintain Budget Versions or Maintain Forecast Versions page or the Edit Budget or Edit Forecast page. For more information on submitting plan versions, see: Maintaining Plan Versions, page 6-20.

Understanding the Submit Process

When you submit a current working plan version, the following events occur:

1. Oracle Projects calls the Budget Verification extension.

By default, the Budget Verification extension does not include any submission requirements. You can customize the extension to match your company's rules for budget and forecast submission.

The Budget Verification extension has two possible outcomes:

- If the submission requirements are not met, then Oracle Projects issues an error message and no status change is made.

- If the submission requirements are met, then Oracle Projects proceeds to the next step.

2. The system must determine whether to invoke Workflow. The system invokes Workflow if the *Enable Workflow for Status Changes* option is enabled for the financial plan type.

   - If Workflow is not invoked, then Oracle Projects changes the status of the plan version to *Submitted*.

   - If Workflow is invoked, then Oracle Projects proceeds to the next step.

3. Oracle Projects invokes the Workflow process indicated in the budget workflow extension.

   - If the plan version fails the Workflow process, then Oracle Projects issues an error message and no status change is made.

   - If the plan version passes the Workflow process, then Oracle Projects proceeds to the next step.

4. Oracle Projects applies the standard budget baseline and forecast approval requirements to the plan version.

   - If the plan version fails the standard budget baseline/forecast approval requirements, then Oracle Projects issues an error message and no status change is made.

   - If the plan version passes the standard budget baseline/forecast approval requirements, then Oracle Projects proceeds to the next step.

5. Oracle Projects calls the Budget Verification extension again to verify that the plan version still passes the budget baseline/forecast approval rules.

   - If the baseline/approval rules are not met, then Oracle Projects issues an error message and no status change is made.

   - If the baseline/approval rules are met, then Oracle Projects changes the plan version status to *Baseline* or *Approved*.

Related Topics

Adding a Plan Type to a Project, page 6-18

Budget Workflow, *Oracle Projects Implementation Guide*

Financial Plan Types, *Oracle Projects Implementation Guide*

Budget Verification Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*

Budget Workflow Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*

Creating Baselines for Budgets and Approving Forecasts

Creating a baseline or approving a forecast is the process of approving a submitted, current working plan version for use in reporting and accounting. For security reasons, this process can be performed by a different project member than the person who entered and submitted the working plan version.

When the budget baseline/forecast approval function is called, Oracle Projects changes the status of the *Current Working* plan version to either *Current Baseline* or *Current Approved*, and copies it to create a new current working plan version. All previous baseline or approved plan versions become historical versions.

If the *Use Workflow for Status Changes* option is enabled for a financial plan type, then the system automatically creates a budget baseline or an approved forecast after the Current Working plan version is submitted, and if it passes all Workflow approvals and other submission requirements. See Understanding the Submit Process, page 6-49.

For contract projects in Oracle Project Billing, the baseline function verifies that the plan version amounts for a financial plan type that is designated as an *approved revenue budget* equal the total funding for the project or the top tasks within the project (if task-level funding is used). If this check is successful, then the system creates a new baseline plan version for the approved revenue budget plan type. If the amounts are not equal, then Oracle Projects issues an error and does not create a new baseline.

Rules for Non-Time-Phased Plan Versions

If you create a plan version that is not time-phased (uses a time phase of *None*), and if you use the default start and end dates from the project or the project tasks, then the following rules apply:

- If you are planning at a project level and you change the start or end date of the *project*, then you must create a new budget baseline or approved forecast to reflect the new dates.

- If you are planning at a task level and you change the start or end date of a *task*, then you must create a new budget baseline or approved forecast to reflect the new dates.

Prerequisites for Creating a Baseline or Approving a Forecast

Before you can create a budget baseline or approved forecast from a current working plan version, you must submit the plan version. See: Submitting Budgets and Forecasts, page 6-49.

Before you can create a baseline for a plan type on a contract project that is designated as an *approved revenue budget*, you must enter a funding amount that is equal to the plan version amounts. If you are funding at the top task level, then you must enter revenue amounts at the top task or lowest task levels. If the baseline process fails for an approved revenue budget plan version because the funding does not equal the plan version amounts, then you must change either the plan version amounts or the funding amounts before you can successfully create the baseline.

You can create a budget baseline or approved forecast for a submitted, current working plan version from the Maintain Budget Versions or Maintain Forecasts versions page. For more information, see: Maintaining Plan Versions, page 6-20.

Understanding the Baseline/Forecast Approval Process

When you create a budget baseline or approved forecast, the following events occur:

1. Oracle Projects calls the Budget Verification extension

   By default, the Budget Verification extension does not include any budget baseline or approved forecast requirements. You can customize the extension to match your company's rules for creating a budget baseline or approved forecast.

2. The Budget Verification extension has two possible outcomes:
   - If the plan version fails the baseline/approval requirements, then the system issues an error message and no status change is made.
   - If the plan version passes the baseline/approval requirements, then Oracle Projects changes the plan version status to *Baseline* or *Approved*.

Related Topics

Budget Verification Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*

Creating Budgets and Forecasts With Budgetary Controls and Budget Integration

The following sections describe the processes for creating budgets and forecasts when you want to use Oracle Projects budgetary controls and budget integration features. You must use the procedures in this section to define, enter, and process budgets and forecasts to access the windows that enable you to use budgetary control and budget integration features.

You can enter and submit budget drafts, and create budget baselines from the Budgets window.

Related Topics

Using Budgetary Controls, page 6-73

Integrating Budgets, page 6-86

Implementing Budgetary Controls, *Oracle Projects Implementation Guide*

Implementing Budget Integration, *Oracle Projects Implementation Guide*

Budget Entry

The following illustration shows an overview of the budget entry process flow.

Overview of the Budget Entry Process
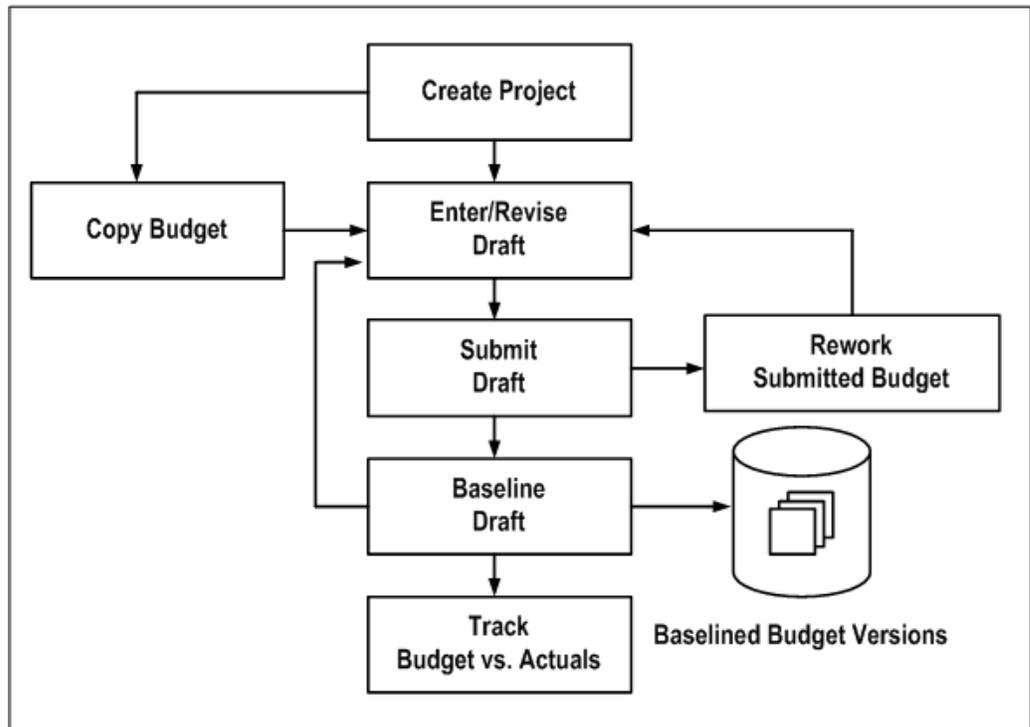
To create or revise budgets, perform the following steps:

1. Create the project and WBS. When you define the work breakdown structure, consider how you want to track cost and revenue. See: Control Functions by Project and Task Level, *Oracle Projects Fundamentals*

> **Note:** The start and end dates for a non-time-phased budget are automatically set to equal the start and completion dates of the project or task.

2. Enter or revise a draft budget for the project. See: Entering or Revising a Budget Draft, page 6-54.

3. Enter budget amounts in the draft budget using any of the following methods:

   • When you first create the project you can copy the budget from the project template or project you are copying. See: Copying Budgets from a Project Template or Existing Project, page 6-60.

   • Enter the budget cost and/or revenue amounts directly. See: Entering Budget Lines, page 6-57.

   • Enter the budget quantities and allow Oracle Projects to calculate the cost and/or revenue amounts for you. See: Calculating Budget and Forecast Amounts, page 6-11.

   • Copy the budget from an earlier version of the project's budget (if you are revising a baseline budget version). See: Copying Budget Amounts from Earlier Budget Versions, page 6-62.

- Copy the actual amounts to the budget amounts. See: Copying Actuals to Budget Amounts, page 6-63.

4. Submit your budget to indicate that budget entry is complete. See: Submitting a Draft, page 6-65.

5. Create a baseline. See: Creating a Baseline for a Budget Draft , page 6-68.

6. Revise the current budget to reflect changes in the project or to correct data entry errors. See: Revising a Budget Baseline, page 6-70, Revising an Original Budget, page 6-71.

Related Topics

Budget Types, *Oracle Projects Implementation Guide*

Budget Entry Methods, *Oracle Projects Implementation Guide*

Resources and Resource Lists, *Oracle Projects Implementation Guide*

Entering or Revising a Budget Draft

A budget draft is a holding area for budget data that is currently in process. You enter or revise the budget amounts for a project in a draft. The status for a draft is Working.

You have a draft for each budget type used on the project. You cannot report against a draft or use it to compare budgeted to actual amounts.

1. **Budgets Window**

   Navigate to the Budgets window. Choose the project for which you want to enter or revise budget amounts. You must enter a valid project number before you can enter a budget type.

2. **Budget Type**

   After you have selected a valid project, the budget type field will be enabled.

   Choose the budget type. The budget type field enables you to have more than one series of budgets for a project. The budget type determines whether the budget is a revenue budget or cost budget. See: Budget Types, *Oracle Projects Implementation Guide.*

   > **Note:** The list of values displays only active budget types. However, if a budget was created earlier for your project using a budget type that is now inactive, the inactive budget type can be entered.

3. **Find Draft**

   Choose the Find Draft button.

   > **Note:** If you select an inactive budget type and choose Find Draft, no draft budget will be displayed.

4. **Version Name**

   Enter the version name.

5. **Budget Status**

The budget status will be displayed, indicating where the budget is in the submission or baseline process. The budget status can have the following values:

- **Working** A draft that you are entering and updating.

- **Submitted** A draft that is submitted for baseline. If you want to change make changes in a budget that has a Submitted status, you must first select the Rework button, which returns the status to Working.

- **Baselined** A baseline budget version. The Budget Version History window in the Budgets form displays baseline budget versions.

6. **Change Reason**

Enter a change reason. The change reason identifies the reason for changing a budget version from a previous version. See: Budget Change Reasons, *Oracle Projects Implementation Guide.*

7. **Description**

You may enter a description for the budget version.

8. **Budget Entry Method**

You can accept or override the default *budget entry method (BEM)*, which determines the level of detail for the budget.

- If you are entering the first draft for the budget type, the default BEM is determined by the project type of the project.

- If a prior version of the budget type exists, the default BEM is the budget entry method of the project's current budget for the budget type.

You can choose a categorized or uncategorized budget entry method. See: Categorizing Budget and Forecast Amounts by Resources, page 6-8.

You can change the BEM at any time, even after you have created a baseline version for the budget type. When you change the BEM, the system will delete the existing draft budget lines. You can then enter a new draft.

> **Note:** If you select a categorized BEM for the first draft budget of any type, all subsequent draft budgets of that type (after the first draft budget baseline is created) must also use categorized BEMs. The same is true for uncategorized BEMs. The list of values of BEMs will show only valid BEMs for a budget.

See: Budget Entry Methods, *Oracle Projects Implementation Guide.*

9. **Resource List**

The *resource list* is the set of resources that can be used as budget categories for a categorized (detail) budget. These resources will be displayed on the list of values for resource when you are entering budget lines.

If you are entering the first draft for the budget type, you may accept or override the default resource list. If you change the resource list after you have entered budget lines for the budget version, the system will delete the draft lines and you must enter a new draft.

You cannot change the resource list after you create a baseline budget version for the budget type.

10. **Original**

    This field displays the version name of the current original budget for the project budget type. You can view the original and other historical budgets in the Budget Version History window (choose History from the Budgets window).

11. **Was Original**

    This flag indicates if the budget currently displayed was previously an original budget. Oracle Projects creates such budget versions when you revise the original budget. You can view this value in the Budget Version History window.

12. **New Original**

    Use this check box if you want to indicate that this draft, when a baseline is created, will become the revised original budget.

13. **History**

    You can choose History to review the details of previous budget versions of the selected budget type. Historic budgets can be viewed for active and inactive budget types.

14. **Labor Hours, Raw Cost, Burdened Cost, Revenue**

    These fields display the sum of the labor hours, raw cost, burdened cost, and/or revenue entered for the budget version.

Entering a Project or Task Level Budget

You can budget at the project, top task, or lowest task level.

> **Note:** If you are using top task funding for your contract project, you must enter revenue budgets at the top task or the lowest task levels.

To enter a project-level budget, perform the following steps:

1. Navigate to the Budgets form.

2. Choose a budget entry method set up with a project entry level.

3. Choose the Details button to open the Budget Lines window.

4. Enter the budget lines.

5. Save your work.

To enter a task-level budget, perform the following steps:

1. Choose a budget entry method set up with the appropriate task entry level (Top Tasks, Lowest Tasks, or Top and Lowest Tasks).

2. Choose the Details button to open the Task Budgets window, which displays different levels of tasks, depending on the budget entry method you enter. Choose from the available list in the tasks list of values to view different task level combinations. See: Defining Your Financial Structure, *Oracle Projects Fundamentals*.

3. Choose the task for which you want to budget.

4. Choose Budget Lines.

5. Enter the budget lines in the Budget Lines window.

6. Save your work.

Entering Budget Lines

A budget line contains information about how much of a resource is needed. The information in a budget line can include a unit of measure and amounts for quantity, raw cost, burdened cost, or revenue.

> **Note:** If you plan to use the cost-to-cost revenue accrual or invoice generation method for your project, you must enter burdened costs in your cost budget and revenue amounts in your revenue budget. Otherwise, Oracle Projects cannot successfully generate revenue or invoices using the cost-to-cost method. For more information about these processes, see the following topics: Accruing Revenue for a Project, *Oracle Project Billing User Guide*Invoicing a Project, *Oracle Project Billing User Guide*.

You can enter and delete budget lines for a budget. You can delete budget lines in a draft. You cannot delete budget lines from a budget baseline.

To enter budget lines, perform the following steps:

1. Navigate to the Budgets window.

2. Enter or choose the Find Draft button to find the draft for the appropriate budget type.

3. To navigate to the Budget Lines window, choose Details.

   If you are entering a project level budget, the Budget Lines window will open.

   If you are entering a task level budget, the Task Budgets window will open. Select a task, then choose Budget Lines to open the Budget Lines window.

Entering Budget Lines for Period-Phased Budgets

If you are entering a budget that is period-phased (time-phased by PA period or GL period), the *matrix entry* Budget Lines window will be displayed for budget lines entry. The matrix entry window opens automatically when you navigate to the Budget Lines window for a period-phased budget.

The type of time-phasing of the budget is determined by the Budget Entry Method selected for the budget.

Using the matrix entry window, you enter budgeted amounts for an *amount type* and a period. The amount type is either quantity, raw cost, burdened cost, or revenue.

Each line in the matrix displays amounts for a resource and an amount type. You select the resource and the amount type for a given budget line. You then enter the amounts for the period range specified.

The Earliest Budget Period and Latest Budget Period fields display the earliest and latest period for which budget amounts have been entered. You control which periods to display by specifying the *First Budget Period*.

To enter budget lines in the Budget Lines window, perform the following steps:

1. Enter the *First Budget Period* (either PA or GL period, depending on the budget entry method of the budget version). The period you select will be the earliest period, displayed in the window.

Use the left and right arrow buttons to change the periods displayed in the window. When you choose an arrow, the periods will shift forward or backward by one full screen (the number of periods displayed in the window).

2. Enter the *resource* you want to budget.

3. Select the *amount type*.

You control the amount types that you can select by your selection in the *View Lines For* field in the upper region of the window. If the View Lines For is set to All, you can select any amount type allowed by the budget entry method and budget type. If View Lines For specifies an amount type, then you can only enter budget lines for the amount type specified.

Following are the selections displayed for the View Lines for field:

- Unit of Measure (UOM) the resource, if the resource has a UOM

- Raw Cost (for cost budgets, if raw cost entry is allowed by the budget entry method)

- Burdened Cost (for cost budgets, if burdened cost entry is allowed by the budget entry method)

- Revenue (for revenue budgets, if revenue entry is allowed by the budget entry method)

4. Enter the budget *amounts* for the resource, amount type, and periods displayed.

Amount Type Lines Automatically Created:

In the matrix entry Budget Lines window, when you create a budget line for one amount type, Oracle Projects will create budget lines for other amount types. The other amount types will be the amount types that are enterable fields for the budget entry method being used. See: Budget Entry Methods, *Oracle Projects Implementation Guide*.

For example, if you enter an amount for Miles (amount type) for Auto Use (resource), lines will also be created for the amount types Raw Cost and Burdened Cost for the same resource, if the budget entry method in use for the budget includes raw cost and burdened cost as enterable fields.

You can view all the lines by selecting All in the View Lines For field.

5. If you want to enter a *change reason, comment,* or *descriptive flexfield* for the resource and time period, navigate to the overflow region. You navigate to the overflow region by using the tab key or by clicking the mouse, depending on the setting of the profile option *PA: Tab to Budget Matrix Comments Fields*. See: PA: Tab to Budget Matrix Comments Fields, *Oracle Projects Implementation Guide*.

The overflow region displays the resource and period for which you are currently entering or viewing the change reason, comment, and descriptive flexfield.

The overflow region fields apply to a resource and time period, and are shared across amount types. For example, if you enter a change reason for the labor resource for raw cost for January, the same change reason applies for the labor resource for hours for January.

6. Enter more resources for the same periods or shift the periods displayed for entry by entering a new First Budget Period or by using the Period arrows.

7. Save your work.

Viewing Calculated Budget Amounts

If you are using budget calculation extensions to calculate raw costs, burdened costs, or revenue amounts based on the quantity or raw cost that you enter, you will be able to see the calculated amounts when you re-query the field. To re-query, click in the field whose value you want to see.

If you are calculating amounts for which you are not allowed to enter values as defined in the budget entry method, then you cannot see the budgeted amounts in the matrix entry form.

To review the budget amounts, use the *View Lines For* field to select which budget lines of a given amount type you want to review. The default selection is All. You can select from any of the following amount types that are allowed by your budget entry method and budget type class (cost or revenue).

- All
- Labor Hours (resources that are tracked as labor hours)
- Quantity (all quantities regardless of unit of measure)
- Raw Cost
- Burdened Cost
- Revenue

For example, you may want to view only budget lines for Raw Cost. If, in addition, you select Raw Cost in the View Totals For field, you can review budget amounts that comprise the displayed budget totals.

To review the budget totals, use the *View Totals For* field to select the amount type you want to display in the Total fields. You can select from any of the following amount types that are allowed by your budget entry method and budget type class (cost or revenue).

- Labor Hours
- Raw Cost
- Burdened Cost
- Revenue

You can review the resource totals for a range of periods by changing the Periods for Totals. These totals are displayed down the right hand side of the window under Period Totals. After you change the Periods for Totals, the totals are displayed when you navigate to the lines region.

Related Topics

Calculating Budget and Forecast Amounts, page 6-11

Budget Calculation Extensions, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*

Entering Budget Lines for Non-Time-Phased or Date Range Budgets

If you are entering a budget that is non-time-phased or is time-phased by date range, the *row entry*Budget Lines window will be displayed for budget lines entry.

The row entry Budget Lines window has columns for Resource, Period Name, UOM (Unit of Measure), Quantity, Raw Cost, Burdened Cost, and/or Revenue. Budget lines are displayed sorted by resource.

To enter budget lines, perform the following steps:

1. Enter the *resource*.

2. Enter the *period* or *dates*.

   If the budget is non-time-phased, you do not enter dates. The dates are automatically set to equal the start and completion dates of the project or task.

3. Enter *quantity* and *amounts* for each budget line as defined in the budget entry method that you selected. You can enter a quantity only if the resource has a unit of measure specified. See: Resources and Resource Lists, *Oracle Projects Implementation Guide*.

   If you are entering task level budgets, use the up or down arrow buttons to display the next top or lowest level task in the list.

4. Enter a budget *Change Reason* and *Comment* for each budget line.

5. Save your work.

Revising Budget Lines

To assign a budget line to a different resource, if you have already saved your work, then you must delete and reenter the line.

To delete a budget line, you must perform the following steps:

1. Choose the budget line you want to delete and choose the Delete Record button from the toolbar.

2. In the Budget Matrix Entry window, deletion of a budget line for a resource and an amount type will only delete the amounts for the periods that are currently displayed. It will not affect amounts for any other periods.

   To fully delete a budget line for a resource, you must enter zeros for all amounts and for all periods for that resource.

   Example:

   A budget line exists for the Labor resource with the following amounts:

   • Quantity = 10 for periods January through December

   • Raw Cost = 100 for periods January through December

To fully delete the budget line (so that it is no longer displayed), you must change the amounts to zero for quantity and raw costs for periods from January through December.

Copying Budgets from a Project Template or Existing Project

When you copy a project template or project, Oracle Projects automatically copies the budgets of the source project template or project to the new, or target project.

Oracle Projects creates a draft budget using the current budget of the source template or source project. If the source template or source project does not have a current budget, then Oracle Projects uses the draft.

The new project has a draft for each budget type entered for the source template or source project. After you copy the project, you can modify the budget amounts if necessary.

If the status of the budget in the source template or project is *Submitted*, then the system sets the status of the target budget is *Working.*

Copying Budget Baselines

If you create a project by copying a project template that has budget baselines, then the system creates the new budgets as baseline versions. In addition, the system creates a corresponding current working version for each baseline version.

> **Note:** If the source project template has a revenue budget baseline, but no cost budget baseline, and the new project has a revenue distribution rule that accrues revenue using the ratio of actual cost to budgeted cost *(Cost/Cost, Cost/Event, or Cost/Work)*, then the revenue budget for the new project is created as a working version, not a baseline version.

If you create a project by copying another project, the budgets created are draft, (not baseline).

Copying Project Actual Amounts to the Budget of a New Project

When a new project will have a budget identical or similar to the actual amounts on an existing project, you can easily copy the actual amounts on the existing project to the new project budget as you create the new project.

To copy actual amounts to a new project budget, perform the following steps:

1. Create a special budget type for this purpose, such as *prototype*. See: Budget Types, *Oracle Projects Implementation Guide*.

2. In the existing project, copy the project actual amounts to the *prototype* budget (or whatever you have chosen to call the special budget type). See: Copying Actuals to Budget Amounts, page 6-63.

3. Create the new project by copying the existing project. See: Creating a New Project from a Project Template or Existing Project, *Oracle Projects Fundamentals*

4. In the new project, review and revise the *prototype* budget. When it is ready, copy it to the approved cost or approved revenue budget (whichever is appropriate). At this step, you can use the Amount Adjustment field to increase or decrease the amounts in the new budget by a percentage. See: Copying Budgets from Earlier Budget Versions, page 6-62.

Copying Dates or Periods for Time-Phased Budgets

When copying time-phased budgets from a project template or project, Oracle Projects adjusts the dates or periods of the budget lines based on the new dates that you specify in Project Quick Entry, according to the following rules:

- If the source project template or project has no start date, then the budget and budget periods are copied to the new project without any adjustment to the budget periods even if a start date is entered in Project Quick Entry for the new project.

- If the source project template or project has a start date, but no start date was entered in Project Quick Entry, then the budget and budget periods are copied to the new project without any adjustment to the budget periods.

- If the source project template or project has a start date and a start date was entered in Project Quick Entry, and the budget entry method is GL or PA period, then Oracle Projects performs the following actions:

- calculates the number of periods between (a) the first budget period entered for the source project template or project, and (b) the period that contains the project start date

- derives the new start period for each budget line by adding the number of periods determined in the preceding action to the period of the new start date

If the source project template or project uses budget periods, then the new project will also use budget periods. The budget periods are based on the PA or GL period of the new project and task start dates. For example:

- The source project has a start date of September 1, 2002 and budget amounts entered in P09-2002, P10-2002, and P12-2002.

- The new project has a start date of December 15, 2002.

- The system will create budget amounts for the new project in P12-2002, P01-2003, and P03-2003.

> **Note:** The copy process assumes all periods are equal in length. If your periods are not of uniform length, then you may get unacceptable results. This may require you to manually update your budget amounts.

Related Topics

Creating a New Project from a Project Template or Existing Project, *Oracle Projects Fundamentals*

Copying Budgets from Earlier Budget Versions

You can create a new draft by copying any existing budget version of the same project. You can copy from one budget type to another for the same project; for example, you can copy from a cost budget type to another cost budget type. You cannot copy between cost and revenue budget types, nor can you copy budget versions between projects (except when copying the project from another project).

When you copy a prior version you can specify an increase or decrease factor, which increases or decreases the copied budget amounts, but not the budgeted quantities, optionally rounded to the precision you choose. The new budget amounts override any data that exists in the draft.

To copy budget amounts from an earlier budget version:

1. Navigate to the Budgets form.

2. Enter the Project Number and Budget Type that you want to copy.

   > **Note:** You must enter a valid project number before you can enter a budget type.

3. Choose History.

4. In the Budget Version History window, select the budget Version that you want to copy.

5. Choose Copy To.

6. Choose the Budget Type that you want to copy to. Change the Amount Adjustment and Rounding Precision if you want to adjust the budget amounts when you copy the budget.

> **Note:** When you copy a budget, the To Draft Budget Type field is set to the budget type you enter in Step 2. However, if the From Baselined budget type is an inactive budget type, the field is left blank.

7. Choose OK. Oracle Projects automatically displays the new draft in the Budgets window.

8. Revise the budget amounts as necessary.

Copying Actual Amounts to Budget Amounts

You can build a draft for a period-based budget based upon actual past expenditures. You cannot copy actual amounts for time-phased budgets that use date ranges, or for non-time-phased budgets.

Oracle Projects uses the budget entry method and resource list that you specify for the draft when copying actual amounts to the budget amounts. If you specify a budget entry method that uses both top and lowest task budgets, the budget lines are created at the lowest task level, using the resources in the resource list to which the actual amounts are mapped. Oracle Projects copies the actual amounts using the lowest level in the resource list, if resources are used; otherwise, it uses the resource groups. The resources are used even if you have budgeted at the resource group level. See: Resources and Resource Lists, *Oracle Projects Implementation Guide*, and Summarizing Actuals and Commitments by Resource, page 10-19.

The resulting new draft reflects the actual amounts incurred. If a resource was previously budgeted, but no actual amounts were incurred, this resource is not copied to the new draft budget. If an actual amount was incurred but was not previously budgeted, a new budget line is created in the budget to reflect the actual amount that was incurred.

The following table shows and example, of actual amounts copied to budget amounts. In this example, you enter the following actual amounts for a resource, and associate the resource list with Project X.

Actuals

Enter the following actual amounts:

Period	Employee	Amount	Resource	Quantity
PA 1	Marlin	100	Professional	2 hours
	Vincent Business Supply	77	Supplies	
PA 2	Marlin	150	Professional	3 hours
	Gray	10	Computer Services	1 hour
	Robinson	50	Clerical	1 hour

Resource List

Associate the following resource list (Expenditure Type by Expenditure Category) with Project X:

Resource Group	Resource	Resource Type
Labor	Professional	Expenditure Type
Labor	Clerical	Expenditure Type
Asset	Computer Services	Expenditure Type

Resulting Draft

When you copy actual amounts from Project X, the following resulting budget lines are created:

Period	Resource Group	Resource	Quantity	Amount
PA 1	Labor	Professional	2	100
	Uncategorized	Uncatergorized		77
PA 2	Labor	Professional	3	150
	Labor	Clerical	1	50
	Asset	Computer Services	1	10

To copy actual amounts to budget amounts:

Run the Update Project Summary Amounts process for the project and the periods for which you want to copy actual amounts. Oracle Projects uses the project summary amounts when copying actual amounts to budget amounts. See: Updating Project Summary Amounts, page 10-17

> **Note:** Only actual amounts from periods whose ending dates are earlier than the current date will be copied to budget amounts.

1. Navigate to the Budgets window.

2. Choose the project and budget type into which you want to copy actual amounts.

3. Choose Find Draft.

4. Choose Copy Actuals.

5. Enter the period range for which you want to copy actual amounts. Enter GL periods if you are budgeting by GL period, or PA periods if budgeting by PA period.

   The default start period is the earliest period for which the project has summarized actual amounts for the resource list used on the budget. The default end period is the current reporting period.

6. Choose OK.

7. Revise the budget amounts if necessary.

8. Save your work.

Deleting a Draft

Find the draft you want to delete. Choose the Delete Record button from the toolbar, and choose OK to delete the draft. Oracle Projects deletes all budget lines associated with the budget version.

You can then create a new draft and enter any new lines by choosing Find Draft and navigating to the Budget Lines window.

Related Topics

Revising Budget Lines, page 6-60

Submitting a Draft

When you complete budget entry, you can submit your draft to indicate that it is ready for review and baseline.

When you submit a draft, Oracle Projects calls the Budget Verification extension. If the draft passes the rules in the Budget Verification extension, the budget status changes to *Submitted.* If the draft does not pass the rules in the Budget Verification extension, its status remains set to *Working*. See: Budget Verification Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*.

If the budget type of the budget uses Workflow to process budget status changes, the budget status changes to *In Progress* when a draft is submitted. After a successful submission, the budget status changes to *Baselined.* While the budget Workflow is active for a budget, no data entry is allowed for the budget and the buttons are disabled when the budget is displayed.

You can use the status information to inform individuals or groups who have different responsibilities with regard to budgets. For example, if project managers create draft budgets and the accounting department is responsible for baselining the budgets, the status informs users when a budget is ready for their use.

You can change a submitted budget back to the status *Working* if you need to make changes to the draft. For example, change the status to *Working* if you accidentally submitted the budget, or you found errors in the budget.

While the budget Workflow is active for a budget, you cannot change the status using the Budget window.

You cannot change the status to *Working* after you have baselined the budget.

If you want to make changes to the budget that after you create a baseline, you must create a new baseline. See: Revising a Budget Baseline, page 6-70.

Prerequisites

Enter a draft. See: Entering a Draft, page 6-54.

To submit a draft:

• Find the working draft that you want to submit in the Budgets window. Choose Submit.

To change a submitted budget status from Submitted to Working:

*   Find the submitted draft that you want to change in the Budgets window. Choose Rework. Update the draft, as necessary and save your work.

    After you have completed the changes, you can resubmit the draft.

    > **Note:** You cannot choose Rework if a workflow is active for the budget.

The Submit Draft Budget Process

The following illustration shows the submit draft budget flow.

The Submit Draft Budget Flow
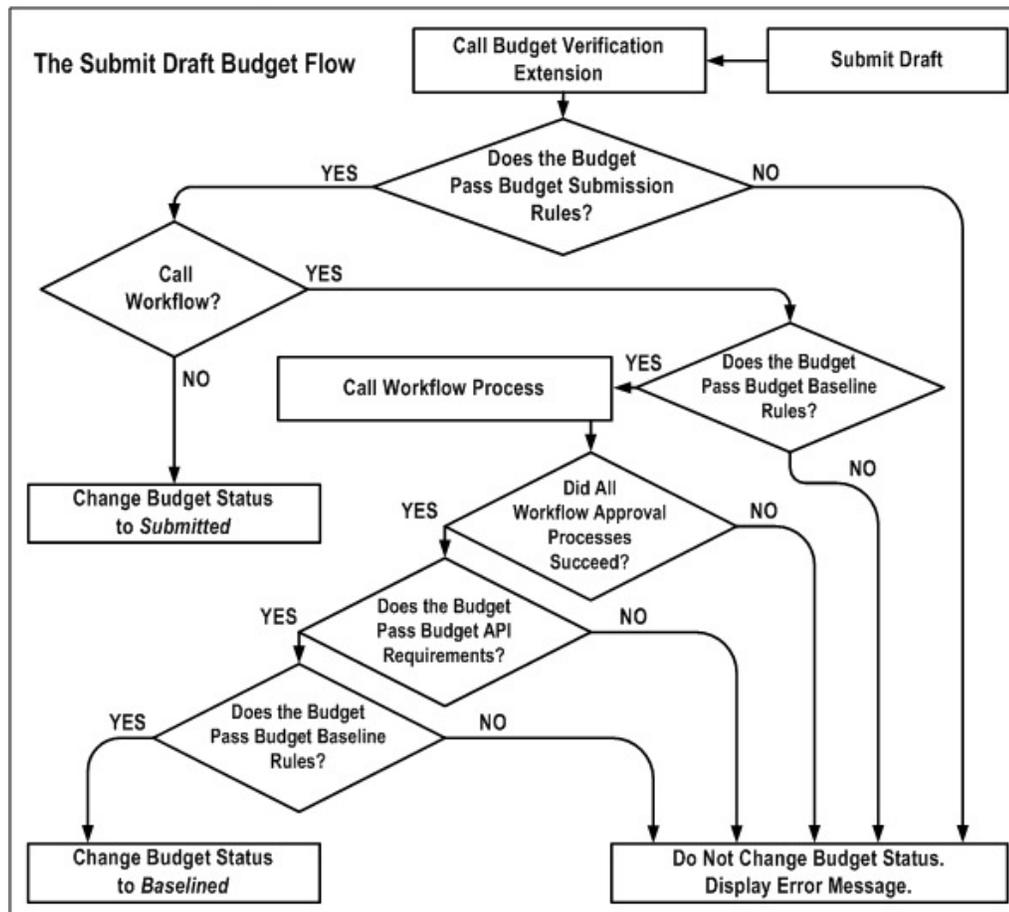
When you choose Submit from the Budgets window, the following events occur:

1. Oracle Projects calls the Budget Verification extension. The procedure is called **pa_client_extn_budget.verify_budget_rules**.

    By default, the Budget Verification extension does not include any budget submission requirements. You can customize the extension to match your company's rules for budget submission.

    The Budget Verification extension has two possible outcomes:

- If the budget submission requirements are not met by the draft budget, an error message is issued and no status change is made.

- If the budget submission requirements are met by the draft budget, Oracle Projects proceeds to the next step.

2. The system must determine whether to call Workflow. The field *Use Workflow for Budget Status Change* in the Budget Type window determines whether Oracle Projects calls Workflow for the draft budget submission.

- If Workflow is not called, Oracle Projects changes the status of the draft budget to *Submitted*.

- If Workflow is called, Oracle Projects proceeds to the next step.

3. Oracle Projects calls the Budget Verification extension to determine whether the budget passes the budget baseline rules.

   By default, the Budget Verification extension does not include any budget baseline requirements. You can customize the extension to match your company's rules for creating a baseline.

- If the budget fails the budget baseline rules, an error message is issued and no status change is made.

- If the budget passes the budget baseline rules, Oracle Projects proceeds to the next step.

4. Oracle Projects calls the Workflow process indicated in the budget workflow extension.

- If the draft budget fails the Workflow process, an error message is issued and no status change is made.

- If the draft budget travels successfully through the Workflow process, Oracle Projects proceeds to the next step.

5. Oracle Projects applies the standard budget baseline requirements to the budget.

- If the budget fails the standard budget baseline requirements, an error message is issued and no status change is made.

- If the budget passes the standard budget baseline requirements, Oracle Projects proceeds to the next step.

6. Oracle Projects calls the Budget Verification extension again, to verify that the budget still passes the budget baseline rules.

- If the budget fails the budget baseline rules, an error message is issued and no status change is made.

- If the budget passes the budget baseline rules, Oracle Projects changes the budget status to *Baselined*.

Related Topics

Budget Workflow, *Oracle Projects Implementation Guide*

Budget Verification Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*

Budget Workflow Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*

Creating a Baseline for a Budget Draft

Baselining is the process of approving a budget for use in reporting and accounting. When the baselining function is called, the system copies the draft amounts into a new baselined budget version.

The most recent baselined version is named the Current Budget, which is used for reporting. All previously baselined budgets are historical baselined versions. The Current Budget, and all other baselined budget versions, have a status of *Baselined.*

For security reasons, this process is usually performed by a different project member than the person who entered and submitted the budget.

If a budget type uses Workflow for budget status changes, a draft budget is automatically baselined after it is submitted, if it passes all the Workflow approvals and other requirements. See Submitting a Draft, page 6-65.

For contract projects in Oracle Project Billing, the baseline function verifies that the budget amounts for the budget type *Approved Revenue Budget* equals the total funding for the project or for the top tasks within the project, if using task level funding. If this check is successful, a new budget version is created. If the amounts are not equal, Oracle Projects displays an error and does not create a new budget version.

Creating New Baselines for Budgets That Are Non-Time-Phased

If you create a budget that is not time-phased, and you used the default start and end dates (from the project or task start/end dates) when you create the budget, be aware of the following caveat:

- **Project Budget:** If you change the start or end date of the related **project**, you must re-baseline the budget to reflect the new dates.

- **Task Budget:** If you change the start or end date of the related **task**, you must re-baseline the budget to reflect the new dates.

Prerequisites:

- Enter and submit a draft. See: Entering a Draft, page 6-54.

- For contract projects in Oracle Project Billing with budgets using the budget type *Approved Revenue Budget*, enter the funding amount equal to the budget amount. If you are using top task funding, you must enter revenue budgets at the top task and/or the lowest task levels.

To baseline a draft:

- Find the submitted draft that you want to baseline. Choose Baseline.

    Note: If the baseline function fails for the Approved Revenue Budget because the funding does not equal the revenue budget, then you must change the budget or the funding amounts before you can successfully baseline the budget.

The Draft Budget Baseline Process

The following illustration shows the draft budget baseline flow.

The Draft Budget Baseline Flow

The Baseline Draft Budget Flow

Baseline Draft → Call Verification API

Are Verification API Requirements Met?
— YES → Call Budget Verification Procedure
— NO → Do Not Change Budget Status. Display Error Message.

Does the Budget Pass Budget Baseline Requirements?
— YES → Change Budget Status to *Baselined*
— NO → Do Not Change Budget Status. Display Error Message.
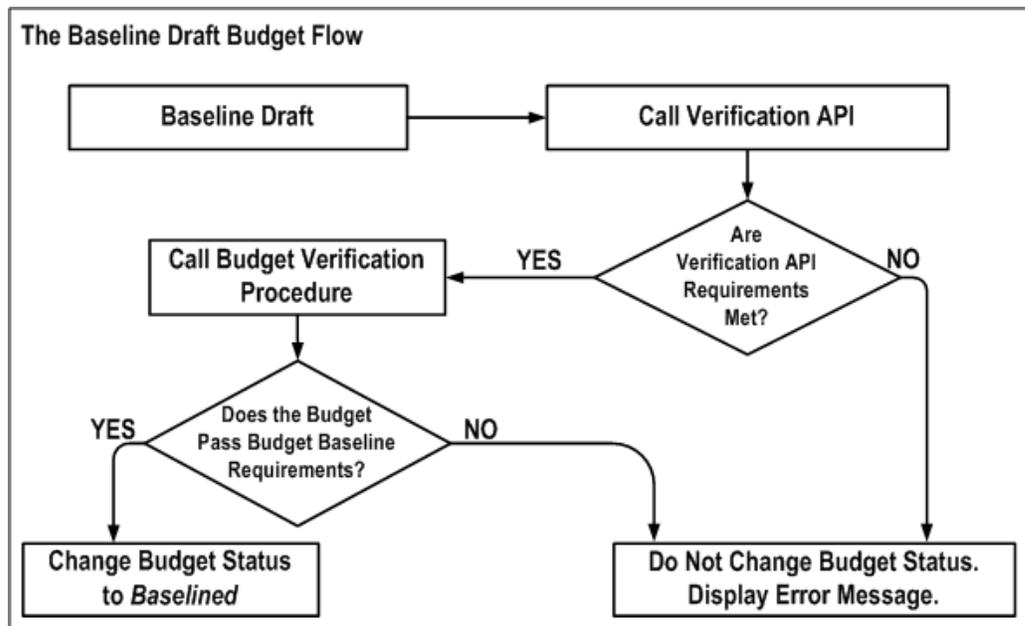
When you choose Baseline from the Budgets window, the following events occur:

1. Oracle Projects calls the Budget Verification API. This program checks for standard rules that a budget must pass before it can be baselined. For example, an approved revenue budget amount must equal the project funding.

2. Oracle Projects calls the Budget Verification extension. The procedure is called **pa_client_extn_budget.verify_budget_rules**.

   By default, the Budget Verification extension does not include any budget baseline requirements. You can customize the extension to match your company's rules for baselining a budget. See: Budget Verification Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*.

3. The Budget Verification extension has two possible outcomes:

   • If the draft budget fails the baseline requirements, an error message is issued and no status change is made.

   • If the draft budget passes the baseline requirements, Oracle Projects changes the budget status to *Baselined.*

Creating a Baseline for an Integrated Budget

When you create a baseline for an integrated project budget, the budget line amounts are interfaced to Oracle General Ledger. Based on the interfaced amounts, the system creates budget journal entries (in bottom-up budget integration) or encumbrance journal entries (in top-down budget integration).

During the budget baseline process, the system validates the amounts to be interfaced. If the interfaced amounts would result in entries that cannot be posted in Oracle General Ledger, then the baseline process fails and no budget amounts are interfaced.

Journals cannot be posted if either of the following is true:

- The journal entry is posting to a closed GL period.

  Oracle General Ledger does not allow a journal to be posted in a closed GL period. Therefore, the Projects baseline process fails and no amounts are interfaced if the integrated budget contains a new or changed budget amount for a closed GL period.

- The journal entry violates the defined budgetary controls.

  General Ledger journals cannot be posted if they violate budgetary controls defined for the funding budget.

  - In *top-down* budget integration:

    The baseline process in Projects performs a funds check against the funding budget for all amounts to be interfaced to General Ledger. To perform the funds checks, the system summarizes the project budget lines by account and GL period. If funds are not available in the funding budget for all amounts to be interfaced, the baseline process fails and no amounts are interfaced.

  - In *bottom-up* budget integration:

    General Ledger funding budgets define spending limits for accounts. You can enable budgetary controls to ensure that actual plus encumbrance balances for an account do not exceed the account budget balance. If a project budget is integrated with a General Ledger funding budget that has budgetary controls enabled, a funds check is performed against the funding budget for all amounts to be interfaced to General Ledger. To perform the funds checks, Oracle Projects summarizes the project budget lines by account and GL period. If funds are not available in the funding budget for all amounts to be interfaced, the project baseline process fails and no amounts are interfaced.

    When bottom-up budgeting is enabled in Projects, the baseline process can only generate a funds check failure during the creation of a subsequent baseline. In this case, the new budget version may contain reduced budget amounts, or a budget line in the previous version may be deleted from the new version. These budget reductions are interfaced to General Ledger to reduce the organization-level budget balances. An interfaced amount causes the General Ledger funds check to fail if it reduces the budget balance for an account to a value that is less than the current actual plus encumbrance balances.

For more information about budget integration, see: Integrating Budgets, page 6-86.

Troubleshooting Baseline Failures

If the Oracle Projects baseline process fails as a result of a funds check failure, use the By Account tab of the Budget Accounts Details window to identify the project budget amounts that generated the funds check failure.

For more information, see: Troubleshooting Baseline Failures for Integrated Budgets, page 6-72.

Revising a Budget Baseline

After you baseline a budget, you can modify the following descriptive fields for a baselined version:

- Version Name
- Change Reason

- Description

- Comment

You cannot directly change the amounts or structure of a budget that has been baselined. If you need to make changes to a baselined budget, you must update the draft and baseline that version as the new Current Budget.

After you baseline a budget, the draft is the same as the last current budget version.

Related Topics

Entering a Draft, page 6-54

Creating a Baseline for a Budget Draft, page 6-68

Revising an Original Budget

The first time you baseline a budget, that budget becomes the Original Budget. The Project Status window displays information in the Original Budget and the Current Budget.

You may want to modify the Original Budget to correct data entry errors or scope changes which you want to include in the original budget amounts.

Oracle Projects uses the latest revised original budget as the Original Budget in reporting.

To revise an original budget:

1. Choose the New Original box in the Budgets window.

2. In the Budget Lines window, enter the revised budget amounts for the draft.

3. Submit the budget for baselining. See: Submitting a Draft, page 6-65.

4. Choose Baseline. Oracle Projects creates a new version which is identified as the new Current Budget and the new Original Budget.

Reviewing a Budget

Oracle Projects maintains budget history by retaining each budget version for each budget type, including summary and detail information.

To review budget history online:

1. Navigate to the Budgets form.

2. Choose the project and budget type for which you want to review budget history.

3. Choose History.

4. Review the budget versions in the Budget Version History window.

5. Choose Details to review the details of a budget version.

   You can also run reports that compare actual amounts to the current budget. See: Comparing Budget to Actual and Commitment Amounts, page 10-10.

Reviewing and Overriding Budget Account Details for Integrated Budgets

You can review and optionally override the accounts generated by the Project Budget Account workflow when budget integration is in use.

To review budget account details:

1. Navigate to the Budgets window.

2. Choose the project and budget type for which you want to review budget history.

3. From the Tools menu, select Review Budget Accounting to open the Budget Account Details window.

4. Choose the By Budget Line tab to review the account details by budget line. You can also override General Ledger accounts in this window.

5. Choose the By Account tab to review the account details by General Ledger account.

The By Budget Line tab displays the account generated for each budget line. You can use this tab to enter manual account overrides. Because budget lines are created for each budget period, you must enter account overrides for all applicable periods. To enable this window for entry of manual overrides, you must set the PA: Allow Override of Budget Accounts profile option to Y (Yes) and enable override function security for your user responsibilities.

> **Warning:** If you have entered account overrides manually, the system automatically replaces them with a generated account when the Project Budget Account workflow is activated using the Generate Budget Accounting option. If you add budget lines to an integrated budget after you have entered manual overrides for the budget, allow the budget submission process to generate accounts for the new lines.

For more information about budget integration, see: Integrating Budgets, page 6-86.

Troubleshooting Baseline Failures for Integrated Budgets

The By Account tab of the Budget Account Details window displays budget line amounts summarized by account and budget entry period. The upper (header) region displays the summarized account line totals and the lower (Budget Details) region displays the budget lines summarized in the selected header line.

For a given account, the Prior amount fields display the previous baseline amounts. The Current amount fields display the new budget amounts. The Accounted Amount field (viewed using the horizontal scroll bar) displays the amounts to be interfaced to General Ledger when the new baseline is created. Negative values in the Accounted Amount field indicate decreased or deleted budget line amounts.

Use the Check Funds button to identify the budget lines that caused a funds check failure. When this button is selected, the system performs a funds check against the General Ledger funding budget for all accounts with an accounted amount greater or less than zero. The funds check process returns a funds check result for each account line. Use the vertical scroll bar to view the results. You can view the budget lines assigned to an account by selecting an account line. The budget lines for the selected account are displayed in the Budget Details region.

> **Note:** Before you create a baseline for a project budget that is integrated with a General Ledger funding budget, you can use the Check Funds button to ensure that the amounts to be interfaced do not violate budgetary controls defined for the funding budget.

Creating a Baseline for an Integrated Budget, page 6-69.

Using Budgetary Controls

Budgetary controls enable you to monitor and control expense commitment transactions entered for a project, based on a project cost budget. Expense commitment transactions are transactions for non-inventory items. Oracle Projects enforces budgetary controls for:

- project-related purchase requisitions and purchase orders entered in Oracle Purchasing

- contingent worker timecards associated with purchase orders entered in Oracle Purchasing

- provisional and confirmed commitments entered in Oracle Contract Commitments

- supplier invoices entered in Oracle Payables

Budgetary Controls for Expense Reports

Budgetary controls are enforced for supplier invoices entered in Oracle Payables. However, because expense reports are generally entered after costs are already incurred, budgetary controls are not enforced for project-related expense reports entered in Payables. Therefore, you should ensure that your user procedures for approving expense report expenditures include verification of available funds according to your business requirements.

Online Funds Checking

When budgetary controls are enabled for a project, a funds check is performed for all project-related expense commitment transactions before the transactions are processed. After a transaction is approved, the funds check process immediately updates the funds available balances to account for the approved transaction.

The funds available for a transaction are calculated by subtracting the actual and commitment balances from the budget amounts for a given budget category. The funds check process is based on the budgetary control settings.

Related Topics

Implementing Budgetary Controls, *Oracle Projects Implementation Guide*

Creating Budgets and Forecasts With Budgetary Controls and Budget Integration, page 6-52

Integrating Budgets, page 6-86

Budgetary Control Settings

You use budgetary control settings to define the degree to which transactions are controlled (control levels) and when budget amounts can be spent (time intervals).

Time Intervals

A time interval defines the budget amounts and the transactions to be included in the available funds calculation. Time interval settings identify the beginning period and

the ending period included in the calculation. The *amount type* identifies the beginning period and a boundary code identifies the ending period.

Available Funds Calculation

The available funds calculation is based on the values you enter for the following settings:

- Amount Type (beginning budget period)
- Boundary Code (ending budget period)
- Transaction GL Date

The funds check process determines available funds by summing the budget amounts and subtracting actual and committed transaction amounts for a defined time interval.

The Amount Type defines the start of a time interval. You select from the following amount types:

- **Period To Date:** The funds check routine uses funds available from the start of the period in which the transaction GL date falls.
- **Year To Date:** The funds check routine uses funds available from the start of the year in which the transaction GL date falls.
- **Project To Date:** The funds check routine uses funds available from the start of the project.

The Boundary Code determines the end of a time interval. You select from the following boundary codes:

- **Period:** The funds check routine uses funds to the end of the period that includes the transaction GL date.
- **Year:** The funds check routine uses funds to the end of the year in which the transaction GL date falls.
- **Project:** The funds check routine uses funds available to the end of the project.

The following table shows the valid combinations of amount types and boundary codes that you can set up for a budget, depending on the budget's time phase.

Budget Time Phase	Amount Type	Boundary Code
PA Period, GL Period, or None	Project To Date	Project
PA or GL Periods	Project To Date	Year
PA or GL Periods	Project To Date	Period
PA or GL Periods	Year To Date	Year
PA or GL Periods	Year To Date	Period
PA or GL Periods	Period To Date	Period

Note: When budgetary controls are enabled, you cannot enter budget amounts using user-defined date ranges.

Control Levels

You use budgetary control levels to set the degree of control the system imposes on project commitment transactions. You can enter default control levels at the project type, project template, and project levels. You can also define default values for resource lists.

You select from the following control levels:

- **Absolute:** The transaction is rejected if sufficient funds are not available.

- **Advisory:** The transaction is accepted when sufficient funds are not available, but a the system issues a warning notification that available funds are exceeded.

- **None:** The transaction is accepted and no funds check is performed.

You can set control levels at the project, task, resource group, and resource levels:

You can enter different values at each level. For example, you can select the Absolute setting at the project level and the Advisory setting at the resource level.

Depending on the budget entry method used, you can override the default control level for a project, and for individual tasks, resource groups, and resources after you create a cost budget baseline. The following table depicts whether you can override control levels at the project, task, and resource levels, depending on the budget entry level and whether the budget is categorized by resources.

Budget Entry Level	Categorized by Resources	Override at Project Level	Override at Task Level	Override at Resource Level or Resource Group Level
Project	Yes	Yes	No	Yes
Project	No	Yes	No	No
Top Task	Yes	Yes	Yes	Yes
Top Task	No	Yes	Yes	No
Lowest Task	Yes	Yes	Yes	Yes
Lowest Task	No	Yes	Yes	No
Top Task and Lowest Task	Yes	Yes	Yes	Yes
Top Task and Lowest Task	No	Yes	Yes	No

Funds Check Rollup

When control levels are either Absolute or Advisory, the funds check process first tests the lowest budget level to determine the availability of funds. If funds are available for a transaction at the lowest level, the funds check tests the next level in the budgetary control hierarchy. The process continues until the transaction passes all levels or fails at any level. If a transaction fails funds check at a level with a control level of Absolute, the process is discontinued. However, if the control level is Advisory, an insufficient funds warning notification is generated and the funds check process continues to the next level.

The hierarchy of levels for the funds check, from lowest to highest level, is as follows:

1. Resource

2. Resource Group

3. Lowest Task

4. Top Task

5. Project

> **Note:** Mid-level tasks are not included in the rollup succession.

Related Topics

Budgetary Control, *Oracle Projects Fundamentals*

Implementing Budgetary Controls, *Oracle Projects Implementation Guide*

Entering Budget Amounts for Controlled Budgets

When you enter budget amounts for budgets that have budgetary controls enabled, additional consideration is required when your budget entry method uses a resource list and when burdening is enabled for your project.

Budget Amounts for Resources

If the budgetary control level for resources or resource groups is Absolute or Advisory, and no budget amount is entered for a resource or resource group, then Oracle Projects treats the entered budget amount as zero. As a result, transactions that map to resources with no budget amounts fail the funds check at an Absolute level and pass the funds check with a warning at an Advisory level.

A budget entry category called *Unclassified* is available at the resource list level. This category enables you to enter one budget amount for a group of resources. You can selectively control costs for some resources within a resource group by entering specific budget amounts for those resources. You can then use the Unclassified category to budget for the remaining resources within the resource group.

The Unclassified category serves as a budget line for any resource for which a specific budget line does not exist.

Burden Cost Amounts

If burdening is enabled for a project, then all funds checks are performed using the transaction burdened cost. Oracle Projects provides the following methods of accounting for burden costs:

• Same Expenditure Item

• Separate Expenditure Item

Same Expenditure Item

When you account for burden cost on the same expenditure item as raw costs, the funds check process calculates the burden cost amounts for a transaction and adds them to the raw cost amount. The process then maps the burdened transaction amount to a budget line and performs the necessary funds checks.

When you use the Same Expenditure Item method of accounting for burden costs, enter budget amounts for the burdened transaction costs.

Separate Expenditure Item

When you account for burden costs as separate expenditure items, the funds check process calculates the burden cost amounts for each burden cost component and separately maps each burden amount and the raw cost amount to a budget line. Individual funds checks are performed for each component. If any component fails the funds check, then the entire transaction is rejected.

When you use the Separate Expenditure Item method of accounting for burden costs and you are not using a resource list for budget entry, enter budget amounts for the burdened transaction costs. The burden costs and the raw cost are mapped to budget lines using the same mapping rules and are therefore mapped to the same line.

When you use this burden accounting method and you are budgeting using a resource list, the burden costs are not mapped using the resource for the raw cost. You must ensure that each burden cost component maps to a budget line with the desired budgetary control setting. To do this, define your burden cost components as resources on your resource list and then use these resources to enter budget amounts for burden costs. This allows you to enter a budgetary control setting for each burden cost component and a control setting for budget lines defined for raw costs. If you do not want to impose budgetary controls on burden cost amounts, you can assign a control setting of *None* for all budget lines for burden component resources.

An alternative to defining resources on your resource list for burden cost components is to use the Unclassified budget entry category to budget for burden cost amounts. If a budget line cannot be found for the burden cost components and an Unclassified budget line exists, then the funds check process maps the burden costs to the Unclassified line. See: Budget Amounts for Resources, page 6-76 for more information on using unclassified budget entry categories.

For more information on accounting for burden costs, see: Accounting for Burden Cost, *Oracle Project Costing User Guide*.

Budget Definition Strategies

Oracle Projects budgetary controls only apply to expense commitment transactions. Budgetary controls do not apply to other project-related transactions such as timecards, expense reports, or inventory item purchases. Therefore, when you enable budgetary controls for a project, it is recommended that you use one of the following strategies for defining cost budget amounts:

- Strategy One: Define two budgets: an overall project cost budget and another budget for expense commitment transactions.

- Strategy Two: Define one cost budget, with budget lines that track and control only expense commitment transactions.

Define Two Budgets

Define the following two budgets:

Overall Project Cost Budget

Define an overall project cost budget. (Typically, the Approved Cost Budget type is used to define an overall cost budget). The overall cost budget tracks all project costs.

Do not enable budgetary controls for the Approved Cost Budget type.

Budget for Expense Commitment Transactions

Define a separate budget for expense commitment transactions. It is recommended that you create a user-defined budget type for the commitment budget. When you enable budgetary controls for your project, use the user-defined budget type.

The commitment cost budget tracks and controls the project's expense commitment transactions. The commitment cost budget amounts are a subset of the budget amounts defined for the overall cost budget.

Define One Cost Budget

The second approach for implementing budgetary controls uses one cost budget for all anticipated project costs. The budget includes separate budget lines for expense commitment transactions and all other anticipated project costs.

Typically, the Approved Cost Budget type is used to define a project's overall cost budget. Therefore, when you define a project, enable budgetary controls using this budget type. After you create a baseline, you must ensure that budgetary control settings are properly defined for all budget lines entered for your expense commitment transactions. It is recommended that a control setting of None be entered for all other budget lines. This helps reduce confusion, as funds checks are not performed for transactions mapping to these lines.

Transaction Processing With Controlled Budgets

When a transaction is charged to a project, the funds check processes are activated in both Oracle General Ledger and Oracle Projects. Funds checks are activated for new transactions and for adjusted transactions.

You can review Oracle Projects funds check results online. Results are displayed for transactions that pass the funds check and for transactions that fail the funds check.

Funds Check Activation In Oracle Purchasing and Oracle Payables

In Oracle Purchasing and Oracle Payables, funds check processes are activated when you select the Check Funds option for a transaction, and also during the transaction approval process.

See: Funds Check Activation in Oracle Purchasing and Oracle Payables, *Oracle Project Costing User Guide*.

Funds Check Activation in Oracle Projects

In Oracle Projects, budgetary controls only apply to expense commitment transactions. Project-related commitment transactions are interfaced to Oracle Projects from Oracle Purchasing as receipt accruals, and from Oracle Payables as supplier invoices.

After you interface supplier invoices to Oracle Projects, you can adjust the expenditure items in Oracle Projects. The following types of adjustments can affect a project's available funds:

• Recalculate cost

• Transfer

- Split

- Reverse

The PRC: Distribute Supplier Invoice Adjustments process is used to recost supplier invoices after adjustments are entered. This process performs a funds check for transactions meeting all of the following criteria.

- The supplier invoice originated in Oracle Payables

- The transaction is charged to a project with budgetary controls enabled

- The transaction is an expense item

If funds are available for the adjusted expenditure amounts, then the adjustment item is cost distributed. If funds are not available for an item, then the item is not distributed and an exception is reported.

If an item is not cost distributed as a result of a funds check failure, then you must perform one of the following actions and rerun the PRC: Distribute Supplier Invoice Adjustments process:

- Increase budget amounts so funds are available for the expenditure item.

- Decrease the budgetary control level from Absolute to Advisory or None for the budget level causing the funds check failure.

- For a recosted item, undo the change that increased the expenditure item amount. For example, if you increased a burden cost rate, then set the rate back to its original value.

- For a transferred item, transfer the item to a task within the same project, or to another project or project task that has sufficient funds available or that does not have budgetary controls enabled.

Viewing Transaction Funds Check Results

After a funds check runs in Oracle Projects, you can view the results from the Transaction Funds Check Results window. Results are displayed for both transactions that passed the funds check and transactions that failed the funds check.

Transaction Funds Check Results Window

To review transaction funds check results, perform the following steps:

1. Navigate to the Find Transaction Funds Check Results window.

2. Enter selection criteria.

3. Choose the Find button to display the Transaction Funds Check Results window.

4. Select a budget level tab to view information for a specified budget level.

Transaction Funds Check Header Information

The header region of the Transaction Funds Check Results window displays transactions that have undergone a funds check. This region is a folder-type region. All of the details about the transaction can be displayed, including the specific funds-check fields shown in the table below:

Field Name	Description
Packet ID	Identifier assigned to the budgetary control packet
Status	Funds check status
Document Type	Type of document (for example, purchase requisition)
Version Number	Budget version number

The window displays funds check information by budget level for the selected transaction. A tab is displayed for each project budget level. The information displayed at each budget level includes budget, available funds, transaction amounts, and a status message for the funds check results.

> **Note:** Use the PA: Days to Maintain BC Packets profile option to control how long funds check results are retained for online viewing. See: Defining Profile Options for Budgetary Controls, *Oracle Projects Implementation Guide*.

Funds Check Detail Information

The detail region displays the fields shown in the table below:

Field Name	Description
Account	Identifier of the GL account (when budget integration is used)
Budget	Budget total used for funds check based on the defined budgetary control time interval
Actuals	Commitment transactions interfaced to Projects
Commitments	Approved commitment transactions not yet interfaced to Projects
Available Balance	Available funds before the funds check
Transaction Amount	Amount of the transaction
New Available Balance	Available balance after the funds check
Funds Check Results	Funds check status information

Maintaining Budgetary Control Balances

Oracle Projects maintains budgetary control balances for all projects that use budgetary controls. For each budget line, the budget amount, the commitment transactions total, and the total actuals related to commitment transactions are maintained. The system also calculates available funds for each budget category and budget period.

When you create a baseline from the original budget version, the system creates initial balances. When you run the PRC: Maintain Budgetary Control Balances process, the balances are updated. The updated balances are displayed in the Budget Funds Check Results window. It is recommended that you use the scheduling options to run the Maintain Budgetary Control Balances process regularly. To determine how often to schedule the process, consider the number of project-related commitments your business creates each day as well as your online inquiry business needs.

Viewing Budgetary Control Balances

Use the Budget Funds Check Results and Commitment Amounts windows to view budgetary control balances online.

Budget Funds Check Results Window

This window displays budget, actuals, commitments, and available funds balances for each budget level. The window includes a tabbed region for each project budget level. The levels can include the following: project, top task, task, resource group, and resource. You can use the window to review project-to-date transactions and to plan future expenditures. You can also use the information in this window, along with the Transaction Funds Check Results window, to troubleshoot transaction funds check failures.

Choose the Commitments button to display the commitments total for the selected line, summarized by commitment type.

The following table shows the fields in each tabbed region of the Budget Funds Check Results window. All fields are for display only.

Field Name	Description
Control Level	Budgetary control level for a budget line
Budget	Budget amount for a budget line
Actuals	Commitment transactions interfaced to Oracle Projects
Commitments	Approved commitment transactions not yet interfaced to Oracle Projects
Funds Available	Available funds (budget amount less actuals and commitments) based on the defined time interval
Start Date	Beginning period date for amounts in a budget line
End Date	Ending period date for amounts in a budget line
Result	(reserved for future use)

Commitment Amounts Window

To review commitment amounts by commitment type, perform the following steps:

1. Navigate to the Budgets window from the Projects Navigator.

2. Query the project cost budget.

3. Choose the History button to view the budget version history.

4. Select View Funds Check Results from the Tools menu.

5. Select a budget level tab to view budget lines for a specified budget level.

6. Choose the Commitments button to view the commitment details for a selected line.

The following table shows the fields the Commitment Amounts window. All fields are for display only.

Field Name	Description
Requisition	Total purchase requisition commitments recorded against a budget line
Purchase Order	Amount of purchase order commitments recorded against a budget line
Supplier Invoice	Amount of supplier invoices recorded against a budget line that have not been interfaced from Payables to Projects
Total	Total commitments for a budget line

Modifying Controlled Budget Amounts

When you modify a project budget, budgetary control balances are created for the new budget version. During the baseline process, all existing project transactions are mapped to a budget line in the new version. A funds check is performed for all transactions subject to budgetary controls to ensure that transaction totals do not exceed available funds calculated using the new budget amounts. The baseline process fails if the budget amounts for the new budget version cause a budgetary control violation.

To identify the cause of a failure, query the draft budget version using the Budget Funds Check Results window. Any budget line with a negative amount in Funds Available and an Absolute control level causes the baseline to fail.

Adjusting Budgetary Control Levels

When you create a baseline for a project budget, default budgetary control level settings are created for each budget level based on the values you entered in the Budgetary Controls option. You can override the default control level values for the baseline budget version.

To adjust budgetary control levels, perform the following steps:

1. Navigate to the Budgets window from the Projects Navigator.

2. Query your project cost budget.

3. Choose the History button to view the budget version history.

4. Select Budgetary Controls from the Tools menu.

5. Change control level values as required.

6. Save your work.

If you are budgeting using a resource list, choose the Resources button on the Budgetary Control window to override the default values for resource groups and resources.

To adjust budgetary control levels for resources, perform the following steps:

1. Navigate to the Budgets window.

2. Query your project cost budget.

3. Choose the History button to view the budget version history.

4. Select Budgetary Controls from the Tools menu to change control level values as required at the project and task level.

5. Choose the Resources button to change control level values as required for resource groups and resources.

6. Save your work.

Budgetary Controls Cross Charge Restriction

A transaction is subject to only the budgetary controls defined for the set of books in which the transaction originates. Therefore, when budgetary controls are enabled for a project, you cannot enter cross charge transactions that cross sets of books.

The following scenario illustrates the need for this restriction:

- Two sets of books are defined in an installation of Oracle Applications.

- In Set of Books One (SOB1), budgetary controls are enabled in Oracle General Ledger and Oracle Payables.

- In Set of Books Two (SOB2), budgetary controls are not enabled in any application.

Project A is defined in SOB1 and budgetary controls are enabled for the project. If you enter a commitment transaction in SOB2 for Project A, the transaction is not funds checked, because budgetary controls are not enabled in SOB2.

Funds Check Result Messages

The following table lists funds check result codes and messages, and provides information on responding to each message.

Result Code	Result Text	Corrective Action
F107	The transaction account and the budget account are different	Ensure that the budget line account and the transaction line account are the same
F108	The transaction failed funds check at the resource level	Increase the budget at the resource level or change the budgetary control level to Advisory or None
F109	The transaction failed funds check at resource group level	Increase the budget at the resource group level or change the budgetary control level to Advisory or None

Result Code	Result Text	Corrective Action
F110	The transaction failed funds check at the task level	Increase the budget at the task level or change the budgetary control level to Advisory or None
F111	The transaction failed funds check at the top task level	Increase the budget at the top task level or change the budgetary control level to Advisory or None
F112	The transaction failed funds check at the project level	Increase the budget at the project level or change the budgetary control level to Advisory or None
F113	The transaction failed funds check at project account level	Increase the budget amount at the project account level
F114	The transaction failed to populate burden cost	Processing Error
F118	Funds check failed because of invalid budget versions	A budget baseline is required for budgetary controls
F120	Funds check failed during setup and summarization	Processing Error
F121	The resource list is invalid or null	The budget should have a resource list if it is categorized by resource
F122	The amount type or boundary code is invalid	Processing Error
F123	The amount type or boundary code is invalid for no time phase	When you create budgets without time phases, the amount type must be Project to Date, and the boundary code must be Project
F124	Invalid boundary code for amount type Project To Date	Processing Error: Invalid combination of amount type/boundary code
F125	Invalid boundary code for amount type Year To Date	Processing Error: Invalid combination of amount type/boundary code
F127	Invalid boundary code for amount type Period To Date	Processing Error: Invalid combination of amount type/boundary code
F128	Funds check failed because of invalid resource list member	Processing Error

Result Code	Result Text	Corrective Action
F129	Start date or end date is null for the specified date range	Processing Error
F130	Start date or end date is null for the specified PA period	Processing Error
F131	Funds check failed because of invalid budget entry method	Processing Error
F132	Could not map to a budget line while deriving budget account	Processing Error: Ensure that budget lines are generated for all periods
F134	Start date or end date is null for the specified GL period	Processing Error
F135	The encumbrance type is null or invalid	Define an encumbrance type in the project budgetary controls options
F136	Funds check failed while calculating start date or end date	Processing Error
F137	No matching requisition was found for this purchase order	Processing Error
F138	No matching purchase order was found for this invoice	Processing Error
F140	Failed due to fatal error while inserting burden cost	Processing Error
F141	Could not acquire lock: funds checks are running concurrently	Record locked by another user
F142	Funds check failed because of unexpected error	Processing Error
F143	Funds check failed because budget baselining is in progress	A funds check cannot be performed until the budget baseline process is complete
F150	The GL funds check failed for the check funds mode	General Ledger funds available failure
F151	The GL funds check encountered fatal errors	General Ledger funds check failure
F152	The CBC funds check failed for the check funds mode	CBC funds available failure
F153	The CBC funds check encountered fatal errors	CBC funds check failure

Result Code	Result Text	Corrective Action
F155	The GL funds check failed for the full mode	General Ledger funds available failure
F156	The GL funds check failed for the partial mode	General Ledger funds available failure
F157	The CBC funds check failed for the full mode	CBC funds available failure
F158	The CBC funds check failed for the partial mode	CBC funds available failure
F160	Funds check failed to generate the return code	Processing Error
F161	Funds check failed to create encumbrance liquidation	Processing Error
F162	Funds check failed to update budget account balances	Processing Error
F163	Funds check failed while posting burden cost to GL	Processing Error
F164	Funds check failed while posting burden cost to CBC	Processing Error

Integrating Budgets

Oracle Projects budget integration features enable you to integrate project budgets with non-project budgets. A non-project budget is a budget defined outside Oracle Projects. You define budget integration to perform bottom-up or top-down budgeting.

Overview of Bottom-Up Budget Integration

When enterprises use bottom-up budgeting, they build organization-level budgets by consolidating budget amounts from lower-level sources. When you define budget integration for a project, the project budget can be consolidated automatically.

When you define bottom-up budget integration in Oracle Projects, project budget amounts are interfaced to Oracle General Ledger. In General Ledger, the interfaced amounts are added to the General Ledger budget balances created from other sources. The consolidated amounts are organization-level balances.

Overview of Top-Down Budget Integration

When enterprises use top-down budgeting, top management defines spending limits for each organization. Budgetary controls are set to enforce the limits, and encumbrance accounting creates reservations for planned expenditures.

The reservations ensure that funds will be available when project costs are incurred, and provide a complete picture of funds available for future use. At any time, managers can view:

- the defined spending limits, the costs of their recorded expenditures

- the anticipated costs of their planned expenditures and approved projects

- the remaining funds for future projects and future purchases

Budget Integration Procedures

You use different operating procedures depending on whether you are using bottom-up budget integration or top-down budget integration. For a detailed discussion of these procedures, see:

- Using Bottom-Up Budget Integration, page 6-87

- Using Top-Down Budget Integration, page 6-90

- Using Top-Down Budget Integration with Oracle Contract Commitments, page 6-106

All integrated project budgets, whether bottom-up or top-down integration is used, use General Ledger accounts to interface project budget amounts to Oracle General Ledger. The following section describes the procedures for generating accounts for project budget lines.

Account Generation

Oracle Projects budget integration supports integration with non-project budgets defined in Oracle General Ledger. Oracle General Ledger budgets are defined at the account level, and budget amounts are entered for an account and a GL period. Therefore, when a project budget is integrated with a GL budget, an account must be assigned to each project budget line. These assigned accounts are used to interface the project budget amounts to General Ledger.

Project Budget Account Workflow

The Project Budget Account workflow enables you to automate the account generation and assignment process.

For details about this workflow, see: Project Budget Account Workflow, *Oracle Projects Implementation Guide*.

Using Bottom-Up Budget Integration

When enterprises use bottom-up budgeting, they build organization-level budgets by consolidating budget amounts from lower-level sources. In bottom-up budgeting, you can define the organization-level cost budget by consolidating the approved cost budgets for all projects owned by the organization. Similarly, you can define the organization-level revenue budget by consolidating all project revenue budgets.

Bottom-up budgeting enables project managers to define budgets for controlling and monitoring individual project costs and revenues, and provides financial managers with an organization-level view for reporting purposes.

Define bottom-up integration for your projects if you want to consolidate your project budget amounts automatically to create organization-level budgets. To use bottom-up integration, you must use Oracle General Ledger to store and maintain your organization-level budgets.

To use bottom-up budget integration, you need to do the following:

- Define your organization-level budgets in Oracle General Ledger.

- Define budget integration for your projects.

- Enter project budget amounts and generate accounts for each project budget line.

- Create baselines for your project budgets to interface the budget amounts to General Ledger.

- Create budget journal entries from the interfaced amounts in General Ledger.

- Review and post the budget journal entries to add the project budget amounts to the organization-level budget balances.

For information on implementing budget integration, see: Implementing Budget Integration, *Oracle Projects Implementation Guide*.

Defining an Organization-Level Budget

When you use bottom-up budget integration, you must define your organization-level budget or budgets in Oracle General Ledger. In Oracle General Ledger, budgets contain estimated cost or revenue amounts for a range of accounting periods. Budget organizations define the departments, cost centers, divisions, or other groups for which budget data is maintained. You assign accounts to each budget organization. You create organization budget balances by entering budget amounts for the assigned accounts.

Oracle General Ledger includes tools to create, maintain, and track budgets. See the *Oracle General Ledger User Guide* for information.

Defining Budget Integration

You define budget integration using the Budgetary Control option from the Projects, Templates window.

You can use any project budget type to define bottom-up budget integration. For a project, you can define integration for either cost or revenue budget types, or for both types. For example, you can integrate a project cost budget with an organization-level cost budget, and you can integrate a project revenue budget with an organization-level revenue budget.

> **Note:** If a baseline or submitted budget already exists for a project, then the budget type for the baseline or submitted budget cannot be used when defining budget integration for the project. Additionally, the organization-level budget in General Ledger must have a status of Open or Current.

Entering Budget Amounts and Generating Accounts

When you use bottom-up budget integration, you integrate a project budget type with an organization-level budget defined in Oracle General Ledger.

Budgets defined in Oracle General Ledger are account-level budgets whose amounts are maintained by account and GL period. Therefore, when you enter project budget amounts for integrated budget types, you must use a budget entry method that is time-phased by GL period, and you must assign an account to each project budget line. Oracle Projects provides a workflow process, the Project Budget Account workflow, which enables you to automate the process of generating accounts for budget lines.

For more information about the Project Budget Account workflow, see: Project Budget Account Workflow, *Oracle Projects Implementation Guide*.

Deferred Workflow Process

When a project is set up to use bottom-up integration, the project budget baseline process launches a deferred workflow. The deferred process performs the following tasks:

- validates the submitted budget version

- optionally, activates the Budget Status Change workflow

- interfaces the budget amounts for baseline versions to Oracle General Ledger

When the deferred workflow is activated, the budget version status is set to In Process. When the workflow ends, a workflow notification is generated. When the workflow completes without errors, a baseline version and a new draft version with a Working status are created. If the workflow terminates as a result of an error, the baseline is not created and the budget status is changed to Rejected.

For information about viewing workflow notifications, refer to the *Oracle Workflow Guide*.

Baseline Validations

When you create a baseline for a bottom-up integrated project budget, the budget line amounts are interfaced to Oracle General Ledger. Budget journal entries are created from the interfaced amounts.

For details about creating a baseline for a bottom-up integrated project budget, see: Creating a Baseline for an Integrated Budget, page 6-69.

For information about troubleshooting baseline failures, see: Troubleshooting Baseline Failures for Integrated Budgets, page 6-72.

Creating Budget Journals

After a baseline is created for an integrated project budget and budget amounts are interfaced to General Ledger, use the General Ledger Create Journals process to create budget journal entries from the interfaced amounts. The following table shows the type of journal entry line (debit or credit) that is created for bottom-up integrated project budget amounts.

Type of Project Budget	These project budget amounts ...	Create this type of journal entry line ...
Cost	new or increased	debit
	deleted or decreased	credit
Revenue	new or increased	credit
	deleted or decreased	debit

The Create Journals process groups the generated journal entries into journal batches. If budget amounts are interfaced for multiple GL periods, the system creates a batch for each period.

For more information on the Create Journals process, see the *General Ledger User Guide.*

Posting Budget Journals

The General Ledger organization-level budget balances are updated when the budget journal batches created by the Create Journals process are posted. You can review and post the entries using the General Ledger Post Journals window.

For more information on reviewing and posting journals, see the *General Ledger User Guide.*

Using Top-Down Budget Integration

When enterprises use top-down budgeting, top management sets spending limits for each organization. To ensure that costs do not exceed the limits, Oracle General Ledger enables you to set budgetary controls and define funding budgets. When absolute control is enabled, cost transactions are rejected if budgeted funds are not available.

You can further control costs by enabling encumbrance accounting. When you use encumbrance accounting, commitment transactions are controlled as well as actual transactions.

Actual transactions are accounted expenditures. Commitment transactions are planned expenditures. Commitment transactions include purchase requisitions, purchase orders, and unaccounted supplier invoices. When commitment transactions are approved, the system creates accounting entries to reserve funds in the funding budget. This reservation reduces the available funds for future transactions.

When top-down budgeting is used and encumbrance accounting is enabled, you can integrate project budgets with funding budgets. When project cost budgets are approved and baselines are created, the system generates encumbrance entries to reserve funds in the funding budget for the anticipated project costs. The reservations ensure that budgeted funds are not used before project costs are incurred. They also give management a complete picture of each organization's financial position. As future projects and future purchases are evaluated, management can review the costs of current expenditures, anticipated costs of approved commitments and approved projects, and funds available for future use.

For information on implementing budget integration, see: Implementing Budget Integration, *Oracle Projects Implementation Guide.*

Prerequisites for Top-Down Budget Integration

Top-down budgeting in Oracle Projects is based on budgetary controls and encumbrance accounting. To use top-down integration, you must first do the following:

- Enable budgetary controls in Oracle General Ledger.

  When you enable budgetary controls in General Ledger, the funds check process is activated when commitment transactions are approved. The funds check process verifies the availability of funds.

- Enable encumbrance accounting in Oracle General Ledger and Oracle Payables.

  When you enable encumbrance accounting, reservations are created against funding budgets for approved commitment transactions and approved cost budgets for integrated projects.

Defining General Ledger Funding Budgets

Before you can define budget integration, you must define an organization-level funding budget or budgets in Oracle General Ledger.

In General Ledger, funding budgets contain estimated costs for a range of accounting periods. Budget organizations define the departments, cost centers, divisions, or other groups for which budget data is maintained. Accounts are assigned to each budget organization. A funding budget is associated with each account assignment.

To set an organization's spending limits, you enter funding budget balances for the accounts assigned to each budget organization.

Oracle General Ledger contains tools to create, maintain, and track budgets. For more information, see the *Oracle General Ledger User Guide*.

Defining Budget Integration

To reserve funds in General Ledger funding budgets for anticipated project costs, define budget integration using the Budgetary Controls option from the Projects, Templates window. You must define budget integration before you create a baseline for the project budget and before any project transactions are entered.

When you use top-down integration, it is recommended that you define two budgets for monitoring and tracking project costs:

- One budget is for tracking the project's total cost

- The other budget is for tracking and controlling expense commitment transactions (*commitment budget*).

When you define integration for your project, use the budget type you plan to use for your commitment budget and select the Encumbrance balance type. When you define a commitment budget and create a baseline, the system generates encumbrance entries to create a project encumbrance against the funding budget. The project encumbrance reserves funds for the anticipated project commitment costs. When project-related expense commitment transactions are approved, the project encumbrance is reduced and new commitment encumbrances are created.

When you define integration using the Encumbrance balance type, the system automatically enables budgetary controls for the project. The Project control level is automatically set at Absolute and cannot be changed. Oracle Projects uses budgetary controls to ensure that the project commitment total for expense transactions never exceeds the project commitment budget and the amounts reserved in the General Ledger funding budget.

For information on Budgetary Controls, see Using Budgetary Controls, page 6-73.

Creating Project Encumbrances

To reserve funds for a project defined with top-down integration, you must define a project commitment budget using the integrated budget type. When a baseline is created for the commitment budget, Oracle Projects verifies that funds are available in the General Ledger funding budget for the budgeted project commitment costs. If funds are available, Projects interfaces the project budget line amounts to General Ledger. The General Ledger Create Journals process generates project encumbrance entries from the interfaced amounts to reserve funds in the funding budget for the anticipated project costs.

For information on creating a project cost budget, see: Creating Project Budgets for Top-Down Budget Integration, page 6-96.

Liquidating Project Encumbrances

When encumbrance accounting is enabled in Oracle General Ledger, the system creates encumbrance entries against the funding budget each time a commitment transaction is approved. The encumbrance entries reserve funds for the commitment transaction line amounts. If the commitment is for an expense item and is related to a project defined with top-down integration, then the system creates additional encumbrance entries to reduce the project reservation against the funding budget.

The following table illustrates an example of the project encumbrance creation and liquidation processes.

- In line A, the funding budget is created. This budget sets the spending limit for the organization at $100.

- In line B, a project reservation of $40 is created for an integrated project commitment budget. The project reservation consumes a portion of the funding budget and reduces the available funds to $60.

- In line C, a reservation of $10 is created for a project-related commitment transaction. The project reservation is reduced to $30.

  Note that the total available funds for the organization do not change when the commitment reservation is created. Instead, the commitment reservation replaces a portion of the project reservation.

Activity	Organization Spending Limits	Available Funds	Project Reservation	Commitment Reservation
(A) Funding budget is created and sets spending limit	$100	$100		
(B) Integrated project commitment budget creates project reservation	$100	$60	$40	
(C) Commitment transaction creates commitment reservation	$100	$60	$30	$10

Top-Down Budget Integration Example

The following example uses Fremont Corporation to demonstrate how General Ledger budgeting features are enhanced when budget integration is defined for project budgets. The encumbrance entries generated from budget amounts interfaced from Oracle Projects reduce the funding budget available funds. This allows for more accurate reporting and gives management more information for evaluating future costs and future projects.

Fremont Corporation Cost Controls

Fremont Corporation has decided to reduce their use of outside resources. Upper management contends that most projects can be completed on schedule using internal resources and improved project management. For the last quarter of the current fiscal year, each organization is required to reduce the cost of outside resources by 20% of last quarter's usage. In addition, a member of top management must now approve the cost budget for any new project that is scheduled to use outside resources.

To enforce this cost reduction, the financial managers are using Oracle General Ledger budgetary controls and encumbrance accounting features. They define funding budgets for each organization to establish their spending limits for the next quarter. Weekly outside resource cost reports are provided to the vice presidents of each organization. The cost reports are distributed to assist vice presidents in evaluating future requests for outside resources. The reports show the following information:

- Budgeted Funds: spending limit established by the financial managers

- Actual Costs: cost for outside resources used to date

- Committed Costs: anticipated costs for approved future usage of outside resources

- Available Funds: budgeted funds that are unused and uncommitted

Payroll Enhancement Project

The Fremont payroll system needs to be enhanced to handle expense reports in foreign currencies. As the company grows, employees frequently travel outside the United States. The accounting department wants employees to enter expense receipts in the currencies of the countries where expenses are incurred.

The Fremont Services organization will make the necessary payroll enhancements. All costs for the project will be charged to their organization. Mr. Smith is assigned as the project manager. After preliminary analysis, he estimates the project will last 3 months. He plans to use internal resources from the Information Services department to perform the majority of the work. However, he knows that he will need to contract a consultant to provide some expertise that he currently does not have in house.

Mr. Smith is using Oracle Projects to manage the project. Because he plans to use outside resources, he submits the cost budget shown in the following table to his vice president for approval.

Expenditure Organization	Expenditure Category	Oct-01	Nov-01	Dec-01
Information Services	Labor	4,000	4,000	4,000
Administration	Labor	500	500	500
Consulting	Labor	1,000	1,000	1,000
Consulting	Expenses	1,000	1,000	1,000

The vice president of the Services organization receives the budget. To evaluate the request for outside resources, he reviews his latest outside resource cost report. The following table shows the report information.

GL Period	Account / Description	Budgeted Funds	Actual Costs	Committed Costs	Available Funds
Oct-01	04-420-7580-000 / Consulting Labor	5,000	2,000	1,000	3,000
Oct-01	04-420-7640-000 / Consulting Expenses	5,000	2,000	1,000	3,000
Nov-01	04-420-7580-000 / Consulting Labor	5,000	0	3,000	2,000
Nov-01	04-420-7640-000 / Consulting Expenses	5,000	0	3,000	2,000
Dec-01	04-420-7580-000 / Consulting Labor	5,000	0	1,000	4,000
Dec-01	04-420-7640-000 / Consulting Expenses	5,000	0	1,000	4,000

After evaluating the report, the vice president approves the budget for the payroll enhancements. He asks Mr. Smith to reduce the General Ledger funding budget available funds to reflect the outside resource costs included in the payroll project budget.

To reduce the available funds in the funding budget, Mr. Smith defines top-down integration for the payroll enhancement project. He integrates the project commitment budget with the General Ledger funding budget. Mr. Smith then defines the commitment budget shown in the following table for the payroll project.

Expenditure Organization	Expenditure Category	Oct-01	Nov-01	Dec-01
Consulting	Labor	1,000	1,000	1,000
Consulting	Expenses	1,000	1,000	1,000

Mr. Smith submits the commitment budget to create a baseline. The following table shows the GL accounts that the system assigns to the budget lines.

Expenditure Organization	Expenditure Category	GL Period	Budget Amount	Account
Consulting	Labor	Oct-01	1,000	04-420-7580-000
Consulting	Labor	Nov-01	1,000	04-420-7580-000
Consulting	Labor	Dec-01	1,000	04-420-7580-000
Consulting	Expenses	Oct-01	1,000	04-420-7640-000
Consulting	Expenses	Nov-01	1,000	04-420-7640-000
Consulting	Expenses	Dec-01	1,000	04-420-7640-000

Mr. Smith creates a baseline for the commitment budget. The Finance Department submits the Program: Create Journals process in General Ledger to generate encumbrance journal entries for approved commitments. The following table shows the journals that the system creates from the budget amounts interfaced by the payroll project.

GL Period	Account	Debit	Credit
Oct-01	04-420-7580-000	1,000	
Oct-01	04-420-7640-000	1,000	
Oct-01	04-000-1250-000		2,000
Nov-01	04-420-7580-000	1,000	
Nov-01	04-420-7640-000	1,000	
Nov-01	04-000-1250-000		2,000
Dec-01	04-420-7580-000	1,000	
Dec-01	04-420-7640-000	1,000	
Dec-01	04-000-1250-000		2,000

> **Note:** The 04-000-1250-000 account is defined as the reserve for encumbrance account in Oracle General Ledger.

When the vice president of the Services organization receives his next outside resource cost report, the totals show the costs he approved for the payroll project. The new report, shown in the following table, reflects the funds remaining for future requests.

GL Period	Account / Description	Budgeted Funds	Actual Costs	Committed Costs	Available Funds
Oct-01	04-420-7580-000 / Consulting Labor	5,000	2,000	2,000	2,000
Oct-01	04-420-7640-000 / Consulting Expenses	5,000	2,000	2,000	2,000
Nov-01	04-420-7580-000 / Consulting Labor	5,000	0	4,000	1,000
Nov-01	04-420-7640-000 / Consulting Expenses	5,000	0	4,000	1,000
Dec-01	04-420-7580-000 / Consulting Labor	5,000	0	2,000	3,000
Dec-01	04-420-7640-000 / Consulting Expenses	5,000	0	2,000	3,000

Creating Project Budgets for Top-Down Budget Integration

When you define top-down budget integration for a project, it is recommended that you create a commitment budget for tracking and controlling the project's expense commitment transactions. When you enter the budget amounts for the commitment budget, keep in mind the following considerations:

• Budgetary Controls are automatically enabled when top-down integration is defined..

• General Ledger accounts must be assigned to all budget lines for integrated budget types.

• When you create a budget for an integrated budget type, you must use a budget entry method that is time phased by GL period.

• You must create a budget line for each budget category and budget period for which commitment transactions are expected.

• The baseline process for all integrated project budgets types uses a deferred workflow.

• Additional validations occur when you create a baseline for an integrated project budget.

Budgetary Controls in Top-Down Budget Integration

When you define top-down budget integration, the system automatically enables budgetary controls for the integrated budget type. When you enter amounts for budgets with budgetary controls enabled, additional consideration is required if you use a resource list for budget entry, or if you have enabled burdening for your project. For more details, see: Entering Budget Amounts for Controlled Budgets, page 6-76.

Budget Entry Method and Budget Line Accounts

When you define top-down budget integration for a project, you integrate a project budget type with a funding budget defined in Oracle General Ledger. Funding budgets are maintained by account and GL period. To enable Oracle Projects to interface the project budget amounts to Oracle General Ledger, you must create the project budget using an entry method that is time phased by GL Period and you must generate an account for each project budget line. For more information on account generation, see: Budget Integration Procedures, page 6-87.

Enter Budget Lines for All Budget Periods

When you create a baseline for a top-down integrated project budget and interface the budget to General Ledger, Oracle General Ledger uses the interface amounts to create project encumbrances against the funding budget. When expense commitment transactions related to the integrated project are entered and approved, the project encumbrances are liquidated and commitment encumbrances are created. To obtain accounts for the liquidation entries, Oracle Projects maps each commitment transaction line to a project budget line using the project resource mapping rules and the transaction GL date. If a budget line is not defined for a transaction line resource category and GL period, then an account for the liquidation entry cannot be obtained. When an account liquidation entry cannot be obtained, the transaction cannot be approved.

Therefore, when you enter budget amounts for a top-down integrated budget type, you must enter a budget amount for each budget category and GL period. If you are using a budgetary control time interval that allows budget amounts for one period to be used in another, ensure that your project has a defined start and end date. When your project has a defined start and end date, the budget baseline process generates budget lines with a zero amount for all missing budget category and budget period combinations. The baseline process then activates the Project Budget Account workflow process to generate an account for each new budget line.

Deferred Workflow Process

When top-down budget integration is defined for a project, the project budget baseline process launches a deferred workflow process. The deferred process performs the following tasks:

- validates the submitted budget version

- creates budget lines for missing budget category / budget period combinations

- optionally activates the budget workflow for controlling budget status changes

- interfaces the budget amounts for baseline versions to Oracle General Ledger

When the deferred workflow is activated, the budget version status is set to In Process. When the workflow ends, a workflow notification is generated. When the workflow completes without errors, a baseline version and a new draft version with a Working status is created. If the workflow terminates as a result of an error, the baseline is not created, and the budget status is changed to Rejected.

For additional information about viewing workflow notifications, see the *Oracle Workflow Guide*.

Baseline Validations

When you create a baseline for a top-down integrated project budget, the budget line amounts are interfaced to Oracle General Ledger. Encumbrance journal entries are created from the interface amounts.

For details about creating a baseline for a top-down integrated project budget, see: Creating a Baseline for an Integrated Budget, page 6-69.

For information about troubleshooting baseline failures, see: Troubleshooting Baseline Failures for Integrated Budgets, page 6-72.

Transaction Processing

When an expense commitment transaction related to a top-down integrated project is submitted for approval, the Oracle Projects funds check process is activated. The funds check verifies the available funds in the project commitment budget. If funds are available for the transaction, the project encumbrance against the General Ledger funding budget is reduced, and a new commitment encumbrance is created. When an actual transaction is created from the commitment transaction, the commitment encumbrance is liquidated and the actual costs are accounted.

Commitment Transaction Example

As commitment transactions are processed, the reservation against the funding budget changes from one encumbrance type to another. This example illustrates the process flow steps.

The following table lists the steps in the example.

Step in Process Flow:	Project Encumbrance Balance	Commitment Encumbrance	Obligation Encumbrance	Invoice Encumbrance	Actual Costs
Beginning Project Encumbrance Balance	$1,000				
1. Approve $100 Purchase Requisition	$900	$100			
2. Create Purchase Order		0	$100		
3. Approve Supplier Invoice			0	$100	
4. Account Supplier Invoice				0	$100

In this example, the following steps occur:

1. A purchase requisition is approved. A portion of the Project encumbrance is replaced by a Commitment encumbrance. If the Project encumbrance balance is $1,000 and the requisition total is $100, then the Project encumbrance is reduced to $900 and a Commitment encumbrance is created for $100.

2. When a purchase order is created from the purchase requisition and approved, the Commitment encumbrance is liquidated and an Obligation encumbrance is created.

3. When a supplier invoice is matched to the purchase order and approved, the Obligation encumbrance is liquidated and an Invoice encumbrance is created.

4. When the supplier invoice is accounted, the Invoice encumbrance is liquidated and actual costs are recorded.

Burden Cost Encumbrance

If a project has top-down integration defined and burdening is also enabled, then the encumbrance liquidation process varies from the above example. When a commitment transaction is not burdened, all costs for the transaction are interfaced to General Ledger by Oracle Payables. However, when a commitment transaction is burdened, the raw transaction costs are interfaced to General Ledger from Oracle Payables and burden costs are interfaced to General Ledger from Oracle Projects.

Oracle Projects provides the following two options for accounting for burden costs:

- Burden costs can be accounted on the same expenditure item as raw costs.

- Burden costs can be accounted as separate expenditure items.

The encumbrance liquidation process differs depending on the accounting option enabled. The liquidation process for each option is described below and examples are provided that illustrate the encumbrance entries generated by each processing step.

Same Line Burden Cost Encumbrance Accounting

When burden costs are accounted on the same expenditure item as raw costs, the project commitment budget lines amounts must be entered using burdened cost amounts. The Project Budget Account workflow process, used to assigned accounts to each budget line, must be defined to generate accounts using the same business rules as the Total Burdened Cost AutoAccounting rules. This ensures that the project encumbrance creation entries generated when the project budget baseline is created, and the project encumbrance liquidation entries created when commitment transactions are processed use the same accounts.

When an expense commitment transaction is approved, the following encumbrance entries are generated for each transaction line:

- An entry is generated to create a commitment encumbrance using the transaction line amount and account.

- An entry is generated to create a commitment encumbrance using the calculated burdened cost amount for the line and an account derived from the project commitment budget.

- An entry is generated to liquidate the project encumbrance using the calculated burdened cost amount for the line and an account derived from the project commitment budget.

> **Note:** The accounts and amounts for the last two entries described above are always the same. The account is derived by mapping

the transaction line to a budget line using the standard resource mapping rules and selecting the account from the budget line.

The commitment encumbrances are liquidated when the actual costs are interfaced to General Ledger. The transaction raw costs are interfaced from Oracle Payables, and the commitment encumbrance created from the transaction line account and amount are liquidated. Oracle Projects interfaces the burdened costs and liquidates the commitment encumbrance created from the burdened cost amount and the budget line account.

Same Line Burden Cost Encumbrance Accounting Example

In this example, a baseline is created for the project budget shown in the following table:

Task	Resource Group	Resource	Budget Amount	Account
T1.0	Suppliers	Capp Construction	1,000	A1

The baseline process generates the encumbrance line shown in the following table:

Line	Encumbrance Type	Account	Account Description	Debit	Credit
1	PA Encumbrance	A1	Capp Construction Budget Line Account	1,000	

A project-related supplier invoice is entered and approved for Capp Construction. The invoice has one line for $50. Two burden cost components apply to the invoiced line:

• Material Handling with a rate of 5%, and

• R&D with a rate of 10%

The invoice approval process creates the encumbrance lines shown in the following table:

Line	Encumbrance Type	Account	Account Description	Debit	Credit
1	PA Encumbrance	A1	Capp Construction Budget Line Account		57.50
2	Invoice Encumbrance	A1	Capp Construction Budget Line Account	57.50	
3	Invoice Encumbrance	B1	Invoice Line Account	50.00	

Raw costs are interfaced from Oracle Payables to Oracle General Ledger. The encumbrance line shown in the following table is created.

Line	Encumbrance Type	Account	Account Description	Debit	Credit
1	Invoice Encumbrance	B1	Invoice Line Account		50.00

Burdened costs are interfaced from Oracle Projects to Oracle General Ledger. The encumbrance line shown in the following table is created.

Line	Encumbrance Type	Account	Account Description	Debit	Credit
1	Invoice Encumbrance	A1	Capp Construction Budget Line Account		57.50

Separate Line Burden Cost Encumbrance Accounting

When burden costs are accounted as separate expenditure items, you must include the following in the project commitment budget

- budget amounts for raw transaction costs

- budget amounts for burden transaction costs

If a resource list is not used when budget amounts are entered, then you can enter the raw cost amounts and the burden cost amounts on the same budget line using the burdened amount type. If a resource list is used when budget amounts are entered, then the resource list must include a resource for each burden cost component. Budget lines must be entered for the transaction raw costs and for the burden costs associated with each burden component.

When an expense commitment transaction is approved, the following encumbrance entries are generated for each transaction line:

- An entry is generated to create a commitment encumbrance for the raw cost using the transaction line amount and account.

- For each burden cost component, an entry is generated to create a commitment encumbrance using the calculated burden cost amount and an account derived from the project commitment budget.

- An entry is generated to liquidate the project encumbrance using the transaction line amount and account.

- For each burden cost component, an entry is generated to liquidate the project encumbrance using the calculated burden cost amount and an account derived from the project commitment budget.

> **Note:** The account for the burden cost entries is derived by mapping the burden cost component to a budget line using the standard resource mapping rules and selecting the account from the budget line.

The commitment encumbrances are liquidated when the actual costs are interfaced to General Ledger. In Oracle Payables, you interface the transaction raw costs which

liquidates the commitment encumbrance created from the transaction line account and amount. In Oracle Projects, you interface the burden costs which liquidates the commitment encumbrances created from the burden cost amounts and the budget line accounts. Therefore, the Project Budget Account workflow and the Burden Cost Account AutoAccounting rules must use the same business rules when generating accounts for burden costs.

Separate Line Burden Cost Encumbrance Accounting Example

In this example, a baseline is created for the project budget shown in the following table:

Task	Resource Group	Resource	Budget Amount	Account
T1.0	Suppliers	Capp Construction	1,000	A1
T1.0	Overhead	Material Handling	50	A2
T1.0	Overhead	R&D	100	A3

The baseline process generates the encumbrance lines shown in the following table:

Line	Encumbrance Type	Account	Account Description	Debit	Credit
1	PA Encumbrance	A1	Capp Construction Budget Line Account	1,000	
2	PA Encumbrance	A2	Budget Line Account for Resource: Material Handling	50	
3	PA Encumbrance	A3	Budget Line Account for Resource: R&D	100	

A project-related supplier invoice is entered and approved for Capp Construction. The invoice has one line for $50. Two burden cost components apply to the invoiced line:

- Material Handling with a rate of 5%, and

- R&D with a rate of 10%

The invoice approval process creates the encumbrance lines shown in the following table:

Line	Encumbrance Type	Account	Account Description	Debit	Credit
1	PA Encumbrance	A1	Budget Line and Invoice Line Account		50.00
2	PA Encumbrance	A2	Material Handling Budget Line Account		2.50
3	PA Encumbrance	A3	R&D Budget Line Account		5.00
4	Invoice Encumbrance	A1	Budget Line and Invoice Line Account	50.00	
5	Invoice Encumbrance	A2	Material Handling Budget Line Account	2.50	
6	Invoice Encumbrance	A3	R&D Budget Line Account	5.00	

The invoice is interfaced to Oracle General Ledger. The encumbrance line shown in the following table is created.

Line	Encumbrance Type	Account	Account Description	Debit	Credit
1	Invoice Encumbrance	A1	Budget Line and Invoice Line Account		50.00

Burden costs are interfaced from Oracle Projects to Oracle General Ledger. The encumbrance lines shown in the following table are created.

Line	Encumbrance Type	Account	Account Description	Debit	Credit
1	Invoice Encumbrance	A2	Material Handling Budget Line Account		2.50
2	Invoice Encumbrance	A3	R&D Budget Line Account		5.00

Budgetary Control Balances

Oracle Projects uses budgetary controls to ensure that the project commitment total for expense transactions never exceeds the project commitment budget and the amounts

reserved in the General Ledger funding budget. In the Budget Funds Check Results window, invoiced commitment amounts are displayed as invoice commitments or project actuals. The invoiced amounts are displayed as actuals after the invoices are interfaced from Oracle Payables to Projects.

Related Topics

Maintaining Budgetary Control Balances, page 6-80

Budget Funds Check Results Window, page 6-81

Commitment Amounts Window, page 6-81

Maintaining the Project Budget

When you modify a top-down integrated budget, the baseline process performs the following tasks for the new budget version:

• Validates the budgetary controls defined for the project budget

• Validates the budgetary controls defined for the funding budget

• Validates the General Ledger period statuses

• Updates the project encumbrance against the funding budget

Project Budgetary Controls

The system validates budgetary controls when budget amounts are deleted or decreased or when the budget entry method is changed. When budget amounts are reduced, the baseline process performs funds checks to ensure that existing transaction totals do not exceed available funds calculated using the new budget amounts. When the budget entry method is changed and a budget version is created using new budget categories, the baseline process maps all existing transactions in open GL periods to a budget line in the new budget version. Funds checks are then performed for each transaction that uses budgetary controls defined for the new budget lines. If any transaction generates a funds check failure, the baseline process fails.

If the baseline process fails, you can troubleshoot by viewing the rejected budget version in the Budget Funds Check Results window. All budget lines with a negative amount in Funds Available and an Absolute control level must be adjusted before the baseline can be created. You can either increase the budget amount or lower the control level.

For more information on defining budgetary controls, the funds check process, and the Budget Funds Check Results window, see: Using Budgetary Controls, page 6-73.

Funding Budget Controls

When budget amounts are increased or new budget lines are entered, additional funds must be reserved in the funding budget. Therefore, the baseline process performs a funds check against the funding budget to ensure that funds are available for the additional project budget amounts. If any funds check failures are returned, the baseline process fails.

For information on viewing and troubleshooting baseline failures, see: Reviewing and Overriding Budget Account Details for Integrated Budgets, page 6-71 and Troubleshooting Baseline Failures for Integrated Budgets, page 6-72.

General Ledger Period Statuses

When the project budget is modified, all changes are interfaced to General Ledger to adjust the project reservation against the funding budget. Oracle General Ledger does not allow adjustments to closed periods. Therefore, the budget baseline process ensures that no adjustments are made to periods that are closed in General

Ledger. Changes to closed periods generate funds check failures. For troubleshooting tips, see: Troubleshooting Baseline Failures for Integrated Budgets, page 6-72.

Project Encumbrance Maintenance

When a baseline is successfully created for a revised budget, the project encumbrance against the funding budget is adjusted. If new budget lines are added or existing budget line amounts are increased, then additional funds are reserved in the funding budget. If budget lines are decreased or deleted, then project encumbrances are liquidated, reducing the project reservation. The Accounted Amount column on the By Account tab of the Budget Accounts Details window displays the encumbrance adjustment amounts. Positive values reserve additional funds and negative values reduce the current reservation. See: Reviewing and Overriding Budget Account Details for Integrated Budgets, page 6-71.

Year-End Processing

When budgeted funds for a fiscal year are not used by the end of the year, many businesses move the available amounts to the next year. Organizations that operate under budget do not lose the budgeted amounts. Instead, their spending limits for the next year are increased.

Year-End Budget Rollover Process

The concurrent process PRC: Year End Budget Rollover performs budget rollover functions for all selected top-down integrated budgets.

When a baseline is created for the new project budget version, the project encumbrances against the funding budget are adjusted. Liquidation entries are generated to remove the project reservation against the funding budget for the closing fiscal year. All liquidation entries are posted to the last non-adjusting period of the closing fiscal year. New encumbrance entries are generated to reserve funds for the new year. An entry is generated for each transferred amount and is posted to the first period of the next fiscal year.

The baseline process includes a funds check of the new encumbrance entries in force pass mode. In force pass mode all budgetary controls are ignored. The encumbrance entries to reserve additional funds in the new year are be generated even if available funds for the funding budget are exceeded.

For more information on submitting and using the year-end rollover process, see: Year End Budget Rollover, *Oracle Projects Fundamentals*

Year-End Rollover Example

In this example, the project budget balances shown in the following table exist as of December 31, 2001.

Account	Budget Amounts	Actual Balance	Commitment Balance
01-422-7550-000	60,000	0	55,000
01-422-7760-000	60,000	0	58,000

The following table shows the encumbrance entries generated by the PRC: Year End Budget Rollover process to adjust the reservations against the General Ledger funding budget. All of the entries are encumbrance type *PA Encumbrance*.

Period	Budget	Account	Debit	Credit
Dec-01	GL Funding	01-422-7550-000		5,000
Dec-01	GL Funding	01-422-7760-000		2,000
Jan-02	GL Funding	01-422-7550-000	5,000	
Jan-02	GL Funding	01-422-7760-000	2,000	

Using Top-Down Budget Integration with Oracle Contract Commitments

This section describes the budget integration features in Oracle Projects that enable top-down budget integration with Oracle Contract Commitments.

In this section, we assume that you have an understanding of the Contract Commitments application. For more information about Oracle Contract Commitments, see the *Oracle Contract Commitments User's Guide*.

For information on implementing budget integration, see: Implementing Budget Integration, *Oracle Projects Implementation Guide*.

Oracle Contract Commitments

The Oracle Contract Commitments application enables organizations to manage their business using dual budgetary control. With dual budgetary control, you use a commitment budget and a standard budget to manage and control costs:

- **Commitment Budget.** The commitment budget defines the amount of commitments an organization is willing to enter into in a given time period.

- **Standard Budget.** The standard budget defines the amount an organization is willing to spend in a given time period.

All organization expenditures must originate as contract commitment transactions. Contract commitment transactions can consist of multiple commitment lines. Each line can have a different payment schedule. The commitment transaction lines are subject to the budgetary controls defined for the commitment budget. The commitment line payment schedules are subject to the budgetary controls defined for the standard budget.

Integrating with Oracle Contract Commitments

Oracle Projects enables you to define top-down budget integration for both a commitment budget and a standard budget. In Projects, you define a commitment budget and a standard budget using two different cost budget types.

- The commitment budget encumbers the Oracle Contract Commitments funding budget.

- The standard budget encumbers the Oracle General Ledger funding budget.

When project-related contract commitments are approved, the project encumbrances against both funding budgets are liquidated.

Prerequisites for Budget Integration With Oracle Contract Commitments

You define budget integration with Oracle Contract Commitments to perform top-down budgeting. See: Prerequisites for Top-Down Budget Integration, page 6-90.

Defining Funding Budgets

When you use the Contract Commitments application, all cost transactions must start as commitment transactions. A payment schedule is associated with each commitment transaction line. A Contract Commitments funding budget defines the amount of funds that can be committed by an organization during a specified time period. A General Ledger funding budget, often referred to as the standard budget, defines the amount of funds that an organization can spend during a specified time period.

Before you define project budget integration, you must define a Contract Commitments funding budget and a standard budget. For more information, see the *Oracle Contract Commitments User's Guide*.

Defining Budget Integration

To reserve funds in funding budgets for anticipated project costs, define budget integration using the Budgetary Controls option in the Projects, Templates window. You must define budget integration before you create a baseline for the project budget and before any project transactions are entered.

When you integrate Oracle Projects with Oracle Contract Commitments, you associate one project cost budget type with the General Ledger funding budget and another project cost budget type with the Contract Commitments funding budget. The project budget associated with the General Ledger funding budget controls the project's actual costs. The project budget associated with the Contract Commitments funding budget controls the project's commitment costs.

To specify top-down integration, select a balance type of Encumbrance. When you define the project budget and create a baseline, the system generates encumbrance entries to create project encumbrances against each funding budget. The project encumbrances reserve funds for the anticipated and committed project costs. When project-related contract commitment transactions are approved, the project encumbrances are reduced and new commitment encumbrances are created.

When you define integration using a balance type of Encumbrance, the system automatically enables budgetary controls. The Project control level is automatically set to Absolute and cannot be changed. Oracle Projects uses budgetary controls to ensure that the project commitment total and the project actual total do not exceed the amounts defined in each project budget. The project cost totals can never exceed the amounts reserved in the funding budgets.

For information on Budgetary Controls, see Using Budgetary Controls, page 6-73.

Creating Project Encumbrances

To reserve funds for anticipated project costs, you must define a project commitment budget and a project standard budget. When a baseline is created for each budget, Oracle Projects verifies that funds are available in each funding budget for the budgeted project costs. If funds are available in both funding budgets, Projects interfaces the project commitment budget line amounts to Oracle Contract Commitments to reserve funds in the funding budget for the anticipated project commitment costs. Projects interfaces the project standard budget amounts to Oracle General Ledger. The General Ledger Create

Journals process generates encumbrance entries from the interfaced amounts to reserve funds in the General Ledger funding budget for the anticipated actual project costs.

For information on creating project commitment and standard budgets, see: Creating Project Budgets for Top-Down Budget Integration with Oracle Contract Commitments, page 6-113.

Liquidating Project Encumbrances

When a project-related contract commitment transaction is approved, a funds check is performed. The contract commitment line amounts are checked against the project commitment budget. The payment schedule for each commitment line is checked against the project standard budget. If funds are available for all lines and payment schedules and the transaction is approved, then commitment encumbrance entries are created against the funding budgets. The commitment transaction line amounts encumber the Contract Commitments funding budget and the transaction line payment schedules encumber the General Ledger funding budget. Encumbrance liquidation entries are created to reduce the project reservations against each funding budget.

When supplier invoices are matched to the commitment transactions and paid, encumbrances against the General Ledger funding budget are liquidated and actual costs are accounted.

Contract Commitment Transaction Example

When commitment transactions are processed, the reservation against the funding budgets changes from one encumbrance type to another.

The following example illustrates the process flows for a project commitment that originates as a provisional contract commitment.

Contract Commitments Funding Budget Encumbrances

The following table shows the effect of a transaction on the contract commitments funding budget encumbrances.

- In line A, the provisional commitment is approved. A portion of the Project encumbrance against the contract commitment funding budget is replaced by a Commitment encumbrance. If the Project encumbrance balance is $1,000 and the provisional commitment total is $100, the Project encumbrance is reduced to $900 and a Commitment encumbrance of $100 is created.

- In line B, the provisional commitment is confirmed. The Commitment encumbrance is liquidated and an Actual encumbrance is created. The Contract Commitments funding budget shows confirmed commitments as actual costs.

Activity	Project Encumbrance	Commitment Encumbrance	Actual Encumbrance
Previous Project Encumbrance Balance	$1,000		
(Line A) Provisional commitment ($100) is approved	$900	$100	
(Line B) Provisional commitment ($100) is confirmed.		0	$100

General Ledger Funding Budget Encumbrances

The following table shows how the transaction affects the General Ledger funding budget encumbrances.

- Line A: This line is identical to Line A for the Contract Commitments funding budget changes above.

- Line B: When the provisional commitment is confirmed, the Commitment encumbrance is liquidated and an Obligation encumbrance is created.

- Line C: When a supplier invoice is matched to the confirmed commitment, the Obligation encumbrance is liquidated and an invoice encumbrance is created.

- Line D: When the supplier invoice is accounted, the Invoice encumbrance is liquidated and actual costs are recorded.

Activity	Project Encumbrance	Commitment Encumbrance	Obligation Encumbrance	Invoice Encumbrance	Actual
Previous Project Encumbrance Balance	$1,000				
(Line A) Provisional commitment ($100) is approved	$900	$100			
(Line B) Provisional commitment ($100) is confirmed.		0	$100		
(Line C) Supplier invoice is matched to the confirmed commitment			0	$100	
(Line D) Supplier invoice is accounted				0	$100

Project Encumbrance Example

The following example illustrates the creation and liquidation of project encumbrances.

Funding Budget Balances

The beginning balances for the Chemical Research organization commitment and standard funding budgets are shown below:

Contract Commitments Funding Budget

The commitment budget defined in Oracle Contract Commitments is shown in the following table:

GL Period	Account	Budget Amount	Project Encumbrance	Commitment Amount	Actual Amount	Available Funds
Jan-01	01-422-7550-000	300,000	0	0	0	300,000

General Ledger Funding Budget

The standard budget defined in Oracle General Ledger is shown in the following table:

GL Period	Account	Budget Amount	Project Encumbrance	Commitment Amount	Actual Amount	Available Funds
Jan-01	01-422-7550-000	100,000	0	0	0	100,000
Jan-02	01-422-7550-000	100,000	0	0	0	100,000
Jan-03	01-422-7550-000	100,000	0	0	0	100,000

Project Budgets

The Chemical Research organization is awarded a 3-year research grant. The grant provides $15,000 the first year, $10,000 the second year, and $5,000 the third year.

A project is created to track research activities and costs. A commitment budget and a standard budget are defined for the project. Both project budgets are integrated with the organization funding budgets.

Project Commitment Budget

The following table shows the project commitment budget.

Budget Category	GL Period	Amount	Account
Project	Jan-01	30,000	01-422-7550-000

Project Standard Budget

The following table shows the project standard budget.

Budget Category	GL Period	Amount	Account
Project	Jan-01	15,000	01-422-7550-000
Project	Jan-02	10,000	01-422-7550-000
Project	Jan-03	5,000	01-422-7550-000

Project Reservations

When baselines are created for each project budget, encumbrance accounting entries are generated to reserve funds in the funding budgets. The new funding budget balances are shown below.

Contract Commitments Funding Budget

The balances for the commitment budget defined in Oracle Contract Commitments are shown in the following table:

GL Period	Account	Budget Amount	Project Encumbrance	Commitment Amount	Actual Amount	Available Funds
Jan-01	01-422-7550-000	300,000	30,000	0	0	270,000

General Ledger Funding Budget

The balances for the standard budget defined in Oracle General Ledger are shown in the following table:

GL Period	Account	Budget Amount	Project Encumbrance	Commitment Amount	Actual Amount	Available Funds
Jan-01	01-422-7550-000	100,000	15,000	0	0	85,000
Jan-02	01-422-7550-000	100,000	10,000	0	0	90,000
Jan-03	01-422-7550-000	100,000	5,000	0	0	95,000

Commitment Transaction Encumbrance

A project-related contract commitment transaction is approved in January, 2001 for research assistance costs. The organization contract commitment and standard funding budgets are adjusted for the transaction.

Confirmed Contract Commitment Transaction

The project-related contract commitment transaction is shown in the following table:

Item	Account	Amount	Payment Date
Commitment Line 1	01-422-7550-000	1,800	
Payment Line 1		900	01-Jan-01
Payment Line 2		600	01-Jan-02
Payment Line 3		300	01-Jan-03

The contract commitments funding budget balances are adjusted as shown in the following table:

Contract Commitments Funding Budget

GL Period	Account	Budget Amount	Project Encumbrance	Commitment Amount	Actual Amount	Available Funds
Jan-01	01-422-7550-000	300,000	28,200	1,800	0	270,000

The General Ledger funding budget balances are adjusted as shown in the following table:

General Ledger Funding Budget

GL Period	Account	Budget Amount	Project Encumbrance	Commitment Amount	Actual Amount	Available Funds
Jan-01	01-422-7550-000	100,000	14,100	900	0	85,000
Jan-02	01-422-7550-000	100,000	9,400	600	0	90,000
Jan-03	01-422-7550-000	100,000	4,700	300	0	95,000

Creating Project Budgets for Top-Down Budget Integration with Oracle Contract Commitments

When Oracle Projects is integrated with Oracle Contract Commitments, you define a project commitment budget and a project standard budget for tracking commitment activities and controlling costs. When you create each of these budgets, keep in mind the considerations listed under Creating Project Budgets for Top-Down Budget Integration, page 6-96.

In addition, there is another factor to consider:

• The baseline process for the project standard budget creates baselines for both the standard budget and the commitment budget.

Budget Entry Method and Budget Line Accounts

When Oracle Projects is integrated with Oracle Contract Commitments, top-down budgeting is enabled. Project commitment and standard budgets encumber commitment and standard funding budgets. The funding budgets are maintained by account and GL period. To enable Oracle Projects to interface the project budget amounts for encumbrance creation, you must create the project budget using an entry method that is time phased by GL Period and you must generate an account for each project budget line.

For more information on account generation, see: Budget Integration Procedures, page 6-87.

Enter Budget Lines for all Budget Periods

When project budgets are integrated to General Ledger and Contract Commitments funding budgets, the project budgets encumber the funding budgets. When contract commitment transactions are entered and approved, the project encumbrances are liquidated and commitment encumbrances are created. The accounts for the project liquidation entries are obtained by mapping the transaction lines and payment schedule lines to project budget lines. For additional information about entering budget amounts

for a top-down integrated budget, see: Using Top-Down Budget Integration: Enter Budget Lines for All Budget Periods, page 6-90.

Deferred Workflow Process

When integration with Oracle Contract Commitments is defined, you must create a project commitment budget and a project standard budget in Oracle Projects. When a baseline is created for the project standard budget, a baseline is also created for the project commitment budget. When you create the two budgets, the following steps are recommended:

1. Enter the project commitment budget amounts.

2. Submit the project commitment budget.

3. Enter the project standard budget amounts.

4. Submit the project standard budget.

5. Create a baseline for the project standard budget.

The baseline process for the project standard budget launches a deferred workflow process. The deferred process performs the following tasks:

• Validates the submitted project standard budget version

• Creates budget lines in the standard budget for missing budget category and budget period combinations

• Validates the submitted project commitment budget version

• Creates budget lines in the commitment budget for missing budget category and budget period combinations

• Optionally, activates the budget workflow for controlling budget status changes

• Interfaces budget amounts for commitment budget baselines to Oracle Contract Commitments

• Interfaces budget amounts for standard budget baselines to Oracle General Ledger

When the deferred workflow is activated, the standard budget version status is set to In Process. When the workflow ends, a workflow notification is generated. When the workflow completes without errors, baselines are created for the commitment and standard budget versions, and new draft versions with a Working status are created. If the workflow terminates as a result of an error, baselines are not created, and the budget statuses are changed to Rejected.

For additional information about viewing workflow notifications, see the *Oracle Workflow Guide*.

Baseline Validations

Additional validations are performed during the project baseline process when you define budget integration with Oracle Contract Commitments.

Budget Total Amount Validation

When you define budget integration with Contract Commitments, the total budget amounts for the project standard budget and the project commitment budget must equal. However, the budget time periods can differ. For example, you can create a project commitment budget that covers a 1-year period and has a total budget amount of

$10,000. You can create a corresponding project standard budget that covers a 5-year period as long as the total budget amount equals $10,000.

The baseline process compares the total amount for the submitted standard budget version with the total amount for the submitted commitment budget version. If a submitted commitment budget version does not exist, but a baseline exists, then the system uses the baseline for comparison. If the total amounts for the standard and commitment budget versions are different, or if a submitted commitment budget version or baseline does not exist, then the deferred workflow completes with errors and no baselines are created for the project budgets.

Budget Amount Validation

When a baseline is created for a budget that is integrated with the General Ledger funding budget, the budget line amounts are interfaced to Oracle General Ledger. When a baseline is created for a budget that is integrated with the Contract Commitments, the budget line amounts are interfaced to Oracle Contract Commitments. Encumbrance journal entries are created from the interfaced amounts to reserve funds in the funding budgets for the anticipated project costs.

Oracle Projects validates the amounts for interface during the budget baseline process. If the interface amounts will result in encumbrance entries that cannot be posted, then the baseline process fails and no amounts are interfaced. For details about creating a baseline for a top-down integrated project budget, see: Creating a Baseline for an Integrated Budget, page 6-69.

For information about troubleshooting baseline failures, see: Troubleshooting Baseline Failures for Integrated Budgets, page 6-72.

Budgetary Control Balances

Oracle Projects maintains budgetary control balances for both the project commitment budget and the project standard budget. You can view the balances in the Budget Funds Check Results window.

Commitment Budgetary Control Balances

The budgetary control balances for the commitment budget reflect project-to-date approved commitments.

Cost Budgetary Control Balances

Like the commitment budget, the budgetary control balances for the cost budget reflect project-to-date approved commitments. However, invoiced commitment amounts are displayed as invoice commitments or project actuals. The invoiced amounts appear as actuals when the invoices are interfaced from Oracle Payables to Projects. Therefore, the cost budgetary control balances display the total commitment amount invoiced, the total commitment amount outstanding, and the uncommitted budget amounts (available funds).

Related Topics

Maintaining Budgetary Control Balances, page 6-80

Budget Funds Check Results Window, page 6-81

Commitment Amounts Window, page 6-81

Maintaining the Project Budget

When you maintain project budgets, you must ensure that the total amounts for the project commitment budget and the project standard budget remain the same. If you

increase or decrease the budget amounts for one budget, then you must change the budget amounts for the other budget.

If you make a change to the project standard budget that does not affect the budget total, you do not need to modify the project commitment budget. However, if you make any change to the project commitment budget, you must create a new baseline for the project standard budget.

You cannot create a new baseline for the commitment budget without creating a new baseline for the standard budget. When you create a new baseline for the standard budget, it is not necessary to make any changes. You can just query and submit the budget, and create a new baseline.

The baseline process performs the following actions for the new budget versions:

- Validates the budgetary controls defined for the project standard budget

- Validates the budgetary controls defined for the project commitment budget

- Validates the budgetary controls defined for the General Ledger funding budget

- Validates the budgetary controls defined for the Contract Commitments funding budget

- Validates the status of GL periods

- Updates the project encumbrance for the General Ledger funding budget

- Updates the project encumbrance for the Contract Commitments funding budget

Project Budgetary Controls

For information about project budgetary controls for top-down budget integration, see: Using Top-Down Budget Integration: Project Budgetary Controls, page 6-104.

Funding Budget Controls

For information about funding budget controls for top-down budget integration, see: Using Top-Down Budget Integration: Funding Budget Controls, page 6-90.

General Ledger Period Statuses

When the project budget is modified, all changes are interfaced to General Ledger and Oracle Contract Commitments to adjust the project reservations against the funding budgets. Oracle General Ledger does not allow adjustments to closed periods. Therefore, the budget baseline process ensures that no adjustments are made to periods that are closed in General Ledger. Changes to closed periods generate funds check failures. For troubleshooting tips, see: Troubleshooting Baseline Failures for Integrated Budgets, page 6-72.

Project Encumbrance Maintenance

For information about project encumbrance maintenance for top-down budget integration, see: Using Top-Down Budget Integration: Project Encumbrance Maintenance, page 6-90.

Year-End Processing

For a description of year-end processing when top-down budget integration is employed, see: Using Top-Down Budget Integration: Year-End Processing, page 6-90.

Year-End Rollover Example

In this example, balances exist as of December 31, 2001 for a project commitment budget and a project cost budget.

The following table shows the year-end project commitment budget balances.

Account	Budget Amounts	Actual Balance	Commitment Balance
01-422-7550-000	60,000	0	55,000
01-422-7760-000	60,000	0	58,000

The following table shows the year-end project cost budget balances.

Account	Budget Amounts	Actual Balance	Commitment Balance
01-422-7550-000	60,000	50,000	5,000
01-422-7760-000	60,000	40,000	18,000

The following table shows the encumbrance entries generated by the PRC: Year End Budget Rollover process to adjust the reservations against the General Ledger funding budget. All of the entries are encumbrance type *PA Encumbrance*.

Period	Budget	Account	Debit	Credit
Dec-01	GL Funding	01-422-7550-000		5,000
Dec-01	GL Funding	01-422-7760-000		2,000
Jan-02	GL Funding	01-422-7550-000	5,000	
Jan-02	GL Funding	01-422-7760-000	2,000	

The following table shows the encumbrance entries generated by the PRC: Year End Budget Rollover process to adjust the reservations against the Contract Commitments funding budget. All of the entries are encumbrance type *PA Encumbrance*.

Contract Commitment Year-End Rollover Encumbrance Entries

Period	Budget	Account	Debit	Credit
Dec-01	CC Funding	01-422-7550-000		5,000
Dec-01	CC Funding	01-422-7760-000		2,000
Jan-02	CC Funding	01-422-7550-000	5,000	
Jan-02	CC Funding	01-422-7760-000	2,000	

7

Issue Management

This chapter describes how to manage issues related to projects or tasks in Oracle Projects.

This chapter covers the following topics:

- Overview of Issue Management
- Using Issue Management

Overview of Issue Management

An issue is a concern, problem, or outstanding question on a project or task. Issue management is the process of recording, tracking, and resolving issues. This process often requires the collection of input from various people associated with the project, and other interested parties. Oracle Projects provides you with a centralized issue management system that enables you to manage this process and communicate issues in a consistent and timely manner.

Issue management offers many features, such as the ability to:

- Use a predefined set of issue types
- Define statuses for issues according to the needs of your organization
- Create issues with assigned actions
- Associate related documents with an issue
- Enable team members to create and manage issues
- Search for issues across projects
- Copy existing issues to expedite the creation of new issues
- Export a list of issues into a Microsoft Excel spreadsheet to perform further analysis or reporting
- Automatically route issue notifications using Oracle Workflow
- Change the owner of a single issue or multiple issues at the same time
- Track the ownership and status history of issues, and view a history of assignments

Issues can detract attention and resources from project completion. Therefore, you want to resolve and close issues quickly. To achieve this goal, you can create and assign actions on issues to project team members or others enabling all participants of an issue to collaborate and share information. This centralized system enables you to track

comments and actions performed by action assignees, providing you and all interested parties visibility of the entire issue resolution process.

Setup is required in order to use issue management. For information on implementing issue management, see: Issue and Change Management, *Oracle Projects Implementation Guide*.

Issue Participation

Both project team members and non-team members can participate in the resolution of an issue. These participants can have different levels of access to the issue and related actions based on both the status of the issue and the type of assigned actions.

The following table lists the possible participants and their level of participation.

Participant	Description
Creator	An issue creator is a project team member who creates the issue and designates the owner. Only the creator and users with proper project security access such as super users, users with project authority for an organization, and project managers have access to an issue while it is in Draft status.
Owner	An issue owner is a project team member who has been assigned the responsibility of overseeing the progress, resolution, and closure of an issue. This person creates and assigns actions to both team members and non-team members, as appropriate. In addition, users who have proper project security access can change the status and ownership of items. The owner of the issue can be changed only while the issue is in either Draft or Working status.
Assignee	An assignee is a person who has been assigned an action. The assignee can respond, close, or reassign the action.
Approver	An approver reviews and approves an issue. Project managers are the default issue approvers. If the person that submits the issue for approval is the project manager, the issue is automatically approved once it is submitted.

Issue Statuses

The status of an issue determines its visibility and whether or not you can update it. Only the issue owner and a user who has proper project security access can change the status of an issue.

You can control the progression of status changes throughout the issue life cycle and view the history of status changes. The statuses that you can assign to an issue are determined by the control item status list that is associated with the issue type. Oracle Projects provides a default control item status list that includes a set of predefined system statuses. Your implementation team can define additional status lists and statuses to

meet the needs of your organization. For more information, see: Control Item Statuses and Status Lists, *Oracle Projects Implementation Guide*.

The following table lists the predefined system statuses and describes the business rules associated with each status.

Status	Description	Next Allowable Statuses
Draft	An issue in Draft status and its assigned actions are visible only to the person who created the issue and persons who have proper project security access. You can delete issues that are in Draft status only.	Working
Working	The issue is visible to action assignees and team members. You can update an issue while it is in Working status.	Submitted (only if approval enabled) Canceled Closed (only if approval disabled)
Submitted	The issue is awaiting approval. You cannot modify an issue with this status. You can only update, progress and comments. If you want to make other changes, you must rework the issue.	Approved Rejected Canceled
Approved	The approver has approved the issue resolution and the issue can now be closed. You cannot modify an issue with this status, however, you can update progress and comments.	Closed Canceled
Rejected	The approver has rejected the issue. You cannot modify an issue with this status, however, you can update progress and comments. You must rework the rejected issue to make corrections before resubmitting it, or you can cancel it. Reworking the issue automatically changes the status back to Working.	Working Canceled

Status	Description	Next Allowable Statuses
Closed	At this point, the issue is considered resolved and no additional work is necessary. You cannot modify an issue with this status.	Working
	If approval is enabled, you can close an issue any time after it has been approved. If approval is not enabled, you can close the issue from Working status.	
Canceled	An issue can be canceled if it is no longer a concern and does not require further work. You cannot modify an issue with this status.	None

Issue Attributes

When you create an issue, the information you provide assists in its tracking and resolution. This section describes some of the attributes of an issue.

Classification

You must select a classification for each issue. This classification provides further categorization of the issue. For example, you have defined classifications of Resource, Knowledge Gap, and Dependencies. You can create a personalized view of all the Resource issues. The classification enables you to categorize your issues into meaningful groups for identifying high problem areas.

Required by Date

You can specify a date by which the issue should be resolved. This attribute is used to calculate the value for Days Until Due, which indicates to team members the urgency of the issue by showing how much time is left to resolve and close an issue.

Owner

You must assign ownership either to yourself or another project team member. Ownership defaults to the person creating the issue.

Task

You can associate the issue to a particular task on either the currently published workplan or financial structure.

Source

If source information is enabled for the issue type, you can specify the originating source of the issue and its related information.

System Number and Issue Number

Each issue is assigned a system-generated number that is unique across all projects. In addition, each issue has a number to identify it within the project. Depending on your implementation, this number is either generated automatically or must be entered manually.

The issue numbers must be unique for each issue type within each project. You can have duplicate numbers for the same issue types across different projects. However, you cannot have two issues with the same issue type with the same number within a project. For example, if you have issue types of Internal Issues, Client Issues, and Environments Issues, then the numbering of the issues for each of these types will begin with 1 for each project.

The following table lists example issues for projects A and B and their respective numbering.

Project	Issue Summary	Issue Type	Issue Number	System Number
A	Missing documents for signoff	Client Issue	1	1
A	Completion of task dependent on test results	Client Issue	2	2
A	Delivery of test product delayed	Internal Issue	1	3
B	Need documented signoff process	Internal Issue	1	4
B	Assessment of expanded scope	Client Issue	1	5
B	Need budget for another staff consultant	Client Issue	2	6

> **Note:** This example assumes that the issues have been created in the order presented.

If automatic numbering is enabled for the issue type, then the number appears when the issue status is changed to Working. By default, Oracle Projects generates issue numbers sequentially. However, you can optionally use the Control Item Document Numbering Extension to define your own numbering logic. See: Control Item Document Numbering Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*.

If manual numbering is enabled for the issue type, then you must enter a unique number for the issue prior to changing the status from Draft to Working.

Using Issue Management

Issue management consists of the following stages:

- **Creating and assigning issues**

  When you identify an issue for a project or task, you can record the issue details in Oracle Projects and assign ownership of the issue. The issue owner then creates and assigns actions in an effort to resolve the issue. Oracle Projects generates workflow notifications when issues and actions are assigned. For more information, see: Creating Issues, page 7-6.

- **Managing issues**

  You can view and manage issues for one or more projects for which you are responsible for resolving. You can create personalized lists to help you determine which issues need immediate attention. You can change the owner and the status of an issue, and you can view ownership and status history of issues. Additionally, you can update the progress of issues and respond to actions to help resolve issues in a timely manner. For more information, see: Managing Issues, page 7-7.

- **Resolving and closing issues**

  After an issue is resolved and all actions are closed, the issue owner may be required to submit the issue for approval. In this case, the issue owner can close an issue only after it is approved. Oracle Projects generates workflow notifications to prompt timely resolution of issues. If sign-off or approval is required, then an e-mail containing the possible outcomes is delivered to the person responsible for approval. If approval is not required, you can close the issue immediately. For more information, see: Resolving Issues, page 7-10.

Creating Issues

You create an issue to record and track problems, questions, or concerns relating to a particular project or task. Each issue is based on a predefined issue type. The issue type determines who can create an issue of that type and the general behavior of an issue. For example, the issue type specifies how issues are numbered and whether a resolution is required. Issue types are associated with project types. This association provides the list of issue types available for a given project. For more information on issue types, see: Issue and Change Management, *Oracle Projects Implementation Guide*.

To create an issue

1. Navigate to the Issues page for a project.

2. Select the desired issue type.

3. Enter the issue details and initial action, as appropriate.

   > **Note:** If you are not ready for the project team to begin working on the issue and assigned action, then you must change the status to Draft before you save the issue for the first time. You cannot change the status of a working issue back to Draft once it has been saved.

4. Save the issue.

5. Define additional actions.

6. If the issue status was originally set to Draft, change the status of the issue to Working when you are ready for the project team members and other action assignees to begin working on their actions and the resolution of the issue.

Each issue has a log tracking the interaction between team members and action assignees. All comments and responses to actions are recorded in this log and can be viewed through the Interaction History page.

You can also create issues from the Team Member Home page for any project on which you are a team member.

Copying Existing Issues

To quickly create an issue, you can copy an existing issue from any project to which you have access. You can also create an issue from an existing change request or change order. For information on creating change documents, see: Overview of Change Management, page 8-1.

Attaching Documents and Relating Other Items to Issues

To provide additional information for an issue, you can attach documents. These documents can be plain text, URL addresses, or external documents. You can also reference related issues, change requests, and change orders to an issue from any project to which you have access. For information on attaching documents, see: Overview of Document Management, page 9-1.

Creating and Assigning Actions to Issues

An action is an assigned question or unit of work related to the issue. The action consists of the request and related information, and all responses to the request. Actions enable project team members and other interested parties to collaborate on an issue, and can help in the resolution of the issue. For example, if you want someone to comment on a proposed resolution for the issue, then you can create an action to request a response.

You can create actions for an issue that is in either Draft or Working status, and assign these actions to any person. However, these actions are visible to the assignees only when the issue is in Working status.

You can create two types of actions: Review or Update. A review action allows the assignee to review the issue and enter a response. An update action allows the assignee to update the issue for as long as the action is open. Only the issue owner or project manager can create update actions. However, persons assigned to open review and update actions can create new review actions for other people.

When you define an action, you can specify a due date for the response in the Required by Date field. This date assists the issue owner in managing outstanding actions on the issue. You can also request signoff from the action assignee in order to confirm the action response. The issue owner can submit the issue for approval or close it only after all the actions are closed.

Managing Issues

You can drill down into the details of an issue from any list of issues. As a project manager, you can manage issues and actions related to your projects on issues list pages. As a project team member, you can manage the issues you own and open actions assigned to you through the Team Member Home page.

You can use issues lists to search for issues on all projects for which you are a team member. When you search for issues, you must specify at least one of the following criteria:

- Type

- Number

- Summary

- Project Name

- Project Number

- Owner

- System Number

Viewing Issues and Progress

You can view issues and add comments for any active project on which you are a team member or have proper project security access. To help you manage your issues, Oracle Projects provides the following views of the Issues list for a given project:

- **Open Issues**: This view includes all issues in Working, Submitted, Rejected, and Approved statuses.

- **All Draft and Open Issues:** This view includes all issues in Working, Submitted, Rejected, and Approved statuses. Any issues in Draft status that you created are also displayed in this view.

- **Overdue Open Issues:** This view includes all issues that have a past due required-by date, but have not been closed or canceled.

- **High Priority Issues:** This view includes all high priority issues.

- **In Trouble Issues:** This view indicates any issues that are in trouble.

You can create additional personalized views based on any of the issue attributes. The following columns are available in these views to provide additional information to help you manage issues:

- **Days Since Updated:** This column indicates the number of days since the issue was updated. The value of this column is updated each time an issue attribute or action is modified.

- **Days Until Due:** This column indicates the number of days until the issue is due. If the value of this column is negative, the issue or action is overdue.

From either of these issues lists, you can select to see the progress, status, actions, and any related documents. You can also export the issue list to Microsoft Excel for further reporting and analysis. The exported list will expand to include all attributes available in the personalized view.

Updating Issue Progress

Issue owners can periodically update the progress towards resolving the issue. The progress includes an as of date, progress status, and a textual description of the progress being made on the issue. The progress status is reflected in both of the predefined views of open issues and provides the project manager a quick indicator for identifying the issues that need attention.

Changing and Viewing Issue Ownership

Oracle Projects enables you to change the owner and view the complete ownership history of an issue. If you do not have the authority to change the owner, you can only view the ownership history.

You can update the ownership and view ownership history from within the context of an issue and from issues list pages. In addition, Oracle Projects enables you to update the ownership of multiple issues at the same time from issues list pages. You can update ownership for multiple issues from within the project issues list and from cross-project lists of issues.

Oracle Projects sends a workflow notification to the new owner when the issue ownership is changed.

Resolving and Closing Actions for Issues

You can respond to and close only those actions assigned to you. You can access these actions for working issues through the Team Member Home page. Only the issue owner or project manager can cancel open actions and must enter a reason for the cancellation.

You can reassign an action to another person. If you reassign an action, a copy of it is created with you identified as the requestor, and the original action is closed. For the reassigned action, you must specify a new Required by Date, but you cannot change the action type and whether or not the action requires signoff.

The following table lists action activities and specifies whether or not the identified persons can perform each activity.

Activity	Issue Owner	Project Team Member	Action Assignee
Create a review action	Yes	No	Yes
Create an update action	Yes	No	No
Add a response to an action	No	No	Yes
Change status	Yes	No	Yes
Close an action	No	No	Yes
Sign off on an action	No	No	Yes
Reassign an action (Review or Update actions)	No	No	Yes
Cancel an action	Yes	No	No
View an action	Yes	Yes	Yes
Add a comment to the issue	Yes	Yes	Yes

> **Note:** Users who have project security access such as super users, users with project authority for an organization, and project managers can perform the same action activities as an issue owner.

Resolving Issues

The issue owner, project manager, or an assignee of an update action can enter the resolution of an issue. If a resolution is required for an issue, you must enter it before you can close the issue or submit it for approval.

Approval of an issue indicates that the approver has reviewed the issue and agrees with the resolution. The issue type determines whether or not an issue requires approval. The approver for your issues is the project manager, by default, but your implementation team may have the approver defined differently.

If approval is required, the approver must review and approve the issue before you can close it. If approval is not required, you can close the issue at any time. After the issue is approved, the issue owner receives a notification, and can then change the status to Closed. If the approver rejects the issue resolution, the status is changed to Rejected and the issue must be reworked in order to resubmit it for approval.

> **Note:** An issue with open actions cannot be closed or submitted for approval.

Reworking and Canceling Issues

The issue owner can rework a submitted, approved, or rejected issue. When you click on the Rework button, it changes the issue status back to Working so that the issue can be modified.

The issue owner can also rework an issue that has been closed. You may need to do this if an issue recurs or if it is determined that the issue resolution is not satisfactory.

If you cancel an issue, all open actions and pending workflows are canceled, and the status of the issue is changed to Canceled.

8

Change Management

This chapter describes how to manage change requests and change orders in Oracle Projects.

This chapter covers the following topics:

* Overview of Change Management
* Using Change Management

Overview of Change Management

A change is an event, action, or condition that affects the scope, value, or duration of a project or task. Change management is the process of creating, managing, resolving, implementing, and communicating changes.

Change management encompasses both *change requests* and *change orders*.

* **Change requests** enable you to document potential changes to the scope of a project and to facilitate the approval process. Examples of change requests include a request for information (RFI) and a request for quote (RFQ). A change request can optionally have workplan, staffing, financial, contract, supplier, and other impacts. Impacts enable you to define and quantify the effect of a change to the scope of a project. Once approved, you must include a change request in a change order to implement the impacts. Including a change request in a change order closes the change request.

* **Change orders** enable you to track and implement the impacts of changes to a project. Like change requests, a change order can optionally have workplan, staffing, financial, contract, supplier, and other impacts. You can merge the impacts of multiple change requests into a single change order. Once approved, you can implement the impact of a change order. You can close a change order after all impacts are implemented.

Change requests and change orders are sometimes referred to collectively in Oracle Projects as *change documents*.

The change management process often requires the collection of input from various people associated with the project, and other interested parties. Oracle Projects provides you with a centralized change management system that enables you to manage this process and communicate change in a consistent and timely manner.

Change management offers many features, such as the ability to:

* Use a predefined set of change document types
* Define statuses for change documents according to the needs of your organization

- Associate related issues and documents with a change document

- Enable team members to create and manage change documents

- Search for change documents across projects

- Define the impacts of change requests and change orders

- Include change requests in change orders

- Copy existing issues and change documents to expedite the creation of new change documents

- Export a list of change documents into a Microsoft Excel spreadsheet to perform further analysis or reporting

- Automatically route change document notifications using Oracle Workflow

- Change the owner of a single change document or multiple change documents at the same time

- Track the ownership and status history of change documents, and view a history of assignments

- Include the financial impact of change documents in project budgets and forecasts

- Implement the financial impact of change orders in project budgets and forecasts

Setup is required in order to use change management. For information on implementing change management, see: Issue and Change Management, *Oracle Projects Implementation Guide*.

Change Document Participation

Both project team members and non-team members can participate in the resolution and implementation of a change document. These participants can have different levels of access to the change document and related actions based on both the status of the change document and the type of assigned actions.

The following table lists the possible participants and their level of participation.

Participant	Description
Creator	A change document creator is a project team member who creates the change document and designates the owner. Only the creator and users with proper project security access such as super users, users with project authority for an organization, and project managers have access to a change document while it is in Draft status.
Owner	A change document owner is a project team member who has been assigned the responsibility of overseeing the progress, resolution, implementation, and closure of a change document. This person creates and assigns actions to both team members and non-team members, as appropriate. In addition, users who have proper project security access can change the status and ownership of items. The owner of the change document can be changed only while the change document is in either Draft or Working status.
Assignee	An assignee is a person who has been assigned an action. The assignee can respond, close, or reassign the action.
Approver	An approver reviews and approves a change document. Project managers are the default change document approvers. If the person that submits the change document for approval is the project manager, the change document is automatically approved once it is submitted.

Change Document Statuses

The status of a change document determines its visibility and whether or not you can update it. Only the change document owner and a user who has proper project security access can change the status of a change document.

You can control the progression of status changes throughout the change document life cycle and view the history of status changes. The statuses that you can assign to a change document are determined by the control item status list that is associated with the change document type. Oracle Projects provides a default control item status list that includes a set of predefined system statuses. Your implementation team can define additional status lists and statuses to meet the needs of your organization. For more information, see: Control Item Statuses and Status Lists, *Oracle Projects Implementation Guide*.

The following table lists the predefined system statuses and describes the business rules associated with each status.

Status	Description	Next Allowable Statuses
Draft	A change document in Draft status and its assigned actions are visible only to the person who created the change document and persons who have proper project security access. You can delete change documents that are in Draft status only.	Working
Working	The change document is visible to action assignees and team members. You can update a change document while it is in Working status.	Submitted Canceled Closed
Submitted	The change document is awaiting approval. You cannot modify a change document with this status. You can only update progress and comments. If you want to make other changes, you must rework the change document.	Approved Rejected Canceled
Approved	The approver has approved the change document resolution and the change document impacts can now be implemented. You cannot modify a change document with this status, however, you can update progress and comments.	Closed Canceled
Rejected	The approver has rejected the change document. You must rework to make corrections and resubmit it for approval. You must rework the rejected change document to make corrections before resubmitting it, or you can cancel it. Reworking the change document automatically changes the status back to Working.	Working Canceled

Status	Description	Next Allowable Statuses
Closed	At this point, the change document is considered resolved and no additional work is necessary. You cannot modify a change document with this status. You cannot close a change order until you implement all impacts.	None
Canceled	A change document can be canceled if it is no longer a concern and does not require further work. You cannot modify a change document with this status. If you cancel a change order with included change requests, the change requests are automatically reset to Approved status.	None

A log is created to store the history of status changes. This includes details of the statuses, the person who makes the change, the timestamp, and an optional comment for the change.

Change Document Attributes

When you create a change document, the information you provide assists in its management, resolution, and implementation. This section describes some of the attributes of a change document.

Classification

You must select a classification for each change document. This classification provides further categorization of the change document. For example, you have defined classifications of Resource, Knowledge Gap, and Dependencies. You can create a personalized view of all the Resource change documents. The classification enables you to categorize your change documents into meaningful groups for identifying high problem areas.

Required by Date

You can specify a date by which the change document should be resolved and implemented. This attribute is used to calculate the value for Days Until Due, which indicates to team members the urgency of the change document by showing how much time is left to resolve and close a change document.

Task

You can associate the change document to a particular task on either the currently published workplan or financial structure.

Source

If source information is enabled for the change document type, you can specify the originating source of the change document and its related information.

System Number and Change Document Number

Each change document is assigned a system-generated number that is unique across all projects. In addition, each change document has a number to identify it within the project. Depending on your implementation, this number is either generated automatically or must be entered manually.

The change document numbers must be unique for each change document type within each project. You can have duplicate numbers for the same change document types across different projects. However, you cannot have two change documents with the same change document type with the same number within a project. For example, if you have change document types of Internal Change Requests, Client Change Requests, and Environment Change Requests, then the numbering of the change documents for each of these types will begin with 1 for each project.

The following table lists example change documents for projects A and B and their respective numbering.

Project	Change Document Summary	Change Document Type	Change Document Number	System Number
A	Re-imaging of mainframe computer	Client Change Requests	1	1
A	Additional software licenses required	Client Change Requests	2	2
A	Need new development environment	Internal Change Requests	1	3
B	Need documented signoff process	Internal Change Requests	1	4
B	Need budget for another staff consultant	Client Change Requests	2	6

> **Note:** This example assumes that the change documents have been created in the order presented.

If automatic numbering is enabled for the change document type, then the number appears when the change document status is changed to Working. By default, Oracle Projects generates change document numbers sequentially. However, you can optionally use the Control Item Document Numbering Extension to define your own numbering logic. See: Control Item Document Numbering Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*.

If manual numbering is enabled for the change document type, then you must enter a unique number for the change document prior to changing the status from Draft to Working.

Impacts

You can optionally define impacts for a change document to specify and quantify how a project is affected by the change document. A change document can have workplan, staffing, financial, contract, supplier, and other impacts. You can merge the impacts of multiple change requests into a single change order. For more information, see: Defining Change Document Impacts, page 8-9.

You can manually implement the supplier impacts associated with a change order in purchase orders. In addition, Oracle Projects enables you to implement and include the financial impact of change documents in budgets and forecasts. For more information, see: Implementing and Including Financial Impact in Budgets and Forecasts, page 8-14.

Using Change Management

The change management process consists of the following stages:

- **Creating change documents**

  When you identify a change for a project or task, you can record the change details in Oracle Projects and assign ownership of the resulting change document. The change document owner then creates and assigns actions in an effort to resolve the change document, and defines the change document impacts. Oracle Projects generates workflow notifications when change documents and actions are assigned. You can also create a change document by copying an existing issue or change document. For more information, see: Creating Change Documents, page 8-8.

- **Managing change documents**

  You can view and manage change documents for one or more projects for which you are responsible for resolving. You can create personalized lists to help you determine which change documents need immediate attention. You can change the owner and the status of a change document, and you can view ownership and status history of change documents. Additionally, you can update the progress of change documents and respond to actions to help resolve the change documents in a timely manner. For more information, see: Managing Change Documents, page 8-10.

- **Resolving change documents**

  After change document impacts are defined and all actions are closed, the change document owner is required to submit the change document for approval.

  After a change request is approved, you can include it in a change order and submit it for approval. After the change order is approved, you can:

  - implement and include the financial impact in project budgets and forecasts

  - implement and track the supplier impact in purchase orders

  - track the implementation details for workplan, contract, staffing, and other impacts

  Oracle Projects generates workflow notifications to prompt timely resolution of change documents. You can close a change order after the impacts are

implemented. For more information, see Resolving Change Documents, page 8-12. For more information on implementing the financial impact of change orders, see: Including and Viewing Change Documents, page 6-46.

Creating Change Documents

You create a change document to manage the resolution and implementation of changes associated with a particular project or task. Each change document is based on a predefined change request or change order type. The change document type determines who can create a change document of that type and the general behavior of a change document. For example, the change document type specifies how the change documents are numbered and if a resolution is required. Change document types are associated with project types. This association determines the list of change document types available for a given project. For more information on defining change request and change order types, see: Issue and Change Management, *Oracle Projects Implementation Guide*.

To create a change document

1. Navigate to the Change Requests or Change Orders page for a project.

2. Select the desired change request or change order type.

3. Enter the change document details and initial action, as appropriate.

> **Note:** If you are not ready for the project team to begin working on the change document and assigned action, then you must change the status to Draft before you save the change document for the first time. You cannot change the status of a working change document back to Draft once it has been saved.

4. Save the change document.

5. Define impacts for the change document.

6. Define additional actions.

7. If the change document status was originally set to Draft, change the status to Working when you are ready for the project team members and other action assignees to begin working on their actions and the resolution of the change document.

   Each change document has a log tracking the interaction between team members and action assignees. All comments and responses to actions are recorded in this log and can be viewed through the Interaction History page.

You can also create change documents from the Team Home Member page for any project on which you are a team member.

Copying Existing Issues and Change Documents

To quickly create a change document, you can copy an existing change request or change order from any project to which you have access. When you copy a change request to a change order, you can copy and include the change request at the same time. You can also create a change document from an existing issue. For information on creating issues, see: Overview of Issue Management, page 7-1.

When copying change documents, Oracle Projects applies the following rules:

- When creating a change order by copying an existing change order that has included change requests, Oracle Projects does not copy the included change requests.

- When copying a change request or change order from a different project, Oracle Projects copies all impacts except the financial impact.

- If a change document being copied contains an impact that is not defined in the target change document type, then the impact is not copied to the target change document.

When you create a change document by copying an existing issue or change document, Oracle Projects automatically sets the change document status to Draft.

Attaching Documents to Change Documents

To provide additional information for a change document, you can attach documents. These documents can be plain text, URL addresses, or external documents. You can also reference related issues and other change documents to a change document from any project to which you have access. For information on attaching documents, see: Overview of Document Management, page 9-1.

Creating and Assigning Actions to Change Documents

An action is an assigned question or unit of work related to the change document. The action consists of the request and related information, and all responses to the request. Actions enable project team members and other interested parties to collaborate on a change document, and can help in the resolution of the change document. For example, if you want someone to comment on a proposed resolution for the change document, then you can create an action to request a response.

You can create actions for a change document that is in either draft or working status, and assign these actions to any person. However, these actions are visible to the assignees only when the change document is in working status.

You can create two types of actions: Review or Update. A review action allows the assignee to review the change document and enter a response. An update action allows the assignee to update the change document for as long as the action is open. Only the change document owner or project manager can create update actions. However, persons assigned to open review and update actions can create new review actions for other people.

When you define an action, you can specify a due date for the response in the Required by Date field. This date assists the change document owner in managing outstanding actions on the change document. You can also request signoff from the action assignee in order to confirm the action response. The change document owner can submit the change document for approval only after all the actions are closed.

Defining Change Document Impacts

When you create a change request or a change order, you can define impacts to specify the effect that the change document will have on the project. The types of impacts that are available for you to define for a specific change request or change order are based on the impacts that are enabled for the change document type. Impacts can be of the following types:

- Workplan
- Staffing
- Financial

- Supplier

- Contract

- Other

You define workplan, staffing, contract, and other impacts by entering descriptive text. When you define a supplier impact, you can enter descriptive text, as well as an impact amount by purchase order. You can use the supplier impact amount information to manually update purchase orders at any time.

Defining Financial Impact

When you define financial impact for a change document, you can enter descriptive text, estimate amounts, detail plan lines, and specify an agreement (for revenue financial impact). Amounts can include quantities, cost amounts, and revenue amounts, as appropriate, based on the planning options defined in the approved budget plan type for a project. Oracle Projects uses the plan setup for the approved budget plan type for a project to determine whether you can enter cost impacts only, revenue impacts only, or both cost and revenue impacts.

Oracle Projects defines default planning options for the financial impact of a change document based on the planning options for the current working version of the approved budget plan type. You can optionally edit the default planning options of a change document from the pages used to edit the cost and revenue amounts. For more information on defining planning options and creating an approved budget version, see: Using Budgeting and Forecasting, page 6-14.

Before you can enter financial impact amounts for a change document, a current working version must exist for the approved budget plan type for the project. In addition, once a financial impact has been defined for a change document, you must have at least one current working version for the approved budget plan type.

> **Note:** You must select an agreement when you define revenue financial impact for a change order.

After you define financial impact for a change document, you can implement and include the financial impact in budgets and forecasts. For information, see: Implementing and Including Financial Impact in Budgets and Forecasts, page 8-14.

Managing Change Documents

You can drill down into the details of a change document from any list of change requests or change orders. As a project manager, you can manage change documents and actions related to your projects on change document list pages. As a project team member, you can manage the change documents you own and the open actions assigned to you through the Team Member Home page.

You can use change request and change order lists to search for change documents on all projects for which you are a team member. When you search for change documents, you must specify at least one of the following criteria:

- Type

- Number

- Summary

- Project Name

- Project Number
- Owner
- System Number

Viewing Change Documents and Progress

To help you manage your change documents, Oracle Projects provides predefined personalization views for both the Change Request and Change Order lists for a given project. Oracle Projects provides the following views for change requests:

- **All Open Change Documents:** This view includes all change documents in Working, Submitted, Rejected, and Approved statuses.

- **All Draft and Open Change Documents:** This view includes all change documents in Working, Submitted, Rejected, and Approved statuses. Any change requests in Draft status that you created are also displayed in this view.

- **Overdue Open Change Documents:** This view includes all change documents that have a past due required-by date, but have not been closed or canceled.

- **High Priority Change Documents:** This view includes all high priority change documents.

- **In Trouble Change Documents:** This view indicates any change documents that are in trouble.

Oracle Projects provides the following two personalization views for change orders:

- **All Draft and Open Change Orders:** This view includes all change orders in Working, Submitted, Rejected, and Approved statuses. Any change orders in Draft status that you created are also displayed in this view.

- **Overdue Open Change Orders:** This view includes all change orders that have a past due required-by date, but have not been closed or canceled.

You can create additional personalized views based on any of the change document attributes. The following columns are available in each of these views to provide additional information to help you manage change documents:

- **Days Since Updated:** This column indicates the number of days since the change document was updated. The value of this column is updated each time a change document attribute, impact, or action is modified.

- **Days Until Due:** This column indicates the number of days until the change document is due. If the value of this column is negative, the change document is overdue.

From any of these change document lists, you can select to see the progress, status, actions, impacts, and any related issues and change documents. You can also export the change document list to Microsoft Excel for further reporting and analysis. The exported list will expand to include all attributes available in the personalized view.

Updating Change Document Progress

Change document owners can periodically update the progress towards resolving the change document. The progress includes an as of date, progress status, and a textual description of the progress being made on the change document. The progress status is reflected in both of the predefined views for open change documents, and provides

the project manager a quick indicator for identifying the change documents that need attention.

Changing and Viewing Change Document Ownership

Oracle Projects enables you to change the owner and view the complete ownership history of a change document. If you do not have the authority to change the owner, you can only view the ownership history.

You can update the ownership and view ownership history from within the context of a change document and from change document list pages. In addition, Oracle Projects enables you to update the ownership of multiple change documents at the same time from change document list pages. You can update ownership for multiple change documents from within a project change document list and from cross-project lists of change documents.

Oracle Projects sends a workflow notification to the new owner when the change document ownership is changed.

Resolving Change Documents

The change document owner, project manager, or an assignee of an update action can enter the resolution of a change document. If a resolution is required for a change document, you must enter it before you can submit the change document for approval.

All change documents must be approved. Approval of a change document indicates that the approver has reviewed the change document and agrees with the defined impacts and the resolution. The approver for your change documents is the project manager, by default, but your implementation team may have the approver defined differently. If the approver rejects the change document resolution, the status is changed to Rejected and the change document must be reworked in order to be resubmitted it for approval.

A change document with open actions cannot be submitted for approval. In addition, change requests must be included in a change order before they can be closed. Once approved, you can implement the impacts of a change order and close the change order.

Resolving and Closing Actions for Change Documents

You can respond to and close only those actions assigned to you. You can access these actions for working change documents through the Team Member Home page. Only the change document owner or project manager can cancel open actions and must enter a reason for the cancellation.

You can reassign an action to another person. If you reassign an action, a copy of it is created with you identified as the requestor, and the original action is closed. For the reassigned action, you must specify a new Required by Date, but you cannot change the action type and whether or not the action requires signoff.

The following table lists action activities and specifies whether or not the identified persons can perform each activity.

Activity	Change Document Owner	Project Team Member	Action Assignee
Create a review action	Yes	No	Yes
Create an update action	Yes	No	No
Add a response to an action	No	No	Yes
Change the status	Yes	No	Yes
Close an action	No	No	Yes
Sign off on an action	No	No	Yes
Reassign an action (Review or Update actions)	No	No	Yes
Cancel an action	Yes	No	No
View an action	Yes	Yes	Yes
Add a comment to the change document	Yes	Yes	Yes

> **Note:** Users who have project security access such as super users, users with project authority for an organization, and project managers can perform the same action activities as a change document owner.

Including Change Requests in Change Orders

A change request is closed after it is approved and then, included in a change order. You must include a change request in a change order to implement the impacts that are associated with the change request.

When you include a change request in a change order, Oracle Projects automatically combines the impacts from the change request with those in the change order to create a single consolidated list of impacts. However, the attributes, documents, related items, and actions of the change request are not copied to the change order. You can include change requests that have only valid impacts for the change order. Therefore, if a change request has a financial impact and you want to include it in a change order, the change order must use a change document type that accepts financial impacts.

You can include multiple change requests in a change order. However, you can include a change request in only one change order and only on the same project.

Reworking Change Documents

The change document owner can rework a submitted, approved, or rejected change document. When you click on the Rework button, it changes the change document status back to Working so that the change document can be modified.

Canceling Change Documents

If you cancel a change document, all open actions and pending workflows are canceled, and the status of the change document is changed to Canceled. If the canceled change document included change requests, the status of those requests revert to Approved.

> **Note:** You cannot cancel a change order after any of its impacts are implemented or closed.

Implementing and Closing Change Documents

You can only implement impacts that are associated with a change order. You cannot implement impacts that are associated with a change request. To implement impacts associated with a change request, you must first include the change request in a change order. For more information, see: Including Change Requests in Change Orders, page 8-13.

To implement the supplier impact for a change order, you must manually post the impact details in the corresponding purchase order in Oracle Purchasing. The details of workplan, staffing, contract, and other impacts are not integrated with any other application. However, you can use the change order to manually track the implementation of these impacts.

> **Note:** You cannot modify impact details for a change order with a status of Approved. To modify impacts for an approved change order, choose the Rework button to set the status back to Working.

Only the change order owner or a person with the appropriate project security access can implement a change order. After all of the impacts have been implemented, you can close the change order. You cannot rework or cancel a change order after it is closed.

Implementing and Including Financial Impact in Budgets and Forecasts

Oracle Projects enables you to *implement* and *include* the financial impact of change documents in budgets and forecasts.

- **Implementing Financial Impact:** Implementing financial impact refers to the action of updating the *current working version* of a budget or forecast plan type with the financial impact amounts specified in a *change order*.

  You can implement financial impact only from within the context of a change order. You can implement the financial impact of a change order in multiple budget or forecast plan types. Conversely, you can implement multiple change orders in a budget or forecast plan type.

  When you implement financial impact, Oracle Projects allows you to first select one or more budget or forecast plan types that you want to target. Oracle Projects then updates the current working version of each plan type with the full amount of the financial impact specified in the change order. When you implement *revenue* financial impact for an approved budget plan type, you can *partially implement* the revenue impact in an approved revenue budget version.

  > **Note:** To partially implement revenue impact for an approved budget plan type, the *Enable Partial Implementation of Revenue* option must be selected for the plan type. See: Financial Plan Types, *Oracle Projects Implementation Guide*.

When you implement financial impact in a budget plan type, you can choose to simultaneously create a baseline version. In the case of a forecast plan type, you can choose to create an approved forecast version.

- **Including Financial Impact:** Including financial impact refers to the action of updating *any working version* of a budget or forecast plan type with the financial impact amounts specified in either a *change request* or a *change order*.

  You can include financial impact from within the context of a budget or forecast version. You can include the financial impact of a change request or a change order in multiple budget and forecast versions. Conversely, you can include multiple change requests and change orders in a budget or forecast version.

  When you include financial impact in a budget or forecast version, Oracle Projects updates the version with the full amount of the financial impact specified in the change request or change order. The rules for including the financial impact of change requests and change orders are as follows:

  - You can include the financial impact of a *change request* in any working budget or forecast version *except* a budget version for an approved budget plan type.

  - You can include the financial impact of a *change order* in any working budget or forecast version.

Your ability to implement or include the financial impact of a change document in a budget or forecast is controlled by the change document status, and whether the financial plan type associated with the budget or forecast version allows you to implement or include financial impact for the change document type and change document status. For more information, see: Control Item Statuses and Status Lists, *Oracle Projects Implementation Guide*, and Financial Plan Types, *Oracle Projects Implementation Guide*.

After the financial impact of a change document is implemented or included in a project budget or forecast, you can view the change document information in the View Included Change Documents page, and in view pages for budgets and forecasts. For more information on implementing and viewing change documents, see: Including and Viewing Change Documents, page 6-46.

9

Document Management

This chapter describes how to attach and manage documents for projects and tasks.

This chapter covers the following topics:

- Overview of Document Management
- Using Document Management

Overview of Document Management

Oracle Projects enables you to attach, store, and associate documents with a project on which you are a team member. To attach documents, you must have authority to access the corresponding project, task, or function. If you have access to a project, task, or function, then you automatically have access to all attached documents. A document can be in the form of a file, URL, , or a plain text box.

You can attach documents to:

- Agreements
- Budget and forecast versions
- Change documents
- Draft invoices
- Expenditures
- Issues
- Project assets
- Project funding
- Projects
- Resource requirements
- Status reports
- Summary of funding
- Tasks

You can attach the following types of documents:

- **Files:** A file is a computer file of any type such as a word processing file, text file, spreadsheet, or an image.
- **URLs:** A URL is a Web page address such as http:\\www.oracle.com.

- **Text:** You can also enter comments in a plain text format. For example, you can add a text note to a project explaining why a project was placed on hold until further notice.

Using Document Management

This section describes the process of attaching documents, editing documents that are already attached to a project, task, or function, using attachment categories, and working with document repositories. For additional information on working with attachments, see: *Oracle Applications User's Guide*.

Attaching and Editing Documents

This section describes how to attach different types of documents.

Attaching a File

You can upload multiple documents to make them available for other users working on a project. You can also upload an update for an existing document.

When you attach a file, you browse your desktop to locate the file you want to attach. Once the file has been selected, you can select an attachment category. Attachment categories enable you to classify attachments. You can optionally rename the file to make it more descriptive for other team members. When you update an existing document, you can decide whether to overwrite the file if it already exists.

Attaching a URL

You can attach a URL to a project, task, or other function. When attaching a URL, you enter a name and description for the URL. You can then select an attachment category and enter the full URL.

Attaching Text

You can enter plain text to add notation to a project, task, or function. You can attach a text box by giving the attachment a name and entering a description, if required. You can select an attachment category and enter the text that you want to attach.

Defining Attachment Categories

Attachment categories enable you to define the types of documents that can be attached to a project, task, or function. You can define attachment categories based on the common characteristics that a class of documents can have, and to improve search results and enforce business processes. For example, you can define an attachment category called *Mechanical Specifications* for documents that are related to mechanical specifications.

To define attachment categories, you must have the Application Developer responsibility. For information on defining attachment categories, refer to the *Oracle Applications Developer's Guide*.

Integrating with Document Repositories

Oracle Projects enables you to upload files to a document repository such as Oracle Files. For example, integrating Oracle Projects Document Management with Oracle Files enables you to attach both files and folders, and work spaces. You can also upload a file from your desktop to Oracle Files before you attach the file to a project, task, or function.

> **Note:** You do not need to install Oracle Files if you want to integrate Oracle Projects Document Management with another document repository.

For information on enabling integration Oracle Files, see: *Implementing Oracle Files with Oracle E-Business Suite* (Note 284077.1) on Oracle*MetaLink.* For additional information on using integration features, refer to Online Help.

10

Project Performance Management

This chapter describes features that enable project managers to monitor the performance of a project, identify problem areas and determine their severity, and track variances of actual performance against budgets, forecasts, and schedules.

This chapter covers the following topics:

- Overview of Project Performance Management
- Project Performance Reporting
- Project Status Inquiry
- Performance Exceptions Reporting
- Earned Value Management

Overview of Project Performance Management

Project performance management enables you to track and monitor financial and schedule-related performance for projects. You can also track and monitor schedule-related performance for programs.

Project performance reporting provides you with a graphical and tabular overview of performance. You can view performance at the project, task, and resource level, and by time period. Project performance reporting enables you to understand the sources of variances and make key business decisions to ensure that projects are completed on time and according to financial plans.

For example, you can compare the actual cost of a work item with the planned cost of the item and analyze the difference. You can then adjust your project budget and forecast to reflect the current performance of the project and develop an updated estimate of completed costs. In addition, you can use project performance exceptions reporting to identify exceptions for key metrics and take the appropriate actions to prevent or quickly resolve problems.

> **Note:** You cannot use project performance reporting features when you create budgets and forecasts that use budgetary controls and budget integration features. If your project uses budgetary controls or budget integration features, then you must use Project Status Inquiry features to monitor and track project performance. For more information, see: Project Status Inquiry, page 10-7.

Related Topics

Overview of Program Management, page 3-1

Creating Budgets and Forecasts With Budgetary Controls and Budget Integration, page 6-52

Project Performance Reporting

Project managers need to monitor and control projects to ensure completion within the scope of defined budgets, forecasts, and schedules. Project performance reporting provides you with an at-a-glance comparison of actual versus planned performance as defined in project budgets and forecasts. You can view performance in the areas of effort, cost, profitability, earned value, billing and collections, or capital costs.

The insightful information provided by project performance reporting enables you to make informed decisions. You can view project performance information at the project, task, and resource levels by time period. After viewing financial metrics for tasks and resources, you can drill down to view detailed transaction information such as commitments, expenses, and events. This enables you to analyze expenses already incurred for a particular task and to be aware of future expenses that are currently pending (for example, commitments).

Project performance reporting provides the ability to report performance metrics for a project based on a user-configured resource hierarchy (resource breakdown structure), as well as the financial structure of a project.

You can view amounts for project performance reporting in global, project, and project functional currencies. You can optionally enable a secondary global currency to view project performance information in an additional currency. This enables you to view critical project information in local currency and business unit currency, as well as in the global currency for your enterprise.

You can view information based on the global calendar, project calendar, or a fiscal (GL) calendar. If you perform project planning on a weekly basis and your fiscal reporting is monthly, then you can use the project calendar and fiscal calendars to view project performance information for the different periods.

You can view cost, profitability, and earned value information at the project level. This enables you to make informed decisions on controlling costs, generating revenue, and managing risks for the project as a whole. You can drill down to analyze cost and profitability information by task, resource, and time. This capability enables you to identify the specific tasks and resources that contribute to variances, and determine performance trends based on periodic (for example, monthly) amounts. You can view earned value information for tasks to understand how each task is performing in terms of cost and schedule.

Project performance reporting also enables you to choose one reporting dimension (for example, a task) and analyze that dimension by other reporting dimensions (for example, resources or time). To identify the cause of an actual versus budget cost variance for a task, you can select the task and view cost information by resource for only that task. For example, if a task reflects that the percent spent is 150%, which means that you are spending 50% more than what you had planned, then you can analyze the cost by resource to identify the resources that are causing the overage. You can then use this information to take corrective action.

Related Topics

Project Performance Reporting, *Oracle Projects Implementation Guide*

Reporting by Project

When you initially access project performance reporting for a project, Oracle Projects displays an overview page with several regions of graphical and tabular data that shows key performance measures for the project. These measures enable you to gauge the overall health of your project.

The displayed regions and measures vary depending on whether the project type is a contract, capital, or indirect project type. Project performance reporting provides a default overview page layout for each project type that can include the following regions:

- Financial Performance
- Cost
- Effort
- Revenue
- Earned Value
- Billability
- Billing and Collections

Your implementation team can optionally change the configuration of the performance overview page to meet your business needs. You can add and delete regions, and change the location of regions on the page. You can also add and delete measures, and move measures between regions. For example, if you do not use earned value to track cost and schedule, you can remove the Earned Value region and add a region showing backlog amounts.

You can navigate from the project-level performance overview page to task, resource, and periodic summary pages that enable you to drill down into the details of project performance. The project performance overview also shows the latest exception information and exception status indicators. You can click an exception status indicator to drill down into the details of each exception.

Reporting by Task

You can view progress information (such as percent complete and schedule information such as scheduled start and end dates) for work breakdown structure tasks in view workplan cost pages. You can view financial information (such as actual cost and revenue, planned cost and revenue from budgets and forecasts, and variances between actual and planned amounts) for financial structure tasks in project performance reporting pages.

You can view project performance reporting information for tasks at all levels of the financial structure. Oracle Projects rolls up amounts from lowest level tasks to higher-level tasks and to the project level. You can view trends for cost, commitments, revenue, margin, effort, and earned value for all periods throughout the duration of the project. You can compare actual costs to planned amounts, drill down to investigate overruns, and review and revise budgets and forecasts.

Oracle Projects determines the current reporting period based on the period you specify during setup and the calendar that you use to view project performance reports. Oracle

Projects determines earned value amounts based on planned and actual costs, and physical percent complete spanning the duration of the project from the start of the project through the current date.

Related Topics

Project Structures, *Oracle Projects Fundamentals*

Financial Structures, *Oracle Projects Fundamentals*

Reporting by Resource

You can view cost, profitability, and effort for resources. You can also compare actual costs to planned amounts, and drill down to detail amounts to investigate the causes of variances against budgets and forecasts.

To view project performance reporting information by resource, you must attach at least one resource breakdown structure to your project and designate it for primary reporting. The resource breakdown structure that you designate for primary reporting is used as the default resource breakdown structure for displaying information by resource on project performance reporting pages. You can optionally choose a different resource breakdown structure when you are viewing performance reporting pages.

Related Topics

Resource Breakdown Structures, *Oracle Projects Implementation Guide*

Associating a Resource Breakdown Structure with a Project Template, *Oracle Projects Fundamentals*

Associating a Resource Breakdown Structure with a Project, *Oracle Projects Fundamentals*

Reporting by Time

You can use a periodic view page to show cost and profitability information and compare the trends of actual versus planned financial amounts by period (for example, weeks, months, quarters, or years) across time. You can use a to-date view page to show project performance reporting information for the current period, a quarter, a year, or from inception of the project until a point in time.

A *periodic* view page enables you to view period-by-period trends in project performance and assists you in developing plans for future periods. You can use a periodic view page to spot fluctuations in project performance and determine the sources and causes of variances. For example, you can use a periodic view page to analyze how issues that caused higher costs in an earlier quarter or year were later resolved and worked out over an extended period of time.

A *to-date* view page enables you to analyze variances between actual and planned amounts for varying durations of time. This capability enables you to understand the effects of performance fluctuations and variances over time.

> **Note:** When you view project performance reporting pages, check the last summarization date to decide whether you should run the project performance reporting summarization processes to retrieve the latest timecards and expenses incurred for the project. Running these processes enables you to compare the latest actual and planned

amounts, and obtain a true picture of the to-date performance of your project.

Periodic View

Use a periodic view page to view period-by-period trends for cost, revenue, and margin information. You can view project performance reporting information for a specific calendar and currency. The calendar that you select for viewing determines the period length (for example, week, month, quarter or year).

To determine the duration for which project performance reporting information is displayed, Oracle Projects determines the start and end dates from one of the following sources in the order shown:

- The first and latest planning or costing transactions

- The project

- The calendar used for reporting

You can use a periodic view page to create a side-by-side comparison of project performance reporting information for several months, quarters, or years. You can also view trends for actual amounts in historical periods, and for planned amounts in future periods.

To-Date View

In a to-date view, you can view financial information for a project through a particular point in time. The following list describes the to-date amounts displayed in the available to-date views:

- **Prior Period:** Displays amounts for the calendar period prior to the current reporting period for the selected calendar

- **Period-to-Date:** Displays all amounts entered in the current reporting period for the selected calendar.

- **Quarter-to-Date:** Displays all amounts entered in the current quarter for the selected calendar

- **Year-to-Date:** Displays all amounts entered in the current year for the selected calendar

- **Inception-to-Date:** Displays all amounts entered since the start of the project

    Note: Vertical bar graphs display financial amounts such as budgeted margin percent and forecast margin percent in global currencies. Project performance reporting uses the end date of the current reporting period to calculate and display to-date information.

Related Topics

Performance and Exceptions Reporting Processes, *Oracle Projects Fundamentals*

Analyzing Performance

In addition to viewing cost, profitability, and effort information by tasks and resources, you can analyze information for a single task or resource by another reporting

dimension. This type of analysis enables you to perform a more thorough analysis of project cost and profitability.

For example, you can select a task and view amounts and variances for each resource assigned to the task. You can also view financial amounts for the task by month, quarter, or year. Additionally, you can view amounts incurred to-date for the current period, quarter, or year, or since inception of the project.

Similarly, you can select a resource and view amounts and variances for all tasks associated with the resource. You can also view financial amounts for the resource by month, quarter, or year. Additionally, you can view amounts incurred to-date for the current period, quarter, or year, or since inception of the project.

Viewing Detailed Amounts for Project Performance Reporting

Project performance reporting pages provide links for displayed cost and revenue amounts that you can click to drill down to the detailed financial amounts that make up the displayed amounts. You can view details for the following transaction information:

- **Expenditure Items:** You can drill down from total burdened and billable cost amounts to view actual costs incurred for a particular task and resource.

- **Commitments:** You can drill down from commitment amounts to view the individual commitments for a particular task.

    > **Note:** When you drill down to commitment amount details, Oracle Projects displays commitment amounts only from Oracle Purchasing and Oracle Payables. Commitment amounts from Oracle Manufacturing are not displayed.

- **Events:** You can drill down from revenue amounts at a project or top task level to view the individual events that constitute the total revenue amounts.

Customizing the Display of Project Performance Reporting Pages

Project performance reporting pages use a predefined page layout that is comprised of configurable tabular regions. Each region contains a predefined row sets of metrics (measures). You can optionally add or remove measures from a row set. In addition, you can use the Oracle Applications personalization features to add additional tabs such as *Effort*, and *Cost and Effort* to display project performance amounts for a single reporting dimension (for example, a task or resource) or a combination of reporting dimensions (for example, when you view information by resource for a task).

You can optionally add graphs from a repository of predefined graphs, and you can choose to hide the displayed graphs. Line graphs display cumulative amounts and trend information. Bar graphs display an analysis of amounts for a particular task. You can also use personalization features to configure graphs.

Project performance reporting determines the default page layout based on the type of project (indirect, capital, or contract). Oracle Projects provides a single predefined page layout for each project type. Your implementation team can optionally define additional page layouts and row sets based on your business needs, which you can select to replace the default page layouts and row sets for a project.

Using Personalization Features

Oracle Projects provides you with two levels of personalization for project performance reporting pages:

- Page personalization: Enables you to add, remove, and move tables and graphs on pages

- Region personalization: Enables you to add and remove rows and columns from tables

The following list summarizes the personalization options that are available for project performance reporting pages:

- Overview page: Page and region personalization

- Task and Resource pages: page personalization for graphs only, and region personalization for columns only

- Periodic View page: Page personalization, and region personalization for columns only

- To-Date View page: Page personalization, and region personalization for rows only

Adding Row Sets to a Tabular Region

Project performance reporting pages use predefined tabular regions that consist of sets of rows that contain a predefined set of measures. Your implementation team can optionally create additional row sets for project performance reporting. You can add or remove measures that are displayed in the rows for a particular table. You can add or remove measures from the Performance Overview page or from a to-date view page within a project. Use the Oracle Applications personalization features to add or remove measures within a table.

Related Topics

Defining Row Sets, *Oracle Projects Implementation Guide*

Configuring Sections, *Oracle Projects Implementation Guide*

Adding Page Layouts

Project performance reporting pages use predefined page layouts that vary based on the type of project. You can optionally replace the default page layouts with layouts created by your implementation team. Alternatively, you can create a new page layout for a page using the Oracle Applications page personalization features. To view or change a page layout associated with a project by your implementation team, navigate to the performance Page Layouts page from within a project.

Related Topics

Page Layouts, *Oracle Projects Implementation Guide*

Project Status Inquiry

Project Status Inquiry describes the project summary amounts that Oracle Projects maintains for project status tracking. In addition, it describes how you can use Project Status Inquiry (PSI) to review summary amounts and calculations by project, task, and resource. For example, you can review project summary amounts, or budget amounts

by budget type. You can also drill down to commitments, actuals, and events detail for tasks and resources.

Project Status Inquiry Overview

With Project Status Inquiry (PSI), you can review the current status of your projects and then drill down for more detailed review of a project and its tasks. Oracle Projects provides you with several features that allow you to control your search for project status information. For example, you can do the following:

- Limit your search for projects by entering search criteria
- Control the type of information that Oracle Projects displays by using custom folder definitions
- View summary information by project, task, and resource
- View summary information totals based on your search criteria
- Drill down from lowest tasks and resources to commitments and expenditure item details
- Drill down from projects, top tasks and lowest resources to events for contract projects

For transactions that involve foreign currencies, all amounts displayed in Project Status Inquiry are shown in the functional currency.

Reviewing Project, Task, and Resource Summary Amounts

You can review project summary amounts to quickly determine the status of your projects. After you review project summary amounts, you can drill down to see the summary amounts for the tasks of a project.

You also can drill down to see the summary amounts for the resources of the project or the selected task. You select the resource list by which you want to view actuals and budgets. By default, you drill down using the drilldown default resource list defined for the project. You can choose to drilldown by other resource lists assigned to the project.

In addition, you can export PSI data into a spreadsheet for further analysis. Choose Action, Export from any of the Project Status windows (Project, Task, or Resource) to export the data into a spreadsheet file. See: Export *Oracle Applications User's Guide*.

> **Note:** You can customize this folder to show the Project Status information that you need. See: Customizing the Presentation of Data in a Folder,*Oracle Applications User's Guide*.

> **Important:** Run the Update Project Summary Amounts process for your projects. The Project Status window uses the data that is summarized by this process. If you do not run this process, you will not be able to see any numbers in the Project Status window. See: Updating Project Summary Amounts, page 10-17.

To review project summary amounts:

1. Navigate to the Project Status window.
2. Enter the search criteria to find the project(s) you want to review.

3. Choose the Find button.

4. To view totals for the project rows returned based on your search criteria, choose Totals.

   Oracle Projects displays only the projects with a current budget that is summarized or with summarized actuals and commitments. A project's status also determines whether it will be displayed. See: .

   This window displays the Current Period as the current reporting period by which Oracle Projects calculates the values for projects. Amounts for all summarization brackets (period-to-date, prior period, year-to-date, and inception-to-date) are calculated as of the current reporting period. See: Maintaining To-Date Amounts, page 10-16.

To review task summary amounts:

1. From the Project Status window, select the project you want and then choose the Task Status button to review top tasks and their summarized amounts. Choose the Task button to review details for a selected task.

2. To drill down to review subtasks, select a top task, and then double-click on the selected task number to review the subtasks that are one level below the top task. Continue this for subsequent task levels.

To review resource summary amounts

- To review **project** resources, select a project in the Project Status window and choose the Resource Status button.

- To review **task** resources, select a task in the Task Status window, and then choose either the drilldown indicator or the Resource Status button. Oracle Projects displays the resource groups and resources in the resource list that are budgeted or have summarized actuals or commitments.

- To review resources below a resource group, select a resource group, and then double-click on the resource name.

To view actuals and commitments using a different resource list:

- Choose a different resource list that is assigned to the project from the Resource Drilldown List menu item on the Tools Menu.

Project Status Summarization Errors

The Summarization Exception column in the Project Status window displays messages describing errors that occurred during the summarization process.

Examples of these errors are:

- currency conversion errors were encountered while summarizing commitments

- the summarization period type has changed

- the project's tasks have been restructured by an AMG API

- the current reporting period has been rolled back to a date earlier than the last period accumulated for the project

- the project is closed

Using Factoring to Control Currency Display

Factoring enables you to control the multiples factor used to display the amounts.

You can use the factoring feature in PSI to make very large amounts easier to read. Factoring can be used for all PSI columns marked as enabled for factoring in the Project Status Column Setup window.

To change the factor in a PSI window

1. Navigate to the PSI Project, Task, or Resources window.

2. From the Tools menu, choose Factor By.

3. From the Factor By list of values, select a factor.

   For example:

   • Units - Displays amounts as calculated.

   • Tens - Displays amounts as multiples of ten (10 = 1.00).

   • Ten Thousands - Displays amounts as multiples of ten thousand (10,000 = 1.00).

   • Millions - Displays amounts as multiples of one million (1,000,000 = 1.00).

     This factor applies to all status folders during your current session, and is active until you exit Project Status Inquiry. The factor is not saved in the PSI folders.

To change the factor of a PSI column defined by the PSI client extension:

1. Use the PSI client extension to call the PA_STATUS.Get_Factor function and enable factoring for the amounts that the client extension calculates

Comparing Budget to Actual Commitments

You can review current and original budgeted amounts and compare them to actuals and commitment amounts.

You review the budgeted amounts for one cost budget type and one revenue budget type at a time.

The default cost budget type is the predefined Approved Cost Budget. The default revenue budget type is the predefined Approved Revenue Budget.

As prerequisites to review budgets and actual costs and commitments:

1. Enter and baseline a budget for the project. See: Entering or Revising a Budget Draft, page 6-54 and Creating a Baseline for a Budget Draft, page 6-68.

2. Run the Update Project Summary Amounts process for your projects. See: Updating Project Summary Amounts, page 10-17.

To review a different cost or revenue budget type:

1. Choose Cost or Revenue Budget Type from the Tools Menu.

2. You can choose a different cost or revenue budget type from all budget types from the Project Status window, regardless of active dates of the budget types. If you choose a budget type from the Task Status window, you can only select from the budget types assigned to the project.

Drilling Down to Actuals, Commitments, and Events Detail

The following drill down options are available for actuals, commitments, and events detail in the Task and Resource Status windows:

- You can drill down to see supporting actuals details for the project summary amounts as of the project's last summarized reporting period.

- You can drill down to see supporting commitment details for the commitment summary amounts as of the project's last summarized reporting period.

- You can drill down to see supporting revenue details, including expenditure items and events, for the project revenue summary amounts as of the project's last summarized reporting period.

- You can drill down from the Task Status window to the Oracle Payables Invoice Overview form.

The following table illustrates from which status windows you can drill down to actuals, commitments, and events detail, and any drilldown restrictions imposed by each window. The drilldown to events is only available for contract projects with Oracle Project Billing.

Window Name	Commitments	Actuals	Events	Restrictions
Project Status	X		X	
Task Status	X	X	X	You must select a lowest task before choosing the Commitments or Actuals button, or a top task before choosing the Events button.
Resource Status	X	X	X	You must select a lowest task before choosing the Commitments or Actuals button or a top task before choosing the Events button.

As prerequisites to view budget summarization information:

- Enter and create a baseline budget for the project. See: Entering or Revising a Budget Draft, page 6-54 and Creating a Baseline for a Budget Draft, page 6-68.

- Run the Update Project Summary Amounts for your projects. See: Updating Project Summary Amounts, page 10-17.

To review actuals details for a task or resource:

1. Navigate to the Project Status window.

2. Find the project(s) you want in the Find Project Status window.

3. Choose the **Actuals** button from either the Task Status or Resource Status window.

Use the Find Expenditure Items window to reduce the number of expenditure items that appear in the Expenditure Item Details window.

By default, Project Status Inquiry displays expenditure items incurred in the last period that was summarized for the project. To view expenditure items from prior periods in the Expenditure Items window, change the default date range using the Find Expenditure Items window. You can set the start date to the earliest possible date by choosing the Clear button.

To drill down to the Oracle Payables Invoice Overview window:

1. Navigate to the Project Status window.

2. Find the project(s) you want in the Find Project Status window.

3. Choose the **Actuals** button from the Task Status window.

Use the Find Expenditure Items window to reduce the number of expenditure items that appear in the Expenditure Item Details window.

4. Choose the **AP Invoice** button to view the related invoice in the Oracle Payables Invoice Overview form.

> **Note:** The AP Invoice button is only enabled (1) for expenditure items whose expenditure type class is either Supplier Invoices or Expense Reports, and (2) if function security is implemented in such a way that the user is able to see the button.

To review commitment details:

1. Navigate to the Project Status window.

2. Find the project(s) you want in the Find Project Status window.

3. Choose the **Commitments** button from either the Project Status, Task Status, or Resource Status window.

Use the Find Commitments window to reduce the number of commitments that appear in the Commitment Details window.

If you choose Commitments from the Project Status window, both project-level and task-level commitments are displayed.

To review event revenue details for a project, task, or resource:

1. Choose the **Events** button from the Project Status, Task Status, or Resource Status window.

For more information, see Expenditure Type Classes, and Function Security in the *Oracle Projects Implementation Guide*.

Reviewing Customer Invoices for a Contract Project

In the Project Status window, you can drill down to view either summary or detail information about customer invoices for contract projects.

To review customer invoices for a contract project:

1. Navigate to the Project Status window.

2. Find the contract project(s) you want in the Find Project Status window.

3. Choose a contract project in the Project Status window.

4. Choose the Invoices button.

Related Topics

Invoicing a Project, *Oracle Project Billing User Guide*

Project Summary Amounts

To facilitate fast and easy status reporting and inquiries, Oracle Projects maintains various levels of project summary amounts for cost, commitment, revenue, and budget amounts by project, task, and resource.

Oracle Projects maintains to-date amounts as follows:

- Period-to-Date Amounts (PTD)

- Prior Period Amounts (PP)

- Year-to-Date Amounts (YTD)

- Project or Inception-to-Date Amounts (ITD)

You can update project summary amounts anytime after you distribute costs, independent of when you interface costs and revenue to Oracle General Ledger. This allows you to have up-to-date information for project status reporting, independent of the accounting flow.

Related Topics

Drilling Down to Actuals, Commitments, and Event Details, page 10-11

Commitment Reporting, *Oracle Project Costing User Guide*

Resources and Resource Lists, *Oracle Projects Implementation Guide*

Budget Types, *Oracle Projects Implementation Guide*

Commitment Changes Extension, *Oracle Projects APIs, Client Extensions and Open Interfaces Reference*

Maintaining Summary Amounts

All amounts are held at the project, task, and resource levels except for non-labor quantities. Labor hours are summarized to the project and task levels based on the labor resource amounts. All other quantities that are not labor hours are summarized only to the resource level.

Actual Cost Amounts

Oracle Projects **summarizes the following cost amounts for expenditure items after the items are costed:**

- Raw Cost

- Billable Raw Cost (for contract projects only)

- Capitalizable Raw Cost (for capital projects only)

- Burdened Cost

- Billable Burdened Cost (for contract projects only)

- Capitalizable Burdened Cost (for capital projects only)
- Actuals Labor Hours
- Billable Labor Hours (for contract projects only)
- Actuals Quantity (for resources only)
- Billable Quantity (for resources only; for contract projects only)

Actual Revenue Amounts

Oracle Projects summarizes the following revenue amounts for billable expenditure items and events on contract projects after the revenue is released:

- Revenue

Budget Amounts

Oracle Projects summarizes budget amounts for the to-date values, in addition to total (at project completion) budget amounts, using the current and original budget versions of each budget type. When you run the Update Project Summary Amounts process, Oracle Projects deletes all previously summarized cost and revenue budget amounts and recreates the new budget to-date and total amounts.

Cost Budget Amounts
- Current Budget Raw Cost
- Original Budget Raw Cost
- Current Budget Burdened Cost
- Original Budget Burdened Cost
- Current Budget Cost Labor Hours
- Original Budget Cost Labor Hours
- Current Budget Cost Quantity (for resources only)
- Original Budget Cost Quantity(for resources only)

Revenue Budget Amounts
- Current Budget Revenue
- Original Budget Revenue
- Current Budget Revenue Labor Hours
- Original Budget Revenue Labor Hours
- Current Budget Revenue Quantity (for resources only)
- Original Budget Revenue Quantity (for resources only)

Reconciling Budget Periods to Summarization Periods

If a budget period does not match the summarization period or the budget is not time-phased, the summarization process must apportion the budget amounts into the summarization periods.

If a budget is not time-phased, Oracle Projects determines the budget start and end dates based on the project or task start and end dates, as illustrated in the following table:

Budget Entry Level	How the Budget Period is Determined
Project	Project Start and End Dates
Task (where start and end dates have been entered for the task)	Task Start and End Dates
Task (where start and end dates have not been entered for the task)	Project Start and End Dates

Reconciling Summarization by PA Period

If summarization is by PA period, the summarization process divides the amounts into PA periods. If a budget period spans PA periods, the process prorates the amounts by day.

Reconciling Summarization by GL Period

If summarization is by GL period, the summarization process uses the following logic:

1. Divide the amounts into PA periods, prorating the amounts by day if a budget period spans PA periods.

2. Summarize the amounts in the GL period that includes the ending date of the PA period determined in step 1.

   The following illustration shows an example of reconciling summarization by GL Periods.

Summarization by GL Periods
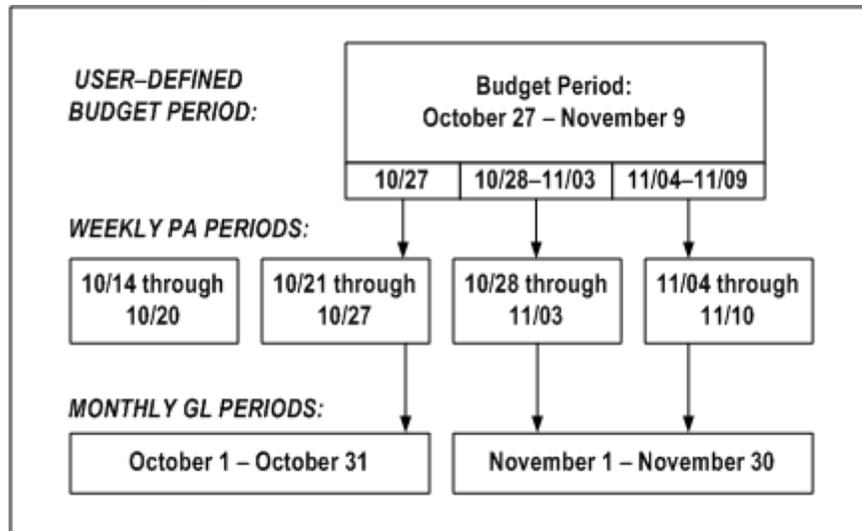
In the above illustration , the user-defined budget period is October 27 through November 9. The first budget period is October 27, the second budget period is October 28 through November 3, and the third budget period is November 4 through November 9. Summarization of budgeted amounts is by GL period. The summarization process is as follows:

1. Divide the budgeted amounts into weekly PA periods.

2. Divide the October 27 budget into the PA period October 21 through October 27.

3. Divide the budget for the budget period October 28 through November 3 into the PA period October 28 through November 3.

4. Divide the budget for the budget period November 4 through November 9 into the PA period November 4 through November 10.

5. Summarize the amounts in the monthly GL period that includes the ending date of the PA period determined in step 1.

6. Summarize the amount divided into the PA period October 21 through October 27 in the GL period October 1 through October 31.

7. Summarize the amounts divided into the PA periods October 28 through November 3, and November 4 through November 10, in the GL period November 1 through November 30.

Commitment Amounts

The summarization process updates the following commitment amounts:

• Commitment Raw Cost

• Commitment Burdened Cost

When you run the summarization process, Oracle Projects checks the commitments for each project to see if any of the following changes have occurred:

• new commitments have been added

• a commitment has been fully or partially converted to cost (for example, a purchase order has been matched by a supplier invoice)

• the status of a commitment has changed from Unapproved to Approved

If any of these changes have occurred, the commitment summary amounts are deleted and recreated.

If you have modified the Oracle Projects commitments view, PA_COMMITMENT_TXNS_V, you must also modify the Commitment Changes client extension to test for changes in commitments.

Maintaining To-Date Amounts

Oracle Projects maintains to-date summary amounts as follows:

• Period-to-Date Amounts (PTD)

• Prior Period Amounts (PP)

• Year-to-Date Amounts (YTD)

• Project or Inception-to-Date Amounts (ITD)

You also specify the current reporting period through which the to-date values are maintained.

The prior-period summary amounts are the period-to-date summary amounts for the previous reporting period. The period-to-date, year-to-date, and inception-to-date amounts are summarized in relation to the current reporting period.

Oracle Projects derives the year-to-date values using the accounting year of the GL period associated to the current reporting period.

Summarization Period Type

During implementation, you define whether to maintain these to-date amounts by PA period or GL period. You specify this in the Implementation Options window.

Current Reporting Period

The current reporting period defines the period through which the amounts are summarized for all projects in your system. A common reporting period facilitates cross-project reporting.

Setting The Current Reporting Period

You set the current reporting period used in maintaining project summary amounts in the PA Periods window. You can select any PA period that is later than the current reporting period.

Typically, you set the current reporting period in one of two ways:

- Use the closed PA period before the current open period for new transactions. This method provides a static view of the project summary amounts and gives a historical view through the last period.

- Use the current PA Period open for transactions. This provides a dynamic view of the project summary amounts, because you can update the values for all new transactions entered each day.

    Note: You must have defined PA periods.

To query the current reporting period

1. Navigate to the PA Periods window. Query the PA Period with the Reporting Period box checked. This is the current reporting period.

To change the current reporting period

1. Navigate to the PA Periods window.

2. Choose the Set Reporting Period button.

3. Accept the default or change the Next Reporting period to another future period.

4. Choose OK. Oracle Projects uses the New Reporting Period you specify for subsequent project summary amount processing and reporting.

    Optionally, submit the Update Project Summary Amounts process for all projects in your system to update the project summary amounts using the new current reporting period. See: Updating Project Summary Amounts, page 10-17.

Updating Project Summary Amounts

You run the Update Project Summary Amounts process to update the project summary amounts with new cost, commitment, and revenue transactions and any new baselined budget versions. You can run this process as many times as you want.

If you maintain to-date amounts by GL period, select the PA period in the PA Periods window that is the first PA period of the GL period that you are selecting as the current reporting period.

You run the Update Project Summary Amounts After a Resource List Change process when you have changed the resource list and want to map historical transactions to resources using the new resource list.

Prerequisites are:

- Enter expenditure items and distribute costs (optional).

- Accrue and release revenue (optional).

- Create new commitments (optional).

- Create a new current budget (optional).

- Set the current reporting period.

To update project summary amounts:

1. Navigate to the Submit Request window.

2. Choose the PRC: Update Project Summary Amounts process or the PRC:Update Project Summary Amounts After a Resource Change process.

3. Enter the project range or project number for which you want to update summary amounts. You may choose to submit this process many times for different project ranges.

4. Optionally, enter other options to control what Oracle Projects updates.

5. Choose Submit.

To update project summary amounts after changing a resource list

1. Choose PRC: Update Project Summary Amounts After a Resource List Change process in the Submit Request window.

2. Enter the From/To Project Number and Resource List Name. You may choose to submit this process many times for different project ranges.

3. Choose Submit.

Creating Project Summary Amounts after Conversion

After you have converted detail transactions from your legacy system to Oracle Projects, you can create project summary amounts using these processes:

- Update Project Summary Amounts

  Use this process to create the project summary amounts from the detail transactions that you have converted.

- Refresh Transaction Summary Amounts

  Use this process if you are converting large numbers of detail transactions for projects and want to build the summary amounts in smaller processing units. You first run the Refresh Transaction Summary Amounts process to create transaction summary amounts upon which project summary amounts are created. You then run the Update Project Summary Amounts process to create the project summary amounts.

To create project summary amounts after conversion:

1. Navigate to the Submit Request window and choose PRC: Update Project Summary Amounts.

2. Enter the project range parameter. You may submit many requests for different project ranges.

3. Choose Submit.

To create project summary amounts after conversion by first creating transaction summary amounts from a project's detail transactions:

1. Navigate to the Submit Request window and choose PRC: Refresh Transaction Summary Amounts.

2. Enter the project range, period range, and expenditure type class parameters. You may submit many requests for different project ranges, period ranges, or expenditure type classes.

3. Choose Submit.

4. After you have built all the transaction summary amounts, run the PRC: Update Project Summary Amounts process to create the project summary amounts. See Updating Project Summary Amounts, page 10-17.

Troubleshooting Project Summary Amounts

Use the following reports to troubleshoot project summary amounts.

Summarization Log

If you suspect that the project summary amounts do not properly reflect the source detail, a good way for you to start troubleshooting is to examine the log file produced by the Update Project Summary Amounts process. The summarization log shows the following information related to a project-level summarization:

• The submission parameters for the process

• Before and after numbers for actuals

• Before and after numbers for each budget type

Careful examination of the summarization log can provide evidence as to whether the problem originated in the summarization process or some other aspect of the Oracle Projects application.

Update Project Summary Amounts Report

The Update Project Summary Amounts Report, which is produced by the Update Project Summary Amounts process, lists all costs, revenue, budget amounts, and commitments that were summarized during the process.

This report also lists *future period transactions*. Future period transactions are transactions whose PA Period is later than the current PA reporting period. Any transactions appearing in this section have not been summarized by the Update Project Summary Amounts process, and will not be reflected in the Project Summary window. To summarize these transactions, you must set the current reporting period to a PA Period equal to or later than the PA Period of these transactions.

Summarizing Actuals and Commitments by Resource

Oracle Projects summarizes actuals and commitments by resource when you update project summary amounts.

Oracle Projects automatically maps each transaction to one resource in each resource list assigned to the project to which the transaction is charged. This mapping is based on the following: employee or supplier, expenditure organization, and expenditure type of the transaction; you do not have to specify the resource when you enter the transaction.

Oracle Projects maps each transaction to a resource based on the combination of the resource and its resource group. For example, you can enter an organization resource of Risk Analysis under both the resource groups of Labor and Other Expenses in one resource list. Timecards for the Risk Analysis organization map to the resource of Risk Analysis under the Labor resource group, and expense reports for the Risk Analysis organization map to the Risk Analysis resource under the Other Expenses resource group.

Precedence-Based Mapping of Transactions to Resources

There are cases in which one transaction could map to more than one resource in a resource list. For example, you may have entered both an employee resource for Marlin and a job resource of Senior Consultant under the Resource Group of labor. Amy Marlin, a senior consultant, charges labor to the project using this resource list. Marlin's labor transaction can be mapped to both resources. However, Oracle Projects ensures that each transaction maps to only one resource in a resource list by utilizing a precedence-based mapping to determine which resource in the resource list is mapped to each transaction. Oracle Projects predefines the precedence of each resource type for each expenditure type class. The resource types that are more specific are ranked higher and thus are used to summarize the transaction amounts.

The precedence by resource type is as follows:

1. Employee and Supplier

2. Job

3. Organization

4. Expenditure Type and Event Type

5. Expenditure Category and Revenue Category

For example, an employee resource is used before a job resource is used.

When a Transaction Does Not Map to a Resource

It is possible that a transaction cannot be mapped to any resource defined in the resource list. Oracle Projects maps such transactions to an *Unclassified* resource.

If you discover that transactions are mapped to an Unclassified resource, and you subsequently want to change the resource list to ensure that all transactions are mapped to a resource, you can add the appropriate resource to the resource list and then update the project summary amounts after a resource list change.

Changing the Resource List After the Resource List is Used in Summarization

You may need to change your resource list after you have used it for summarization for status reporting. Some reasons for this may be due to new employees or organizations defined for your company, if you use employees and organizations as resources, or because your company has decided to classify expenses in a different way, thus disabling use of an expenditure type.

When you change a resource list, the new resource may change the way a transaction is mapped to a resource. In such a case, you need to decide how to handle the transactions

that have already been summarized using the resource list precedence that existed before you made the change. You may choose to leave the historical transactions summarized as they are and have new transactions summarized using the new precedence. For more consistency in the summarization, you can summarize all historical transactions mapped to resources in that resource list again so that they use the new resource precedence by running the PRC: Update Project Summary Amounts after a Resource List Change process.

Case Study: Summary Amounts for Reporting

This case study demonstrates summarization of project actual and budget amounts by resource lists and periods.

Background of Market Analysis Project

This case study illustrates how you can maintain project summary amounts and use them for custom reporting.

Project and Work Breakdown Structure

Fremont Corporation has been contracted to perform a market study and present the findings. It is a six week project involving several different resources. The project number is PAR01.

James Robinson is the project manager, and has planned the project work breakdown structure and resources shown in the following table:

Task Number	Task Name	Start Date	Completion Date	Planned Resources
1	Analysis			
1.1	Onsite client interviews			Merlin, Travel, Outside Services
1.2	Computer Model			
1.2.1	Create model			Sr. Consultant, In-House Recoverables
1.2.2	Run tests			Sr. Consultant
2	Presentation			Robinson, Travel

Amy Marlin will lead the first phase of the analysis, which is to conduct client interviews at the client site. The client site is located in a different city than Marlin's office; therefore, she will be incur some travel costs. Robinson plans to use an outside consulting firm to help with a specialized area of the interview process. He has not yet arranged for a specific outside consulting firm to help with the work, but he knows the dates when they are needed and the amount that he can spend for outside consulting.

The second phase of the analysis is to create and run tests in a computer model based on the input from the client interviews. Robinson knows that it will take the skills of a senior consultant to create and run tests in this model, but he is still looking for an available

resource. Creating and using the model requires extensive computer resources, for which Robinson is reserving one of the high powered, company-owned computers.

Robinson will present the findings to the client after the analysis is complete. He will travel to the client site to give this presentation.

The table above shows the work breakdown of this project.

Project Resource List Assignments

For employee utilization, Fremont Corporation uses these resource lists:

- Labor by Employee and Job, Non-Labor by Expenditure Type

- Labor by Organization, Non-Labor by Expenditure Type

Oracle Projects automatically assigns these lists when you use a project template to create the new project, because they are assigned to the project template.

Fremont Corporation defines the resource lists shown in the following tables. The following table shows the Labor by Employee and Job, Non-Labor by Expenditure Type resource list:

Resource Group	Resource	Resource Type
Labor	Risk Analysis	Organization
	Data Systems	Organization
Travel	Air Travel	Expenditure Type
	Automobile Rentals	Expenditure Type
Outside Services	Consulting	Expenditure Type
	Construction	Expenditure Type
Material	Material	Expenditure Type
In-House Recoverables	Computer Systems	Expenditure Type
	Field Equipment	Expenditure Type
	Vehicle	Expenditure Type
Other Expenses	Entertainment	Expenditure Type
	Equipment Rental	Expenditure Type

The following table shows the Labor by Employee and Job, Non-Labor by Expenditure Type resource list:

Resource Group	Resource	Resource Type
Labor	Gray, Donald	Employee
	Marlin, Amy	Employee
Labor	Principle Consultant	Job
	Staff Consultant	Job
Travel	Air Travel	Expenditure Type
	Lodging	Expenditure Type
	Meals	Expenditure Type
Outside Services	Consulting	Expenditure Type
	Construction	Expenditure Type
Material	Material	Expenditure Type
In-House Recoverables	Computer Services	Expenditure Type
	Field Equipment	Expenditure Type
	Vehicle	Expenditure Type
Other Expenses	Entertainment	Expenditure Type
	Supplies	Expenditure Type

PA Periods

Fremont Corporation set up the PA periods shown in the following table:

PA Period	Start Date	End Date
P12-01-95	27-NOV-95	03-DEC-95
P12-02-95	04-DEC-95	10-DEC-95
P12-02-95	11-DEC-96	17-DEC-95
P12-04-95	18-DEC-96	24-DEC-96
P01-01-96	25-DEC-95	31-DEC-95
P01-02-96	01-JAN-96	07-JAN-96
P01-03-96	08-JAN-96	14-JAN-96
P01-04-96	15-JAN-96	21-JAN-96
P01-05-96	22-JAN-96	28-JAN-96
P02-01-96	29-JAN-96	04-FEB-96
P02-02-96	05-FEB-96	11-FEB-96
P02-03-96	12-FEB-96	18-FEB-96
P02-04-96	19-FEB-96	25-FEB-96
P03-01-96	26-FEB-96	03-MAR-96
P03-02-96	04-MAR-96	10-MAR-96
P03-03-96	11-MAR-96	17-MAR-96
P03-04-96	18-MAR-96	24-MAR-96

Budgets for the Project

Robinson creates the cost and revenue budget for the project with the following
attributes:

Resource List	Budget Entry Method	Notes
Labor by Employee and Job	Lowest Task, PA Period	Budet by resource

The following cost budget worksheet shows raw and burdened cost budgets:

Task	Resource	Period	Quantity	Unit of Measure	Raw Cost	Burdened Cost
1.1	Marlin	P12-02-95	30	Hours	1,500	3,750
	Travel	P12-02-95			1,000	1,200
	Marlin	P12-03-95	30	Hours	1,500	3,750
	Travel	P12-03-95			1,000	1,200
	Outside Services	P12-04-95			5,000	5,000
1.2.1	Senior Consultant	P01-01-96	40	Hours	2,000	5,000
	In-House Recoverables	P01-01-96			500	750
1.2.2	Senior Consultant	P01-02-96	80	Hours	4,000	10,000
2	Robinson	P01-03-96	50	Hours	5,000	12,500
	In-House Recoverables	P01-03-96			1,000	1,000
	Travel	P01-03-96			1,500	1,800
					Total: 24,000	**Total**: 45,950

Transactions and Commitments

Transactions and one commitment are charged to the project. A small number of transactions are charged to different employees, across multiple Oracle Projects PA periods, for the duration of the project. The project number is PAR01. These transactions are shown in the following four tables.

Transactions Incurred by Employee Marlin

The following transactions are charged by employee Marlin to task number 1.1 and to the organization *Data Systems*.

Expenditure Ending Date	Type	Amount	Unit of Measure	Raw Cost	Burdened Cost	PA Period	Resource Mapping By Employee and Job	Resource Mapping By Organization
10-Dec-95	Professional	30	hours	1,050	3,061	P12-02-95	Marlin, Amy	Data Systems
10-Dec-95	Air Travel	800		800	920	P12-02-95	Air Travel	Data Systems
17-Dec-95	Professional	30	hours	1,050	3,061	P12-03-95	Marlin, Amy	Data Systems
17-Dec-95	Air Travel	750		750	863	P12-03-95	Air Travel	Data Systems

Transactions Incurred by Employee Prothia

The following transactions are charged by employee Prothia for task number 1.2.1, in PA Period P01-01-96. The expenditure ending date is 31-Dec-95.

Organization	Type	Non-Labor Organization / Resource	Amount	Unit of Measure	Raw Cost	Burdened Cost	Resource Mapping By Employee and Job	Resource Mapping By Organization
Data Systems	Professional		40	hours	1,000	2,915	Senior Consultant	Data Systems
	Computer Services	Information Services / Computer	280		280	280	Computer Services	Data Systems

Additional Transactions Incurred by Employee Prothia

The following transactions are charged by employee Prothia in PA Period P01-02-96. The first transaction is charged to task 1.2.2, and the second transaction is charged to task 2. The expenditure ending date of the transactions is 7-Jan-95.

Organization	Type	Non-Labor Organization / Resource	Amount	Unit of Measure	Raw Cost	Burdened Cost	Resource Mapping By Employee and Job	Resource Mapping By Organization
Data Systems	Professional		80	hours	2,000	5,831	Senior Consultant	Data Systems
	Computer Services	Information Services / Computer	350		350	350	Computer Services	Environmental

Transactions Incurred by Employee Robinson

The following transactions are charged by employee Robinson to task number 2 and organization Environmental.

Expenditure Ending Date	Type	Amount	Unit of Measure	Raw Cost	Burdened Cost	PA Period	Resource Mapping By Employee and Job	Resource Mapping By Organization
14-Jan-95	Professional	50	hours	1,500	4,373	P01-03-96	Robinson, James	Environmental
14-Jan-95	Air Travel	1,450		1,450	1,668	P01-03-96	Air Travel	Environmental

Commitments

Typically, open commitments are recognized in the current reporting period. To help illustrate this, an open commitment is recognized in the first period of the project. The commitment is a purchase order created for an outside interview consulting firm for the PA period P12-02-95 and interfaced from Accounts Payable to Oracle Projects in PA period P01-03-96, but posted to P12-02-95, as shown in the following table. In the last period of the project, the commitment is closed. The effect of opening and closing the commitment is reflected in the exhibits.

Expenditure Ending Date	Type	Project Number	Task Number	Amount	Raw Cost	Burdened Cost	PA Period	Resource Mapping by Employee and Job	Resource Mapping by Organization
10-Dec-95	Consulting	PAR01	1.1	5,200	5,200	5,200	P12-02-95	Consulting	Administration

The total raw cost for the project is $15,430. The total burdened cost is $28,522. These totals include both actuals and commitments.

Reviewing Amounts in Project Status Inquiry

Robinson reviews the transactions for project PAR01 online in the Project Status Inquiry windows, using the current reporting period of P01-02-96.

Exhibit 1: Initial Project Status View for First Reporting Period

Initially, Robinson reviews the summary amounts for the entire project in the Project Status window, using the 'Labor by Employee and Job, Non-Labor By Expenditure Type' resource list, as shown in the following table. Only one row of summary actuals and budgets display on the Project Status window. Note the open commitment amount.

Project	PP Cost Budget	PP Actual Cost	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Actual Cost	ITD Cost Budget	ITD Actual Cost	Variance	Cmt Amount
PAR01	5,750	3,195	10,000	6,181	15,750	9,376	30,650	17,280	13,370	5,200

Exhibit 2: Initial Resource Status View

Then, Robinson drills down to the Resource Status window to view the major resource groups budgeted for the project, as shown in the following table.

Resource	PP Cost Budget	PP Actual Cost	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Act. Cost	ITD Cost Budget	ITD Act. Cost	Variance	Cmt Amount
Labor	5,000	2,915	10,000	5,831	15,000	8,746	22,500	14,868	7,632	-
Travel	-	-	-	-	-	-	2,400	1,783	617	-
Outside Services	-	-	-	-	-	-	5,000	-	5,000	5,200
In-house Recoverables	750	280	-	350	350	630	750	630	120	-

Exhibit 3: Drilldown to Resources

For each resource group, Robinson drills down to the supporting second-level resources, actuals and budgets, as shown in the following table.

Resource	PP Cost Budget	PP Actual Cost	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Act. Cost	ITD Cost Budget	ITD Act. Cost	Variance	Cmt Amount
Labor	5,000	2,915	10,000	5,831	15,000	8,746	22,500	14,868	7,632	-
Marlin, Amy	-	-	-	-	-	-	7,500	6,122	1,378	
Robinson, James	-	-	-	-	-	-	-	-	-	
Sr. Consultant	5,000	2,915	10,000	5,831	15,000	8,746	15,000	8,746	6,254	
Travel	-	-	-	-	-	-	2,400	1,783	617	-
Air Travel	-	-			-	-	-	1,783	(1,783)	
Outside Services	-	-	-	-	-	-	5,000	-	5,000	5,200
Consulting	-			-	-	-	-	-	-	5,200
In-house Recoverables	750	280	-	350	750	630	750	630	120	-
Computer Services		280		350	-	630	-	630	(630)	-

Exhibit 4: Alternate Organization Drilldown to Resources

Robinson also wants to see employee utilization by organization. So, he selects an alternate resource list, 'Labor by Organization, Non-Labor by Expenditure Type'. He then drills down from the Project Status window to the second-level resources on the Resource Status window, as shown in the following table.

Resource	PP Cost Budget	PP Actual Cost	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Act. Cost	ITD Cost Budget	ITD Act. Cost	Variance	Cmt Amount
Labor	-	2,915	-	5,831	-	8,746	-	14,868	(14,868)	-
Data Systems	-	2,915	-	5,831	-	8,746	-	14,868	(14,868)	
Travel	-	-	-	-	-	-	-	1,783	(1,783)	-
Air Travel	-	-			-	-	-	1,783	(1,783)	
Outside Services	-	-	-	-	-	-	-		-	5,200
Consulting		-			-	-	-	-	-	5,200
In-house Recoverables	-	280	-	350	-	630	-	630	(630)	-
Computer Services	-	280	-	350	-	630	-	630	(630)	-

Summary Amounts After Current Reporting Period Changes

When the reporting period changes to P01-03-96, Robinson once again reviews the Project and Resource Status of project PAR01, using the 'Labor by Employee and Job, Non-Labor by Expenditure Type resource list', as shown in the following tables.

The prior period, period-to-date, year-to-date, and inception-to-date actuals and budgets have changed to reflect the new reporting period's actuals and budgets. The commitment amount no longer appears on the status windows because it was closed in an earlier reporting period.

Exhibit 5: Initial Project Status View After Current Reporting Period Change

Project	PP Cost Budget	PP Actual Cost	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Actual Cost	ITD Cost Budget	ITD Actual Cost	Variance	Cmt Amount
PAR01	10,000	6,181	15,300	6,040	31,050	15,416	45,950	28,521	17,429	-

Exhibit 6: Initial Resource Status View After Current Reporting Period Change

Resource	PP Cost Budget	PP Actual Cost	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Act. Cost	ITD Cost Budget	ITD Act. Cost	Variance	Cmt Amount
Labor	10,000	5,831	12,500	4,373	27,500	13,119	35,000	19,241	15,759	-
Travel	-	-	1,800	1,668	1,800	1,668	4,200	3,450	750	-
Outside Services	-	-	-	-	-		5,000	5,200	(200)	-
In-house Recoverables	-	350	1,000	-	1,750	630	1,750	630	1,120	-

Exhibit 7: Drilldown to Resources After Current Reporting Period Change

Resource	PP Cost Budget	PP Actual Cost	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Act. Cost	ITD Cost Budget	ITD Act. Cost	Variance	Cmt Amount
Labor	10,000	5,831	12,500	4,373	27,500	13,119	35,000	19,241	15,759	-
Marlin, Amy	-	-	-	-	-	-	7,500	6,122	1,378	
Robinson, James	-	-	12,500	4,373	12,500	4,373	12,500	4,373	8,127	
Sr. Consultant	10,000	5,831	-	-	15,000	8,746	15,000	8,746	6,254	
Travel	-	-	1,800	1,668	1,800	1,668	4,200	3,450	750	-
Air Travel	-	-	-	1,668	-	1,668	-	3,450	(3,450)	
Outside Services	-	-	-	-	-	-	5,000	5,200	(200)	-
Consulting	-	-	-	-	-	-	-	5,200	(5,200)	
In-house Recoverables	-	350	1,000	-	1,750	630	1,750	630	1,120	-
Computer Services	-	350	-	-	-	630	-	630	(630)	-

Summary Amounts After Budget Changes

During the last period of the project (P01-03-96), Robinson receives a change order from the clients based on recent negotiations for increased scope, so he can now increase all

budgets by ten percent. He baselines the new budget version, reruns the update project summary amounts process, and reviews the status of the project once more.

All prior period, period-to-date, year-to-date, and inception-to-date budgets now reflect a ten percent increase, as shown in the following table. The actuals remain unchanged.

Exhibit 8: Initial Project Status View After Budget Changes

Project	PP Cost Budget	PP Actual Cost	PTD Cost Budget	PTD Actual Cost	YTD Cost Budget	YTD Actual Cost	ITD Cost Budget	ITD Actual Cost	Variance	Cmt Amount
PAR01	11,000	6,181	16,830	6,040	34,155	15,416	50,545	28,521	22,024	-

Performance Exceptions Reporting

Project performance exceptions reporting enables project managers to view a summary of problems and issues on a project through visual status indicators that denote exceptions. These status indicators provide you with an immediate understanding of critical, at risk, and on track issues on the project. The status indicators are tracked at three different levels:

1. **Measure Level:** The status generated for each measure is identified as an exception. Status indicators are reported on key metrics such as cost variance of actual versus budget and the difference between estimated and schedule project end dates.

2. **Key Performance Area Level:** Status indicators are reported for key performance areas such as financial and schedule. The status indicators are determined based on all exceptions that have been recorded at measure level within a particular key performance area.

3. **Project Level:** A single status indicator is available for the project. The status indicator for project level is determined by choosing the worst indicator among all key performance areas as the project indicator. You can use the *Project Performance Status* client extension to modify this logic.

Project performance exceptions reporting features enable you to focus your time and energy on solving critical problems faced on a project. These features inform you about the problem areas and enable you to focus your efforts on solving the problems instead of finding them.

You can drill down to the details of a single exception, and enter or review remarks and reminders for corrective actions. To report exceptions and key performance area statuses on a project, you must associate performance rules (defined for a measure) and key performance area scoring rules (defined for a key performance area) to the project. Your implementation team creates these rules.

You can use the *Generate Performance Scores and Notifications* concurrent process to generate exceptions and calculate key performance area scores to derive key performance area status indicators. You can run this process manually or schedule it to run periodically (for example, every day or once a week) depending on your business needs. You can also generate the latest exceptions and key performance area status indicators online for a single project from the exceptions list page.

You can set up performance exceptions reporting to communicate key performance area performance statuses and exceptions to key stakeholders via e-mail. To accomplish

this, your implementation team must create an automated report type with a layout that includes all information that you want to send to your stakeholders. You can schedule the Generate Performance Scores and Notifications process to send automated status report notifications to the recipients that you designate.

> **Note:** If a project is also a program (with other projects linking into it), Oracle Projects determines exceptions for schedule (date-based) measures from the rolled-up dates from all linked projects for the program. However, Oracle Projects always determines exceptions for financial and effort amounts at the project level.

Related Topics

Performance and Exceptions Reporting Processes, *Oracle Projects Fundamentals*

Generate Performance Scores and Notifications, *Oracle Projects Fundamentals*

Performance Exceptions Reporting, *Oracle Projects Implementation Guide*

Project Performance Status Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*

Adding Performance and Scoring Rules

You can view exceptions, key performance area statuses, and overall performance status of a project if performance rules and key performance area scoring rules are attached to the project. Typically, when you create a project from a template, the performance rules and key performance area scoring rules attached to the template will be inherited by the project.

If you have the proper authority, you can add and remove performance rules and key performance area scoring rules from a project. Your implementation team can control your ability to choose the exceptions that are reported on a project by enabling or disabling your access to the pages that allow you to select performance rules and key performance area scoring rules. If you have the proper authority, you can add or remove rules for a project from the Performance Rules and Key Performance Area Scoring Rules pages.

> **Note:** If more than one performance rule exists for a measure (for example, on different calendars) and you add all of these occurrences to a project, this can cause the resulting key performance area scores and statuses to be artificially inflated.

Related Topics

Defining Performance Rules and Exceptions, *Oracle Projects Implementation Guide*

Defining Key Performance Areas and Scoring Rules, *Oracle Projects Implementation Guide*

Calculating Scores on Demand for Key Performance Areas

Performance rules defined for measures indicate the ranges of acceptable and unacceptable values. During evaluation, if a performance measure falls in the range of unacceptable values, then Oracle Projects generates exceptions.

The weighting value associated with a threshold range in the performance rule where a measure falls is summed up with other weighting values to determine the key

performance area score. To determine the status indicator of the key performance area, project performance reporting compares the score against the threshold ranges defined in the scoring rule for the key performance area. Finally, the overall performance status for the project is determined using the worst case status indicator for the key performance area.

You must define weighting values for performance rules if you want to derive statuses for key performance areas and a single overall status for the project. A weighting value is not a multiplier. Rather, it is a value that is passed to the parent key performance area of a performance rule, and is derived from the applicable threshold range for each performance measure. Performance exceptions reporting sums the weighting values from individual performance rules at the key performance area level. The key performance area scoring rules threshold is then applied to determine the status indicator for the key performance area. Sometimes, this process may result in a perceived mismatch between the individual performance rule statuses and the key performance area status. For example, performance rules may return a status of *At Risk*. However, the key performance area may return a status of *Critical*. This situation can arise because the total weighting associated with the *At Risk* value threshold from all performance rules may add up to a key performance area score that falls in the *Critical* range of the scoring rules for the key performance area.

You can schedule the activities of exception generation, key performance area score calculation, and sending automated e-mail notifications to stakeholders using the *PRC: Generate Performance Scores and Notifications* concurrent process. To ensure agreement and relevance between the key performance area statuses, exceptions, and e-mail notifications generated by the process, Oracle Projects recommends that you set up the process to perform all three performance exception reporting activities with the same frequency. If you schedule each activity with a different frequency, the resulting notifications may display an exception count that is not compatible and does not tally with the key performance area score.

Example

If your business needs require you to generate exceptions on a more frequent basis than you want to calculate key performance area scores and send automated e-mail notifications, you can optionally update key performance area scores on an as-needed basis by selecting an option to refresh the key performance area information.

For example, you may want to generate exceptions on a daily basis so that project managers have the most current information. However, you may want to only calculate key performance area scores and send status notifications to key stakeholders on a weekly basis. In such cases, a notification that is generated and sent out on a Friday will reflect the exceptions and key performance area scores that were generated as of that day. If a project manager comes to the office on Monday and sees that additional exceptions were generated since Friday, and he wants to determine their impact on key performance area scores and statuses, he can choose the refresh option to immediately update the key performance area scores. The e-mail notifications are generated only when the concurrent process is run, either manually or on a periodic basis.

Related Topics

Generate Performance Scores and Notifications, *Oracle Projects Fundamentals*

Performance and Exceptions Reporting Processes, *Oracle Projects Fundamentals*

Managing Exceptions

The color-coded indicators used by project performance exceptions reporting indicate the severity associated with the value of a key performance area measure and status. You can drill down to the details of an exception by clicking the exception icon status, record remarks, or the corrective action that must be taken. You can also track the corrections.

Each comment that you enter for an exception is recorded by name, date, and time. You can enter more than one comment for an exception. For example, if a severe exception or cost variance occurs, you can enter a comment asking the financial analyst for an explanation. The financial analyst can then enter a response. You can later return to the details of the exception and enter an additional note or comment to close the tracking of the exception.

You can use page layouts functionality to display exceptions in automated status reports that are sent to project stakeholders.

> **Note:** Exception details are displayed in global currency.

Purging Exception Records

Oracle Projects stores the historical exceptions created when you run the PRC: Generate Performance Scores and Notifications process. You can only view the latest generated exceptions. To periodically remove stored exceptions from the database and improve system performance, specify a period for the purge and run the PRC: Generate Performance Scores and Notifications concurrent process.

Related Topics

Generate Performance Scores and Notifications, *Oracle Projects Fundamentals*

Performance and Exceptions Reporting Processes, *Oracle Projects Fundamentals*

Sending Automated Status Report Notifications

You can send automated status report notifications via e-mail to routinely update project stakeholders on the health of the project. To generate notifications, your implementation team must first create new report types with an automatic generation method. These report types should include customized content that can include a list of issues, change orders, key performance area summary information, list of exceptions, and earned value graphs. If a project template has options and report types already defined, projects that you create from the template will inherit these set up options. You can use the report type defined at the template level or override the selection for the project. You can designate the recipients that you want to receive the automated status report notifications.

You can attach a report type for customized automated status report notifications from the Key Performance Area Scoring Rules and Notification page. Named recipients can include members of the project team or be external to the project. Use the PRC: Generate Performance Scores and Notifications concurrent process to manually send or schedule automated status report notifications.

Related Topics

Generate Performance Scores and Notifications, *Oracle Projects Fundamentals*

Performance and Exceptions Reporting Processes, *Oracle Projects Fundamentals*

Earned Value Management

Earned value management is a methodology used to measure and report project performance from initiation to completion. The methodology integrates various project management processes to provide a combined cost and schedule control system to ensure project completion on time and within budget.

Overview of Earned Value Management

Earned value management provides a method of managing projects by understanding the mathematical relationships between project scope, work, and budget to determine project health. The metrics used in calculating earned value enable you to gain knowledge about the true health of a project. Also, you can use various earned value metrics to monitor trends in a project.

Oracle Project Management supports the following standardized earned value metrics:

- Planned Value (PV): The planned cost for an activity. Planned value is also known as Budgeted Cost of Work Scheduled (BCWS).

- Earned Value (EV): The value of the work actually performed. Earned value is also known as Budgeted Cost of Work Performed (BCWP).

- Actual Cost (AC): The cost incurred in accomplishing an activity. Actual cost is also known as Actual Cost of Work Performed (ACWP).

Earned Value and Progress Correlation

To measure and report earned value, you must first collect progress information against tasks. Oracle Projects enables you to collect progress from tasks, assigned resources, and deliverables for re-planning, forecasting, and reporting.

Progress information includes actual effort and costs, estimate to complete (ETC), estimated and actual dates, and physical percent complete. Earned value is calculated using budgeted values for tasks, and progress information that represents the work accomplished.

The earned value of a project is derived from the work actually accomplished, which in turn is derived from the physical percent complete. For more information, see: Deriving Physical Percent Complete, *Oracle Project Management User Guide*.

Earned Value Measures

Performance reporting in Oracle Projects provides both fundamental and derived metrics. These metrics present an objective insight into the progress of the project.

Fundamental Metrics

Fundamental metrics are the basic earned value calculations. These metrics include:

- Actual Cost: The amount of cost to accomplish all the work completed as of analysis date.

- Current Budget: The sum of all budgets allocated to a project or task. This can be expressed as a planned effort or cost value. Current Budget is also known as Budget at Completion (BAC).

- Earned Value: For completed work, this value is the cost or effort originally budgeted to accomplish that work.

Earned Value = Current Budget x Physical % Complete

- Estimate to Completion: The amount of work remaining. It can be calculated using the following methods: remaining plan, plan to complete, and earned value.

- Percent Complete: A measure of performance based on the actual amount of a particular measure used to date and the estimated amount necessary to complete the task or project.

- Physical Percent Complete: The percentage of the work performed, indicates the progress of a task or project, and is calculated based on the percent complete.

- Percent Spent: A measure of performance based on the actual amount of a particular measure used to date and the amount that was originally planned for consumption.

- Planned Value: The total budgeted cost up to the analysis date.

Oracle Project Management reports earned value based on the workplan structure and the financial structure. Depending on the relationship between the two structures, earned value reporting numbers may be the same or different. For information on relationship between the structures, see: Deriving Physical Percent Complete for Financial Structures, *Oracle Project Management User Guide*.

Derived Metrics

Derived metrics are calculated using the base measures of earned value, planned value, actual cost, and current budget. Like the fundamental metrics, these metrics continue to compare actual data against planned data. For example, cost performance compares earned value with actual cost and schedule performance compares earned value with planned value. Oracle Projects uses the variances and indices these metrics provide, to report on performance against the work breakdown structure.

Derived metrics include:

- Earned Value Schedule Variance (SV) = Earned Value - Planned Value

- Schedule Performance Index (SPI) = Earned Value / Planned Value

- Earned Value Cost Variance (CV) = Earned Value - Actual Cost

- Cost Performance Index (CPI) = Earned Value / Actual Cost

- To Complete Performance Index (TCPI) = Current Budget - Earned Value / Current Budget - Actual Cost

- Variance At Completion Percent (VAC%) = (Forecast Cost - Current Budget) / Current Budget

Example
In this example, a company has a project with start and end dates as September 2004 and July 2005 respectively. To complete the project successfully within the specified deadline, the project managers have recorded and calculated various values such as actual cost, planned value. These values will help them predict the project performance and analyze the risk factors.

Consider the values for February 2005 in the following table:

Metrics	Value
Actual Cost	$125K
Planned Value	$100K
Current Budget	$200K
Physical % Complete	$37.5K

From the above values, the derived metrics are calculated in the following table:

Earned Value Metrics	Calculation	Description
Earned Value	Current Budget * Physical % Complete = 200 * 37.5 = $75K	The value indicates that the project is under performing.
Earned Value Cost Variance	Earned Value - Actual Cost = 75 -125 = -50	The negative value indicates that actual cost exceeds the planned cost of work performed.
Earned Value Schedule Variance	Earned Value - Planned Value = 75 -100 = -25	The negative value indicates that the project is behind schedule.
Cost Performance Index	Earned Value / Actual Cost = 75 / 125 = .60	The value indicates that for every dollar spent, only 60 cents of work is performed. This information can be used in the early stages of the project for forecasts.
Schedule Performance Index	Earned Value / Planned Value = 75 / 100 = .75	The value indicates that for every planned dollar, only 75 cents work is complete.
To Complete Performance Index	Current Budget - Earned Value / Current Budget - Actual Cost = 200 - 75 / 200 -125 = 1.67	The index indicates the level of efficiency required to complete the work within the budgeted effort or cost.

Using Measures

You can use and view the earned value metrics while:

- Evaluating project progress
- Tracking and reviewing project performance
- Building budgets and forecasts
- Managing projects

Earned value is derived from the progress collected for a task. Progress information rolls up through the financial structure and is used to report earned value against work complete. Earned value information is rolled up to all levels of the workplan and

financial structures. This roll up is based on various task-weighting methods such as: cost, effort, duration, and manual entry.

A detailed earned value analysis by the work breakdown structure helps identify the source of variance as alerts. The alerts help project managers ensure timely corrective action for the project completion as scheduled and within budget. You can compare the earned value metrics to determine variances and indices that reflect the performance of the project based on cost and schedule. You can include values for these metrics in project status reports at all levels of a project.

In addition to an evaluation of current project performance, these earned value metrics and variances form the input for project forecasts that predict project cost and schedule. The forecasting techniques utilize reported metrics to accurately predict the project outcome. The tracked work accomplished when compared with the scheduled and budgeted work determines the final cost and estimated completion date for the project accurately.

Related Topics

Workplan and Progress Management, page 2-1

Project Performance Reporting, page 10-2

Earned Value, page 6-36 as a Forecast Generation Method

11

Project Status Reporting

This chapter describes how to set up and use project status reports.

This chapter covers the following topics:

- Overview of Project Status Reporting
- Defining Status Reporting Options
- Creating and Updating Status Reports
- Submitting and Approving Reports
- Publishing Status Reports

Overview of Project Status Reporting

Project status reporting enables you to provide a timely and consistent view of project status information to all project stakeholders, from internal management to customers. With this functionality, you can control the report publishing frequency, content, and format based on the audience of each report. You can also control who can view and edit the reports.

This chapter discusses the setup and usage of status reports for projects. For information on implementing project status report functionality, see: .

The following sections describe components that Oracle Projects uses to administer status reporting for your projects. For more information on how to define report types, reporting cycles, and reminder rules, see:

Report Types, *Oracle Projects Implementation Guide*, and

Project Status Report Reminder Rules, *Oracle Projects Implementation Guide*.

Report Types

Report types provide a mechanism for the communication of project status to different audiences. For example, you can provide a monthly internal management report for your project steering committee, and also provide weekly team project status reports for your project.

Each report type is associated with a project status report page layout. The page layout determines the format and contents of the project status reports that use that report type. The report type also controls whether or not you can change the page layout of a project status report once you have created it.

When you associate a report type with your project, you define the reporting cycle, set up the report's approval options, and choose a reminder rule for the report.

> **Note:** You can associate multiple report types with a single project. You cannot associate the same report type with a project more than once, however.

Reporting Cycles

Reporting cycles define the default start and end dates for the reporting period. New status reports are typically created when a reporting cycle ends and another one begins. However, you can change the start and end dates to create reports for any time period.

Reporting cycles can fall on absolute time intervals or be relative to the publishing dates of previous reports.

For more information about defining project status reporting cycles, see Defining Status Reporting Options., page 11-3

Status Report Security

You can use access lists to define separate audiences for each report type associated with a project. Audiences can be comprised of project roles, project team members, or project non-team members.

Access lists enable you to grant status report view and update access to team members and people with project roles. They also enable you to specify whether or not people can receive emails notifying them when reports are published. You define access lists at the report type level of a project.

The three possible audiences for project status reports are defined as follows:

- **Role:** Defines an equivalent level of access for project members who play the same project role. For example, you could set up an access list for an *Internal Management* report type that gives all Project Administrators on the project team view access only to reports of that report type.

- **Team Member:** Defines levels of access for specific project team members on a person by person basis.

- **Non-Team Member:** Enables you to grant email access to individuals who do not need to be project team members, on a person by person basis. You can use this field to provide report access to anyone in your system.

    > **Note:** Non-team members cannot get update or view access to reports. They can only receive email notifications when reports are published.

For more information about defining project status report security, see Defining Status Reporting Options, page 11-3.

Reminder Rules

You can set up reminder rules for your reports that automatically send reminder and escalation notifications over time.

You can have the system send reminder notifications a set number of days before the report is due. Reminder notifications are sent to all people with edit access to the report.

You can also have the system send escalation notifications to a specific supervisor when a new report has not been created. Escalation notifications are typically sent for overdue reports a set number of days after the start of a new reporting cycle.

Reminder rules can perform multiple actions to send notifications. For example, you could create a reminder rule that sends out an initial reminder five days before a report is due, a secondary reminder one day before a report is due, and then an escalation notification two days after a report is due, if the report has not yet been created.

For more information about defining reminder rules, see Defining Status Reporting Options, page 11-3.

Project Status Report Statuses

The approval status of a project status report indicates the overall development of the report as it moves from working to published status. It also determines its visibility and whether or not you can update it.

The following table lists the possible report statuses and defines their place in the project status report lifecycle.

Report Status	Description
Working	Working reports are only visible to people with update privileges in the access list for the report type.
Submitted	The report has been submitted for approval. At this point it can no longer be modified. If you want to make changes to a submitted report, you must rework it.
Approved	The report has been approved by its designated approver. Approved reports are ready to be published.
Rejected	The report has been rejected by its designated approver. Rejected reports must be reworked and resubmitted until they are approved. If you choose not to rework a rejected report you can delete it.
Published	The report has been published and is now visible to anyone on the access list for the report type.
Obsolete	The report has been designated as being obsolete. Obsolete reports cannot be updated or deleted.

Defining Status Reporting Options

Before you can create project status reports for your project, you must ensure that prerequisite setup is complete. First, you need to associate report types with

your project. Then you can set up the reporting cycle and select the report page layout, approval settings, and manner in which reminders are handled. When you create your project, many of these status reporting attributes default from its project template.

To set up a status report for your project:

1. Navigate to the Status Report Setup page. This page contains a list of all project status report types currently associated with the project.

2. Select a report type you want to use for your project.

   For more information about report types, see Overview of Project Status Reporting, page 11-1.

3. Enter the details of the status report such as effective dates, reporting cycle, approval options, and reminder rule.

4. Define the access list for each report type you use in your project using the Status Report Access List page. The access list for a specific report type applies to all reports made for that report type.

   Access lists dictate who on the project team has access to view or update the project status report and determine which team members are notified when reports are published.

   For more information about defining access lists, see Overview of Project Status Reporting, page 11-1.

Creating and Updating Status Reports

To create a status report for a project

1. Navigate to the Maintain Status Reports page. From here you can create a new report or update an unpublished report.

2. Enter or update the general progress, status, issues, or other project information on which you want to report.

3. Fill out additional sections for your report, as appropriate. You can attach related documents to these reports, such as text, URLs, and files.

   Additional status report sections are defined by your implementation team.

Related Topics

Overview of Document Management, page 9-1

Project Status Reporting, *Oracle Projects Implementation Guide*

Project Status Report Sections, *Oracle Projects Implementation Guide*

Submitting and Approving Reports

When approval functionality is enabled for a report type, you must submit the status reports for approval and gain approval before publishing them. Approvers are specified at the report type level. If no approver is specified, the system sends approval notification to the HR manager of the person who created the report.

> **Note:** If report approval is not enabled for your report type, you can publish its reports immediately without submitting them for approval.

If you want to make changes to a report after you have submitted it, you must use the rework functionality.

For more information about defining approval functionality for reports and designating report approvers, see Defining Status Reporting Options, page 11-3

Routing Reports for Approval

When you submit a status report for approval, the system sends a notification to the approver that you specified for the report on the Status Report Setup Details page. This notification enables the approver to immediately approve or reject the status report after they complete their review. The system can deliver notifications through the Oracle Projects workflow notifications or send them as email.

If the report is approved, you can publish it. If it is rejected, you must rework it and resubmit it until it gains approval for publication.

The system calls the Project Status Report Workflow extension when you submit a report. This extension enables you to customize the workflow processes for approving the status report.

Related Topics

Project Status Report Workflow Extension, *Oracle Projects APIs, Client Extensions, and Open Interfaces Reference*

Publishing Status Reports

You publish reports to notify team members of the current project status. You can arrange for the system to automatically publish the status report once it is approved. For more information, see Defining Status Reporting Options, page 11-3.

When your status report is published, the system sends a notification to all team members in the access list for the report type. The notification includes the contents of the report and is for information purposes only.

All published reports are available for viewing in the status report history of the project. The reports are grouped by report type. Users with access privileges for the report type can view the published report at any time.

Making Status Reports Obsolete

After a report has been published, you cannot change or delete it. However, you can make the report obsolete and build a new report with corrected information.

When you make a report obsolete, you must provide a reason for its obsolescence.

A

Performance Measures and Graphs

This appendix describes the measures and graphs that are used in project performance reporting.

This appendix covers the following topics:

- Performance Measures
- Graphs in Performance Reports

Performance Measures

Oracle Projects provides a set of predefined measures to report on project performance in relation to cost and profitability. You can use these measures to create custom measures.

All performance measures related to cost and profitability are tabulated below. All tables have the following columns:

- Measure - Name of the measure
- PTD - If the measure can have period-to-date values
- QTD - If the measure can have quarter-to-date values
- YTD - If the measure can have year-to-date values
- ITD - If the measure can have Inception-to-date values
- Periodic - If the measure can have periodic values
- Description - Can explain the measure, its location, or how it is derived

You can find a measure on a period-to-date summary report with one to-date value reported. For example, period-to-date and inception-to-date values are reported for the measure, Planned Value.

Cost Measures

You can use cost measures to compare budget effort and amounts with actual costs and commitments and forecast amounts.

Budget Costs

The table below describes the performance measures for budget costs.

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Original Budget Raw Cost	Y	Y	Y	Y	Y	Original baseline budget cost
Original Budget Burdened Cost	Y	Y	Y	Y	Y	Original baseline budget cost
Original Budget 2 Raw Cost	Y	Y	Y	Y	Y	Original baseline budget cost from secondary budget
Original Budget 2 Burdened Cost	Y	Y	Y	Y	Y	Original baseline budget cost from secondary budget
Current Budget Burdened Cost	Y	Y	Y	Y	Y	Current baseline budget cost
Planned Value	Y			Y		Current baseline budget cost (earned value or BCWS)
Current Budget Raw Cost						Current baseline budget raw cost
Current Budget 2 Raw Cost	Y	Y	Y	Y		Current baseline budget raw cost from secondary budget

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Current Budget 2 Burdened Cost	Y	Y	Y	Y	Y	Current baseline budget cost from secondary budget
Planned Value 2	Y			Y		Current baseline budget cost from secondary budget (earned value or BCWS)

Current Budget Effort

The table below describes the performance measures for the current budget effort.

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Current Budget People Effort	Y	Y	Y	Y	Y	Labor hours entered in current baseline cost budget
Current Budget Equipment Effort	Y	Y	Y	Y	Y	Equipment hours entered in current baseline cost budget
Current Budget 2 People Effort	Y	Y	Y	Y		Labor hours entered in the secondary cost budget
Current Budget 2 Equipment Effort	Y	Y	Y	Y		Equipment hours entered in secondary cost budget

Original Budget Effort

The table below describes the performance measures for the original budget effort.

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Original Budget People Effort	Y	Y	Y	Y	Y	Budget labor hours based on original baseline budget
Original Budget Equipment Effort	Y	Y	Y	Y	Y	Budget equipment hours based on original baseline budget
Original Budget 2 People Effort	Y	Y	Y	Y		Budget labor hours based on secondary original budget
Original Budget 2 Equipment Effort	Y	Y	Y	Y		Budget equipment hours based on secondary original budget

Earned Value

The table below describes the performance measures for earned value.

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Earned Value				Y		BCWP (Budget Cost x Physical % Complete for a task)

Forecast Costs

The table below describes the performance measures for forecast costs

Measure	PTD	QTD	YTD	ITD	Periodic	Description
ETC Raw Cost				Y	Y	ETC based on raw cost
ETC				Y	Y	Forecast Burdened Cost - Burdened Cost
Forecast Burdened Cost				Y	Y	Burdened Cost + ETC
ETC People Effort				Y	Y	Estimate Hours At Complete - Total Labor Hours
Forecast People Effort				Y	Y	Total Labor Hours + Forecast Labor Hours
ETC Equipment Effort				Y	Y	Estimate Equipment Hours At Complete - Total Equipment Hours
Forecast Equipment Effort				Y	Y	Total Equipment Hours + Forecast Equipment Hours

Actual Cost and Commitment Amounts

The table below describes the performance measures for actual costs and commitment amounts.

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Billable Cost	Y	Y	Y	Y	Y	Total cost for all billable expenditure items in a contract project

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Capitalizable Cost	Y	Y	Y	Y	Y	Total cost for all expenditure items in a capital project that can be capitalized
Non-Billable Cost	Y	Y	Y	Y		Total cost for all expenditure items in a contract project that are non-billable
Non-Capitalizable Cost	Y	Y	Y	Y		Total cost for all expenditure items in a capital project that cannot be capitalized
Unbilled Cost	Y	Y	Y	Y	Y	Total cost of billable expenditure items not billed
Raw Cost	Y	Y	Y	Y	Y	Distributed raw cost
Burden Cost	Y	Y	Y	Y		Distributed burden cost
Burdened Cost	Y	Y	Y	Y	Y	Total distributed cost
Equipment Burdened Cost	Y	Y	Y	Y	Y	Burdened cost for equipment
Actual Cost				Y		ACWP or cost-distributed burdened cost
People Raw Cost	Y	Y	Y	Y	Y	Raw cost of labor

Measure	PTD	QTD	YTD	ITD	Periodic	Description
People Burdened Cost	Y	Y	Y	Y	Y	Total cost from cost-distributed timecards
Supplier Invoices Committed Cost				Y		Total cost from supplier invoice commitments
Purchase Orders Committed Cost				Y		Total cost from purchase order commitments
Purchase Requisitions Committed Cost				Y		Total cost from purchase requisition commitments
Other Committed Cost				Y		Cost from commitments other than supplier invoices, purchase orders, or purchase requisitions
Total Committed Cost				Y	Y	Cost from supplier invoices, purchase orders, purchase requisitions, and other commitments
Burdened Cost + Committed Cost				Y	Y	Burdened Cost + Total Committed Cost
Billable People Effort	Y	Y	Y	Y	Y	Total hours from distributed timecards with Billable flag checked

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Non-Billable People Effort	Y	Y	Y	Y		Total hours from distributed timecards with Billable flag unchecked
People Effort	Y	Y	Y	Y	Y	Billable Labor Hours + Non-billable Labor Hours
Billable Equipment Effort	Y	Y	Y	Y	Y	Total hours from distributed actual cost entered with Billable flag checked
Non-Billable Equipment Effort	Y	Y	Y	Y		Total hours from distributed actual costs with Billable flag checked
Equipment Effort Y	Y	Y	Y	Y	Y	Billable Equipment Hours + Non-billable Equipment Hours
Effective Labor Multiplier	Y	Y	Y	Y	Y	Earned Revenue / Direct Labor Cost

Cost Ratios and Percentages

The table below describes the performance measures for ratios and percentages.

Measure	PTD	QTD	YTD	ITD	Periodic	Description
% Spent	Y	Y	Y	Y	Y	Burdened Cost / Current Budget Cost
Physical % Complete	Y	Y	Y	Y	Y	Equals work done on a task (from percent complete value entered against financial plan or calculated from the workplan)
% Complete				Y	Y	Actual Cost to Date / (Actual Cost to Date + ETC)
% Spent People Effort	Y	Y	Y	Y		People Effort / Current Budget People Effort
% Spent Equipment Effort	Y	Y	Y	Y		Equipment Effort / Current Budget Equipment Effort
% Spent Effort	Y	Y	Y	Y		People Effort / Current Budget Effort
Billable Cost % of Total Cost	Y	Y	Y	Y		(Billable Cost / Burdened Cost) * 100
Capital Cost % of Total Cost	Y	Y	Y	Y		Capitalizable Cost / Burdened Cost

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Non-Billable Cost % of Total Cost	Y	Y	Y	Y		(Non-billable Cost / Burdened Cost) * 100
Billable People Effort %	Y	Y	Y	Y		(Billable People Effort / People Effort) * 100
Billable Equipment Effort %	Y	Y	Y	Y		(Billable Equipment Effort / Equipment Effort) * 100
Cost Performance Index				Y		CPI or Earned Value/ Actual Cost
Schedule Performance Index				Y		SPI or Earned Value / Planned Value
To Complete Performance Index				Y		(Current Budget - Earned Value) / (Current Budget - Actual Cost)

Variances in Costs

The table below describes performance measures for variances in costs.

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Current Budget Cost Variance from Original Budget	Y	Y	Y	Y		Current Budget Cost - Original Budget ost

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Current Forecast to Prior Forecast Effort Variance	Y	Y	Y	Y		Current Forecast Effort - Prior Forecast Effort
Cost Variance	Y	Y	Y	Y	Y	Burdened Cost - Current Budgeted Cost
Cost Variance %	Y	Y	Y	Y	Y	(Burdened Cost - Current Budget) / Current Budget
Cost Variance from original Budget	Y	Y	Y	Y	Y	Burdened Cost - Original Budget
Current Budget Cost Variance % from Original Budget	Y	Y	Y	Y	Y	Current Budget - Original Budget
Forecast Cost Variance				Y	Y	Forecast Burdened Cost - Current Budget Cost) / Current Budget Cost
Forecast Cost Variance %				Y	Y	(Forecast Burdened Cost - Current Budget Cost) / Current Budget Cost) * 100

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Forecast Cost Variance to Prior Forecast				Y		Variance between forecast burdened cost based on current forecast and the forecast burdened cost based on prior published forecast [(Current Forecast - Prior Forecast) / (Prior Forecast)]
Forecast Cost Variance from Original Budget				Y		(Forecast Burdened Cost - Original Budget Cost) / Original Budget Cost
Earned Value Cost Variance				Y		CV or Earned Value - Actual Cost
Earned Value Schedule Variance				Y		SV or Earned Value - Planned Value
Forecast People Effort Variance %				Y		(Forecast People Effort - Current People Effort) / Current People Effort

Measure	PTD	QTD	YTD	ITD	Periodic	Description
People Effort Variance %	Y	Y	Y	Y		(People Effort - Current Budget People Effort) / Current Budget People Effort
Forecast Equipment Effort Variance %				Y		(Equipment Effort – Current Budget Equipment Effort) / Current Budget Equipment Effort
Equipment Effort Variance %				Y		(Forecast Equipment Effort – Current Equipment Effort) / Current Equipment Effort

Profitability Measures

You can use profitability measures to compare targeted, actual and expected revenue.

Budget Revenue

The table below describes profitability measures for budget revenue.

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Original Budget Revenue	Y	Y	Y	Y	Y	Original baseline budget revenue
Original Budget 2 Revenue	Y	Y	Y	Y		Original baseline budget 2 revenue
Current Budget Revenue	Y	Y	Y	Y	Y	Current baseline budget revenue

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Current Budget 2 Revenue	Y	Y	Y	Y		Current baseline budget 2 revenue
Original Budget Margin	Y	Y	Y	Y		Original Budget Revenue - Original Budget Cost
Original Budget 2 Margin	Y	Y	Y	Y		Original Budget 2 Revenue – Original Budget 2 Cost
Current Budget Margin	Y	Y	Y	Y	Y	Current Budget Revenue - Current Budget Cost
Current Budget 2 Margin	Y	Y	Y	Y		Current Budget 2 Revenue - Current Budget 2 Cost
Original Budget Margin %	Y	Y	Y	Y	Y	Original Budget Margin / Original Budget Revenue
Original Budget 2 Margin %	Y	Y	Y	Y		Original Budget 2 Margin / Original Budget 2 Revenue

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Current Budget Margin %	Y	Y	Y	Y	Y	Current Budget Margin / Current Budget Revenue
Current Budget 2 Margin %	Y	Y	Y	Y		Current Budget 2 Margin / Current Budget 2 Revenue

Forecast Revenue

The table below describes profitability measures for forecast revenue.

Measure	PTD	QTD	YTD	ITD	Periodic	Description
ETC Revenue				Y	Y	Revenue based on ETC figure
Forecast Revenue				Y	Y	Baseline forecast revenue for the entire project
Forecast Margin				Y	Y	Forecast Revenue - Forecast Cost
Forecast Margin %				Y	Y	Forecast Margin / Forecast Revenue

Actual Revenue

The table below describes profitability measures for actual revenue.

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Accrued Revenue	Y	Y	Y	Y	Y	Revenue recognized (interfaced) in GL.
Margin	Y	Y	Y	Y	Y	Revenue - Cost

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Margin %	Y	Y	Y	Y	Y	Margin / Revenue
Average Daily Rate	Y	Y	Y	Y	Y	Revenue / Days [Total Actual Hours + FTE (Full Time Equivalent)]
Unbilled Receivables	Y	Y	Y	Y	Y	Revenue recognized or interfaced to GL for which invoice has yet to be generated and Billed flag set
Unearned Revenue				Y	Y	Billed Amount - ITD Revenue
Original Funding	Y	Y	Y	Y		Sum of funding amounts in all the funding lines with the funding classification of Original
Additional Funding	Y	Y	Y	Y		Sum of funding amounts in all the funding lines with the funding classification of Additional

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Funding Adjustments	Y	Y	Y	Y		Sum of funding amounts in all the funding lines with the funding classification of Correction or Transfer
Funding Cancellations	Y	Y	Y	Y		Sum of funding amounts in all the funding lines with the funding classification of Cancellation
Total Net Funding	Y	Y	Y	Y	Y	Original funding + additional funding + adjustments + cancellations
Backlog				Y	Y	Total net funding since inception to date - total revenue accrued since inception to date
Backlog % of Total Funding				Y	Y	Backlog / Total Net Funding
Backlog Days Remaining				Y	Y	(Backlog / ITD Revenue) * Days since Inception-to-Date
Revenue at Risk				Y	Y	ITD revenue - Total Net Funding = 0 or > 0

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Forecast Revenue at Risk				Y	Y	Forecast revenue - Total Net Funding = 0 or > 0
Billed Amount				Y		Total invoiced amount interfaced to AR
Outstanding Receivables				Y	Y	Total invoiced amount without receipts
Past Due Receivables				Y	Y	Receivables amount due for more than the threshold number of days
Revenue Write-offs				Y		Total value of the revenue write-offs issued
Invoice Write-offs				Y		Total value of the project invoice write-offs issued
Credit Memos				Y		Total value of the credit memos issued
Cash Paid				Y	Y	Value of cash receipts for the project derived from AR

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Days Sales Outstanding				Y	Y	Total billed receivables / (invoiced amount / number of days in the period)
Total Receivables Days Outstanding				Y		(Total Billed Receivables / (Invoiced Amount / Number of Days in the period)
Number of Invoices Issued				Y		Number of customer invoices generated by the project. This figure can be used to calculate the average invoice value
Number of Cash Applications				Y		Number of times cash has been allocated to the project
Next Invoice Date				Y		Next invoice date derived from the billing setup

Variances in Revenue

The table below describes profitability measures for variances in revenue.

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Forecast Revenue Variance				Y	Y	Forecast Revenue - Current Budget Revenue

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Revenue Variance	Y	Y	Y	Y	Y	Actual Revenue - Current Budget Revenue
Revenue Variance %	Y	Y	Y	Y	Y	(Actual Revenue - Current Budget Revenue) / Current Budget Revenue
Margin Variance	Y	Y	Y	Y	Y	Actual Margin - Current Budget Margin
Margin % Variance	Y	Y	Y	Y	Y	Actual Margin % - Current Budget Margin %
Margin Variance %	Y	Y	Y	Y	Y	(Actual Margin - Current Budget Margin) / Current Budget Margin
Current Budget Revenue Variance from Original Budget	Y	Y	Y	Y		Current Budget Revenue - Original Budget Revenue
Current Budget Revenue Variance % from Original Budget	Y	Y	Y	Y		(Current Budget Revenue Variance - Original Budget Revenue) / Original Budget Revenue

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Forecast Revenue Variance from Original Budget				Y		(Forecast Revenue - Original Budget Revenue) / Original Budget Revenue
Current Forecast Revenue Variance from Prior Forecast				Y		Variance in current forecast and the prior published forecast revenue
Current Budget Margin Variance from Original Budget	Y	Y	Y	Y		(Current Budget Margin - Original Budget Margin) / Original Budget Margin
Forecast Margin Variance				Y	Y	(Forecast Margin - Current Budget Margin) / Current Budget Margin
Forecast Margin Variance from Original Budget				Y		(Forecast Margin - Original Budget Margin) / Original Budget Margin
Current Forecast Margin Variance from Prior Forecast				Y		Variance between current forecast margin and margin based on prior published revenue and cost forecasts

Measure	PTD	QTD	YTD	ITD	Periodic	Description
Current Budget Margin % Variance from Original Budget	Y	Y	Y	Y		Current Budget Margin % - Original Budget Margin %
Forecast Revenue Variance %	Y	Y	Y	Y		(Forecast Revenue - Current Budget Revenue) / Current Budget Revenue
Forecast Margin % Variance				Y	Y	Forecast Margin % - Current Budget Margin%
Forecast Margin Variance %	Y	Y	Y	Y		(Forecast Margin - Current Budget Margin) / Current Budget Margin
Forecast Margin % Variance from Original Budget				Y		Forecast Margin % - Original Budget Margin %
Forecast Margin % Variance from Prior Forecast				Y		Current Forecast Margin % - Margin % (based on prior published forecast revenue and cost)

Graphs in Performance Reports

Oracle Projects provides a set of predefined graphs for the analysis of cost, profit, and earned value on performance reports. You can use page personalization to add or remove graphs. The different graph types available are:

- Line Graphs: used for cumulative amounts over time or trends and for amounts by different periods

- Horizontal Bar Graphs: used to show amounts against a hierarchical structure

- Vertical Bar Graphs: used to compare amounts and percentages across currencies and to-date periods

Cost Graphs

The following table describes the graphs available on analysis reports for cost and the performance measures for each graph.

Graphs	Measures Included
Cumulative Actual Cost	Budget cost Total cost Forecast cost
Actual Cost by Task, Resource	Budget cost Total cost Forecast cost
Actual Cost by Period	Budget cost Total cost Forecast cost
To-Date Actual Cost	Budget cost Total cost Forecast cost
Cumulative Actual and Planned Cost at Completion	Budget cost Total cost Forecast cost
Cumulative Billable Cost	Billable cost Non-billable cost
Billable Cost by Task, Resource	Billable cost Non-billable cost
Billable Cost by Period	Billable cost Non-billable cost
To-Date Billable Cost	Billable cost Non-billable cost
Cumulative People Effort	Budget people effort Total people effort Forecast people effort

Graphs	Measures Included
People Effort by Task, Resource	Budget people effort
	Total people effort
	Forecast people effort
People Effort by Period	Budget people effort
	Total people effort
	Forecast people effort
To-Date People Effort	Budget people effort
	Total people effort
	Forecast people effort
Cumulative Actual and Planned People Effort at Completion	Budget people effort
	Total people effort
	Forecast people effort
Cumulative Billable People Effort	Billable people effort
	Non-billable people effort
Billable People Effort by Task, Resource	Billable people effort
	Non-billable people effort
Billable People Effort by Period	Billable people effort
	Non-billable people effort
To-Date Billable People Effort	Billable people effort
	Non-billable people effort
% Spent and Forecast Cost Variance by Currency	% spent and forecast variance in project currency
	% spent and forecast variance in project functional currency
	% spent and forecast variance in global currency
Budget, Actual, and Forecast Cost by Currency	Budget cost
	Total cost
	Forecast cost

Profit Graphs

The following table describes the graphs available on analysis reports for profit and the performance measures for each graph.

Graphs	Measures Included
Cumulative Revenue	Budget revenue
	Revenue
	Forecast revenue
Revenue by Task, Resource	Budget revenue
	Revenue
	Forecast revenue
Revenue by Period	Budget revenue
	Revenue
	Forecast revenue
To-Date Revenue	Budget revenue
	Revenue
	Forecast revenue
Cumulative Actual and Planned Revenue at Completion	Budget revenue
	Revenue
	Forecast revenue
Cumulative Margin	Budget margin
	Margin
	Forecast margin
Margin by Task, Resource	Budget margin
	Margin
	Forecast margin
Margin by Period	Budget margin
	Margin
	Forecast margin
To-Date Margin	Budget margin
	Margin
	Forecast margin
Cumulative Actual and Planned Margin at Completion	Budget margin
	Margin
	Forecast margin
Cumulative Margin %	Budget margin %
	Margin %
	Forecast margin %

Graphs	Measures Included
Margin % by Task, Resource	Budget margin %
	Margin %
	Forecast margin %
Margin % by Period	Budget margin %
	Margin %
	Forecast margin %
To-Date Margin %	Budget margin %
	Margin %
	Forecast margin %
Cumulative Actual and Planned Margin % at Completion	Budget margin %
	Margin %
	Forecast margin %
Forecast Margin % by Currency by Period	Forecast margin % in project currency
	Forecast margin % in project functional currency
	Forecast margin % in global currency
Budget and Forecast Margin % by Currency	Budget margin % in project currency
	Budget margin % in project functional currency
	Budget margin % in global currency
	Forecast margin % in project currency
	Forecast margin % in project functional currency
	Forecast margin % in global currency

Earned Value Graphs

The following table describes the graphs available on analysis reports for earned value and the performance measures for each graph.

Graphs	Measures Included
Schedule and Cost Performance by Task	Schedule variance
	Cost variance
% Spent and % Complete	% Spent
	% Complete
Cumulative Budget, Earned Value, and Actual Cost	Planned value (budgeted cost of work scheduled)
	Earned value (budgeted cost of work performed)
	Burdened cost (actual cost of work performed)
Cumulative Earned Value Variances	Schedule variance
	Cost variance
	Burdened cost (actual cost of work performed)

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